# Table of Contents

**General Information**

Calendar .......................................................................................... 4  
Admission Procedures ....................................................................... 6  
  Degree Program Applicant, U.S. Citizen or U.S. Permanent Resident ......... 6  
  Degree Program Applicant, Non-immigrant or Temporary Visa ............... 7  
  Graduate Certificate Program Applicant ........................................... 8  
  Non-degree Applicant, Guest ......................................................... 8  
Admission Requirements ................................................................... 9  
  Master’s Program Applicant ......................................................... 9  
  Specialist Program Applicant ...................................................... 9  
  Doctoral Program Applicant ....................................................... 10  
  Graduate Certificate Program Applicant ....................................... 10  
Admission Types, Degree Status ................................................... 11  
Tuition ............................................................................................ 16  
Residency Policy ............................................................................ 16  
Student Fees Other Than Tuition .................................................. 21  
Tuition and Fee Payment for Graduate Appointees ............................... 24  
Advance Registration ...................................................................... 24  
Graduate Credit and Course Numbers ............................................. 25  
Graduate Leave of Absence ............................................................ 26  
Registration for Masters Thesis, Specialist Project, Doctoral Dissertation ................................................................. 27  
Academic Standards ....................................................................... 28  
Thesis, Projects, and Dissertations .................................................. 33  
Graduation Procedures ................................................................... 37  
Graduation Requirements ............................................................... 39  
Fellowships, Assistantships, Associateships, Grants ............................ 47  
Financial Aid and Scholarships ...................................................... 53  
General University Policies ......................................................... 57  
University and Student Services ................................................... 79  
Extended University Programs ..................................................... 91  
Glossary of Terms ......................................................................... 94  

**Colleges**

Arts and Sciences ........................................................................ 109  
  Anthropology ................................................................. 112  
  Biological Sciences ......................................................... 115  
  Chemistry ................................................................. 119  
  Communication, School of .................................................. 123  
  Comparative Religion ....................................................... 125  
  Economics ................................................................. 127  
  English ................................................................. 130  
  Geography .............................................................. 137  
  Geosciences ............................................................ 139  
  History ................................................................. 144  
  Mallinson Institute for Science Education .................................... 151  
  Mathematics ............................................................ 154  
  Medieval Institute ........................................................ 162  
  Philosophy ............................................................. 164  
  Physics ................................................................. 167  
  Political Science ........................................................ 171  
  Psychology .............................................................. 179  
  Public Affairs and Administration ........................................... 184  
  Sociology ............................................................... 195
<table>
<thead>
<tr>
<th>Fall Semester, 2008</th>
<th>Fall Semester, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 29, Friday</td>
<td>September 4, Friday</td>
</tr>
<tr>
<td>Advising Day</td>
<td>Advising Day</td>
</tr>
<tr>
<td>September 1, Monday</td>
<td>September 7, Monday</td>
</tr>
<tr>
<td>Labor Day Recess</td>
<td>Labor Day Recess</td>
</tr>
<tr>
<td>September 2, Tuesday</td>
<td>September 8, Tuesday</td>
</tr>
<tr>
<td>Classes Begin at 8:00 a.m.</td>
<td>Classes Begin at 8:00 a.m.</td>
</tr>
<tr>
<td>November 26, Wednesday</td>
<td>November 25, Wednesday</td>
</tr>
<tr>
<td>Thanksgiving Recess Begins at Noon</td>
<td>Thanksgiving Recess Begins at Noon</td>
</tr>
<tr>
<td>December 1, Monday</td>
<td>November 30, Monday</td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Classes Resume</td>
</tr>
<tr>
<td>December 8-12</td>
<td>December 14-18</td>
</tr>
<tr>
<td>Final Examination Week</td>
<td>Final Examination Week</td>
</tr>
<tr>
<td>December 13, Saturday</td>
<td>December 19, Saturday</td>
</tr>
<tr>
<td>Semester Ends—Commencement</td>
<td>Semester Ends—Commencement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester, 2009</th>
<th>Spring Semester, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2, Friday</td>
<td>January 8, Friday</td>
</tr>
<tr>
<td>Advising Day</td>
<td>Advising Day</td>
</tr>
<tr>
<td>January 5, Monday</td>
<td>January 11, Monday</td>
</tr>
<tr>
<td>Classes Begin at 8 a.m.</td>
<td>Classes Begin at 8 a.m.</td>
</tr>
<tr>
<td>January 19, Monday</td>
<td>January 18, Monday</td>
</tr>
<tr>
<td>MLK Day Recess, Convocation and Activities</td>
<td>MLK Day Recess, Convocation and Activities</td>
</tr>
<tr>
<td>February 27, Friday</td>
<td>March 5, Friday</td>
</tr>
<tr>
<td>Spirit Day</td>
<td>Spirit Day - No Classes</td>
</tr>
<tr>
<td>March 2, Monday</td>
<td>March 8, Monday</td>
</tr>
<tr>
<td>Semester Recess</td>
<td>Semester Recess</td>
</tr>
<tr>
<td>March 9, Monday</td>
<td>March 15, Monday</td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Classes Resume</td>
</tr>
<tr>
<td>April 20-24</td>
<td>April 26-30</td>
</tr>
<tr>
<td>Final Examination Week</td>
<td>Final Examination Week</td>
</tr>
<tr>
<td>April 25, Saturday</td>
<td>May 1, Saturday</td>
</tr>
<tr>
<td>Semester Ends—Commencement</td>
<td>Semester Ends—Commencement</td>
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<table>
<thead>
<tr>
<th>Summer I, 2009</th>
<th>Summer I, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 4, Monday</td>
<td>May 10, Monday</td>
</tr>
<tr>
<td>Classes Begin</td>
<td>Classes Begin</td>
</tr>
<tr>
<td>May 25, Monday</td>
<td>May 31, Monday</td>
</tr>
<tr>
<td>Memorial Day Recess</td>
<td>Memorial Day Recess</td>
</tr>
<tr>
<td>June 24, Wednesday</td>
<td>June 30, Wednesday</td>
</tr>
<tr>
<td>Session Ends</td>
<td>Session Ends</td>
</tr>
<tr>
<td>June 27, Saturday</td>
<td>July 4, Saturday</td>
</tr>
<tr>
<td>Commencement</td>
<td>Commencement</td>
</tr>
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<tr>
<th>Summer II, 2009</th>
<th>Summer II, 2010</th>
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</thead>
<tbody>
<tr>
<td>June 25, Thursday</td>
<td>July 1, Thursday</td>
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<tr>
<td>Classes Begin</td>
<td>Classes Begin</td>
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</table>
July 3, Friday
Independence Day Recess
August 14, Friday
Session Ends—No
Commencement Exercises

NOTE: This Academic Calendar is Subject to Change Without Notice.

July 5, Monday
Independence Day Recess
August 20, Friday
Session Ends—No Commencement Exercises
Admission Procedure

A person planning to earn a degree or a graduate certificate beyond the baccalaureate needs to be admitted to the University as a degree program student or a graduate certificate program student; a person planning to elect either undergraduate or graduate courses only needs to be admitted to the University as a non-degree student. The admission procedures for U.S. citizens and non-U.S. citizens are different, however, as described immediately below. To avoid delay in the processing of an application, U.S. citizens and permanent residents, as well as those with asylum or refugee status, should obtain information and application materials by mail from Western Michigan University, Office of Admissions, 1903 W Michigan Avenue, Kalamazoo, MI 49008-5211 or by e-mail (ask-wmu@wmich.edu) or by completing the online degree admission application available at (www.wmich.edu/admissions/gradapp/). Potential applicants on non-immigrant or temporary visas should request information and application materials by mail from the Office of International Services and Student Affairs, A411 Ellsworth Hall, Western Michigan University, Kalamazoo, Michigan 49008-5246 or by fax (269 387-5899) or by completing the online admission application available at (www.wmich.edu/oiss).

WMU Faculty Applicant: All Western Michigan University faculty and staff are eligible to apply for admission to master's and specialist programs at the University. WMU faculty members holding tenure track appointments and all University staff are eligible to apply for admission to doctoral programs at Western, but only in the academic units where they are not employed. WMU faculty holding explicitly temporary or term appointments may apply for admission to any doctoral program.

Degree Program Applicant, U.S. Citizen or U.S. Permanent Resident

Applicants who are U.S. citizens and those who have an I-551 Permanent Resident card or have asylum or refugee status will seek admission to a graduate degree program by following the applicant-managed process described below. Applicants are encouraged to use the University’s online application.

1. Complete the online Application for Graduate Admissions following the instructions found at www.wmich.edu/admissions/gradapp. The $40 application fee must be paid in order to submit the application. If using the printed application, mail the completed application to the Office of Admissions.

   NOTE: Since most graduate programs require materials in addition to the University application, applicants are advised to review additional program application requirements which can be found on the appropriate Web site or by contacting the program department or advisor directly.

2. The following materials are required to complete the University’s admission application file: (1) a completed application; (2) the $40 application fee; and (3) one official transcript from every previous undergraduate and graduate institution attended (except WMU). If also required for admission, have official entrance test scores (such as the GRE or GMAT) sent to the Office of Admissions by the testing agency.

3. Submit supplemental admission materials required by the graduate program directly to the appropriate graduate department.

4. Applications for admission from U.S. citizens and permanent residents should be submitted no later than July 1 for the Fall semester, November 1 for the Spring semester, March 1 for the Summer I session and May 1 for the Summer II session. Most programs, however, have earlier deadline dates, and not all programs admit students for all semesters or sessions. Applicants are advised, therefore, to read the program’s admission requirements section in this catalog or consult the relevant program office or advisor to learn the application deadline date and other germane information for a specific program. Individual program application deadlines take precedence over general University deadlines.

   It is advisable, moreover, to apply for admission well before the application deadline, because admission to some programs may close early as openings are filled or because a program’s complement of available assistantships and fellowships may be assigned as the earlier application deadlines for these awards pass.
Also, some programs require the results of entrance examinations that are scheduled well in advance of the application deadlines, and some require interviews or other means of correspondence that necessitate more time between the receipt of the application and the admission decision.

**Degree Program Applicant, Non-immigrant or Temporary Visa**

Applicants on non-immigrant or temporary visas who seek admission to a graduate program will follow the steps described below.

1. Request an International Student Application Form from the Office of International Services and Student Affairs. **NOTE:** Since most graduate programs require materials in addition to the International Student Application Form, and since not all departments' additional materials are included with the International Student Application Form, applicants are advised to contact the relevant department office or program advisor for such materials. [Alternatively, access the web pages (www.wmich.edu/oiss) of the Office of International Services and Student Affairs to download the application form and instructions for its completion and submission.]

2. Follow exactly the instructions describing the application procedure and submission of all supplemental materials, including the Statement of Finances form and documentation of proficiency in English.

**Statement of Finances:** F-1 and J-1 potential or current visa holders must submit a Statement of Finances form and provide proof that they have sufficient financial resources to cover the educational and living expenses incurred by a typical non-resident graduate student.

**Documentation of English Proficiency:** When English is not the official language of the country in which the applicant was educated, the applicant is required to demonstrate proficiency in English. The following tests and scores are accepted at Western Michigan University as measures of English language proficiency. Some graduate programs require a higher score.

- **Test of English as a Foreign Language (TOEFL).** A score of 500 (173 CBT) is required for restricted enrollment (part-time English study and part-time academics during the first semester) or 550 (213) for unrestricted enrollment.
- **Michigan English Language Assessment Battery (MELAB).** A score of 75 is required for restricted enrollment or 85 for unrestricted enrollment.
- **General Certificate of Education Advanced Level Pass in English with grade of A, B, or C, from one of the five British-based examining boards only, is required for unrestricted enrollment.**
- **International English Language Testing System (IELTS) using Modules A, B, or C (not the General Training Module).** A score of 6.5 is required for restricted enrollment or 7.0 for unrestricted enrollment.
- **International Baccalaureate (IB).** A grade of 5 in English at the Higher Level is required for unrestricted enrollment.
- **Certificate of Proficiency in English (CPE).** A passing grade is required for unrestricted enrollment.
- **Certificate in Advanced English (CAE).** A passing grade is required for unrestricted enrollment.
- **The College Board’s English Language Proficiency Test (ELPT).** A score of 950 is required for restricted enrollment or 965 for unrestricted enrollment.
- **Successful completion of the advanced level and instructor recommendations from CELCIS, WMU’s Career English Language Center for International Students.**

**Materials to be submitted to the Office of International Services and Student Affairs:** The International Student Application Form; a $100 non-refundable document and application fee payable to Western Michigan University; the Statement of Finances form and proof of sufficient financial resources; complete and official transcripts of post-secondary studies listing course titles and grades (marks) received for each, as well as copies of diplomas, certificates, or degrees earned, translated into English; proof of English
language proficiency (see acceptable proofs listed above). If also required for admission, have official entrance test scores (such as the GRE or GMAT) sent to WMU by the testing agency.

Materials to be submitted directly to the graduate department: If additional, supplemental materials are required by a department, these may also need to be submitted directly to that department. Request the department to provide these materials, and then complete and submit the materials exactly as their instructions require.

3. Applications for admission from non-U.S. citizens who do not have an Alien Registration Card or I-551 Immigrant Visa should be submitted no later than March 1 for the Fall Semester, August 1 for the Spring Semester, and January 1 for the Summer I or II Sessions. Many programs, however, have earlier deadline dates, and not all programs admit students for all semesters or sessions. Applicants are advised to read the program's admission requirements section in this catalog or consult the relevant program office or advisor to learn the application deadline date and other information for a specific program.

It is advisable to apply well before the application deadline, because admission to some programs may close early as openings are filled or because a program's complement of available assistantships and fellowships may be assigned as the earlier application deadlines for these awards pass. Also, some programs require the results of entrance examinations which are scheduled in advance of the application deadlines, and some require interviews or other means of correspondence that necessitate more time between the receipt of the application and the admission decision.

**Graduate Certificate Program Applicant**

An applicant with a bachelor's degree who wishes to gain admission to a graduate certificate program should request a Graduate Application from the Office of Admissions or use the online application. Follow the instructions for completion of the application.

Send the following directly to the Office of Admissions: (1) a completed application form; (2) the $40 application fee; and (3) one official transcript from every previous undergraduate and graduate institution attended (except WMU). If also required for admission, have official entrance test scores (such as the GRE or GMAT) sent to the Office of Admissions by the testing agency.

Submit supplemental admission materials as required by the program to the appropriate department offices, and any reference forms, if required by the department before the published admission dates.

When an applicant plans to obtain a graduate certificate in conjunction with a graduate degree program, the applicant must meet admission requirements for both the graduate degree program and the graduate certificate program.

**Non-degree Applicant, Guest**

An applicant with a bachelor's degree who wishes to enroll in graduate courses, but does not plan to pursue a degree program or graduate certificate program or is not eligible for admission to a degree program or graduate certificate program, may enroll in certain classes with Guest status. This status also is granted to a visiting student from another university. Guest status does not constitute admission to a degree or certificate program, and the courses taken under this status might not apply to a particular degree or certificate program.

To secure admission with this status, applicants should submit a Graduate Non-Degree application to the Office of Admissions, along with a non-refundable application fee of $40. Applicants who did not receive a degree from WMU must send proof of their undergraduate degree when submitting the application. The following credentials (photocopies are permissible) are acceptable as verification of the degree: transcript, diploma, teaching certificate, or
letter from the registrar of the undergraduate institution. Applications will not be processed without the accompanying credential.

Admission Requirements

All applicants are expected to meet the same academic standards required for admission consideration. The minimum academic requirements vary, however, by degree level, by discipline, and by admission type. For more specific information on each program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

Master's Program Applicant

In addition to the minimum requirements for admission to a master's program listed below, many academic programs ask applicants to submit supplemental materials such as letters of recommendation, standardized test scores (such as the GRE General Test, GRE Subject Test, GMAT, TWE, or the like), or an essay describing the applicant's academic interests and professional goals; to schedule a personal interview with departmental faculty; to present evidence of having completed specific courses with specific grades or of having specific kinds of work or life experiences; or to hold certain endorsements or certificates (such as a teaching certificate). For more specific information on each program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. An overall grade point average of at least 3.0 in the last two years of undergraduate work.
4. Evidence of having met any additional admission requirements stipulated by the individual degree program.
5. Acceptance by the academic unit offering the master's program and endorsement of the acceptance by the graduate dean.

Additionally, master's students will be reviewed annually for eligibility to continue in the program. Upon the student’s initial enrollment, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress may result in a student’s dismissal from the program.

Specialist Program Applicant

In addition to the minimum requirements for admission to a specialist program listed below, the University's single Specialist in Education (Ed.S.) program asks applicants to submit three letters of recommendation and an autobiography; to present evidence of having completed specific courses with specific grades or of having specific kinds of work or life experiences; to hold certain endorsements or certificates (such as a teaching certificate); and may require the applicant to schedule a personal interview with departmental faculty. For more specific information on the specialist program in educational leadership, read the admission requirements section of the educational leadership and research technology program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. An overall grade point average of at least 3.0 in the last two years of undergraduate work, if applying with a bachelor's degree and no graduate work, and an overall grade point average of at least 3.0 for all graduate work undertaken beyond the bachelor's degree.
4. Scores on the GRE General Test.
5. Evidence of having met any additional admission requirements stipulated by the individual specialist degree program.
6. Acceptance by the academic unit offering the specialist program and endorsement of the acceptance by the graduate dean.

Additionally, a specialist student’s academic performance, professional development, research progress, and, where applicable, professional/ethical behavior will be reviewed annually to determine the student’s eligibility to continue in the program. Upon the student’s initial enrollment, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress, performance, or behavior may result in a student’s dismissal from the program.

**Doctoral Program Applicant**

In addition to the minimum requirements for admission to a doctoral program listed below, many of the University's doctoral programs will ask applicants to submit supplemental materials such as letters of recommendation or an autobiography or an essay describing the applicant's academic interests and professional goals; to present scores on a specific GRE Subject Test; to schedule a personal interview with departmental faculty; to present evidence of having completed specific courses with specific grades or of having specific kinds of work or life experiences; or to hold certain degrees or endorsements or certificates (such as a teaching certificate). For more specific information on each program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. For students who have completed any hours of graduate work, an overall grade point average of at least 3.0 for all graduate work undertaken beyond the bachelor’s degree.
4. Scores on the GRE General Test.
5. Evidence of having met any additional admission requirements stipulated by the individual doctoral degree program.
6. Acceptance by the academic unit offering the doctoral program and endorsement of the acceptance by the graduate dean.

Additionally, a doctoral student’s academic performance, professional development, research progress, and, where applicable, professional/ethical behavior will be reviewed annually to determine the student’s eligibility to continue in the program. Upon the student’s initial enrollment, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress, performance, or behavior may result in a student’s dismissal from the program.

**Graduate Certificate Program Applicant**

Often an applicant will plan to pursue a graduate certificate program in conjunction with a graduate degree program. In such an instance, the applicant will need to meet the admission requirements for both the graduate degree program and the graduate certificate program. When the graduate certificate program is pursued alone, the applicant will need to meet the following, minimum admission requirements. Some graduate certificate programs may ask applicants to submit supplemental materials or to meet additional requirements. For more specific information on each certificate program, read the admission requirements section of the relevant program's listing in this catalog or contact the program's advisor.

1. Bachelor's degree from an accredited institution, indicated on an official transcript.
2. Two official transcripts from each institution attended since high school.
3. Evidence of having met any additional admission requirements stipulated by the individual graduate certificate program.
4. Acceptance by the academic unit offering the graduate certificate program and endorsement of the acceptance by the graduate dean.

**Admission Types, Degree Status**

**General Admission**

General Admission is granted to the student who meets the admission requirements of the University. All related materials have been received. Enrollment in courses is expected to lead to a degree or to meet state or federal certification requirements associated with WMU programs. Examples are state certification for teacher education or federal certification for aviation.

**Provisional Admission**

Provisional Admission is granted to the student who meets many of the admission requirements to the University and is expected to be formally admissible. Enrollment status is provisional until additional documents or materials for acceptance into the “General Admission” category are provided. Examples of missing documentation could be a final transcript, an undergraduate transcript of work taken at another institution of higher education in the USA or abroad, or a completion record for a specific placement or admission examination. The time period for any “Provisional Admission” may not exceed one year from the time of initial status with ineligibility for further enrollment after that year.

**Conditional Admission**

Conditional Admission is granted to the student who meets some of the admission requirements of the University. Continued enrollment in courses at WMU is conditional upon the applicant completing academic course work at a performance level specified at the time the “Conditional Admission” status is granted. Examples of specific performance could include: a) Completion of the first twelve hours of graduate work with “B” or better grades in all courses; b) completion of required remedial or prerequisite courses with specified (or better) course grades. The time period for any “Conditional Admission” status may not exceed one year from the time of initial status. After that time period, and if the specified conditions have been met, the applicant is admitted in the “General Admission” category.

**Dual Undergraduate/Graduate Enrollment Admission**

Dual enrollment admission (that is, admission to a master’s program while yet enrolled in a baccalaureate program) may be granted to any WMU senior who has an acceptable academic record (with a grade point average of 3.0 or better for the two years prior to admission date) and who has no more than 15 credit hours remaining for completion of the bachelor’s degree.

Once granted dual enrollment status, the student may enroll in a maximum of 12 credit hours of graduate course work that has been approved by the appropriate departmental advisor in addition to those undergraduate courses required to complete the bachelor’s degree.

Dual enrollment is permitted for the calendar year only, and no graduate credit earned in this way may be used to meet undergraduate requirements. If the bachelor’s degree is not completed in the period of one calendar year, the student may not continue on dual enrollment.
A student must request dual enrollment status on the application for admission to a master’s degree program; however, official entry is not immediate. Graduate credits earned accumulate, but the official entry date must follow the semesters or sessions of dual enrollment status and the completion of the bachelor’s degree.

Not Admitted

An applicant “Not Admitted” is not eligible for enrollment in courses or academic programs at WMU. Applicants who receive the “Not Admitted” status may reapply after one full calendar year for reconsideration for admission at the University.

Readmitted with Academic Forgiveness

Students who are readmitted into graduate study will not have grades and credit hours count in the computation of their grade point average that were earned more than seven years prior to their new entrance date. In such cases, the transcript will read, “Grades and credit hours earned more than seven years prior to current entrance date were not included in the computation of the grade point average.”

Non-degree Admission Types, Graduate Level

Non-degree Admission

Non-degree Admission is granted to the student who is eligible for enrollment in courses with the understanding that course work taken with this status is specifically for a guest, SCOPE, or MIGS student. Such course work usually will not apply to a WMU degree program, and the SCOPE program does not grant course credit. If the non-degree admitted student subsequently decides to apply to a specific WMU degree program after his or her non-degree enrollment, the applicant will be expected to meet all University and program-specific admission requirements. The time period for any “Non-degree Admission” status may not exceed four years from the time such admission status is granted.

Guest (Non-Degree)

Permission to take graduate classes is granted to a guest student with a bachelor's degree who wishes to enroll in certain courses, but does not plan to pursue a program leading to a graduate degree, or is not eligible for degree admission. This guest status also is granted to a visiting student from another university. Guest status does not constitute admission to a degree or certificate program, and the courses taken under this status might not apply to a particular degree or certificate program. For the student eligible for admission, a maximum of nine credits taken under guest status may be considered in a degree program if the student should later decide to apply for admission to a degree program and if an advisor and the graduate dean approve the credit.

Michigan Intercollegiate Graduate Studies (MIGS)

The MIGS admissions category is a guest scholar program that enables graduate students of Michigan institutions offering graduate degree programs to take advantage of unique educational opportunities on the campuses of the other institutions. Any graduate student in good standing in a master's, specialist, or doctoral program at a participating institution is eligible to participate in the MIGS program. (Western Michigan University participates in this program.) The student's good standing at the home institution affords the opportunity to study at the host institution, providing the proposed program of study is approved by the departmental officers and the MIGS liaison officers at both the home and host institutions. The officers of the home institution determine whether the experiences sought are unique or not available at the home institution; the officers of the host institution determine whether space and other necessary resources are available at the host institution. This type of enrollment is limited to one term for master's or specialist degree students, or two terms for doctoral degree students. For further information, contact a graduate advisor or the MIGS liaison officer in The Graduate College.
All credit earned under a MIGS enrollment will be accepted by the student’s home institution as if offered by that institution; unlike regular transfer credits, grades earned in MIGS courses are applied toward the home institution grade point average. When MIGS credits are transferred into a graduate program, the total number of transferred credits from all sources may not exceed 50% of the credits required in the program.

Project S.C.O.P.E. (Senior Citizens’ Opportunity Program in Education)

The following are the key features of the Senior Citizen's Opportunity in Education Program:

1. Senior citizens (persons 62 years of age or older) may qualify.
2. Enrollees may register during the drop/add period in one regularly scheduled class, tuition free, each semester or session on a seat-available basis. The late registration fee is waived. Registration is done by the Registrar's Office.
3. Enrollees may not register for credit.
4. Only academic facilities necessary for the performance in class are accessible to SCOPE participants. SCOPE enrollees do not have access to normal services available to regular students such as the Health Center, Student Recreation Center, student discounts, etc. Special identification cards are issued to SCOPE participants.
5. Regular, degree-seeking admission is not extended to enrollees so the admission application fee is waived.
6. Special course fees, if applicable, for materials, trips, etc. are assessed.
7. Specific courses may not be available to SCOPE students due to space availability.

In addition to the tuition and fees, in the event the account is referred to a collection agency, the student will be responsible for any collection costs, collection fees, and collection charges and/or legal fees incurred in collecting the account balance.

Questions concerning current fee schedules should be directed to the Office of the Director of Accounting Services.

Accelerated Programs

The Accelerated Degree Program (ADP) allows students to bring accumulating credits towards completion of a master’s degree while still enrolled as undergraduates. Undergraduate students admitted to an ADP, with senior standing, could take 5000- and 6000-level courses for graduate credit. Up to 12 hours of designated 5000- and/or 6000-level courses could be used in both the Bachelor’s degree and the Master’s degree. All departmental programs must be approved in advance through the regular curricular process, i.e. departmental curriculum committee, college curriculum committee, dean, Undergraduate Studies Council and Graduate Studies Council.

Admission Procedure

Participation in the ADP by any department is optional. Each department will develop admission criteria based on the following guidelines:

1. Minimal criteria for admission will include: an undergraduate GPA of at least 3.0 based on at least 30 hours at Western Michigan University, and additional criteria as determined by the department.
2. The student must apply through the Office of Admissions/Graduate Admissions and must also apply for admission to the graduate degree granting department. After admission into the ADP, the student’s record will indicate the ADP status.
3. International students must clarify their visa status with the Office of International Student and Scholar Services before submitting an application for ADP.

Academic Advising, Records and Program Requirements
Departments that want to participate in the ADP will develop a clear admissions and advising process for the ADP. The department will send the student and the Registrar a letter stating which graduate courses may be counted in both degrees. A copy of this letter will be placed with the student’s undergraduate records, and the change will be incorporated into the student’s undergraduate and master’s program as outlined below. The graduate courses cannot substitute for required courses within the undergraduate degree, but current 5000-level courses required in the bachelor’s degree may be double counted. In addition, the courses used for the ADP may be used as electives within the undergraduate degree or to complete the required 122 hours. Administration of the program will include the following:

1. Students with senior standing who have been accepted into an ADP could take 6000-level courses for graduate credit while undergraduates. This registration would be done by the Registrar’s Office, with permission of the department and the student. This would occur in the same way we dually enroll students such as undergraduates and graduates under current policy.
2. Students will pay undergraduate tuition for these 6000-level courses as long as they are undergraduates. The 6000-level courses will be included in the flat rate for tuition purposes.
3. Students will be considered undergraduates for financial aid purposes until they receive the baccalaureate degree.
4. The 6000-level course, taken while the student is still and undergraduate, will appear on the student’s graduate transcript. The grades earned in these courses will be reflected in the graduate GPA.
5. At the time when a student completes their bachelor’s degree, the Registrar’s Office will manually add the hours earned in the 6000-level courses to the student’s undergraduate transcript. The undergraduate GPA will also be adjusted to include the grades earned in these courses.
6. The department will clearly indentify for the Registrar’s Office which 5000- and 6000-level courses are available to be double counted. Individual students will have specific courses identified to be double counted when they are admitted into the ADP using the Accelerated Degree Program Planning form.
7. The 5000- and 6000-level courses which are double counted will be indentified as such on the graduate transcript.
8. The transcript key, which is on the back of the transcript paper, will explain the double counting.
9. Both the undergraduate and graduate transcript will show that the student completed an accelerated degree program.
10. If a student completes their bachelor’s degree and then stops attending the ADP, the graduate transcript will show the graduate courses completed.
11. It is expected that the baccalaureate degree will be awarded within one calendar year after initial enrollment in the ADP or as determined by the department.
12. In order to progress automatically into the graduate program, a student must achieve a grade of “B” or better in each of the graduate courses being counted for the undergraduate degree. Students who do not meet this criterion will have the earned grade applied to their undergraduate program only, and must apply for readmission into the graduate program. Students who complete the undergraduate degree including a “B” or better in the specified graduate courses will be admitted as graduate students (with the relevant graduate credit) in the next semester or session after receiving the bachelor’s degree.

Accreditation

University Accreditation

Western Michigan University is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, 30 North LaSalle Street, Suite 2400, Chicago, IL, 60602-2504; Website: www.ncahigherlearningcommission.org

Program Accreditation and Certification

The National Council for Accreditation of Teacher Education and the State of Michigan Department of Education have accredited and approved the College of Education, which includes the following programs:
• bachelor’s programs for preparation in early childhood; elementary, middle and junior high school; secondary education; health, physical education, and recreation; and special education.
• master’s programs in reading; the practice of teaching; social-cultural foundations of education; and health, physical education, and recreation.
• master’s and doctoral programs in counselor education and special education.
• master’s, educational specialist, and doctoral programs in educational leadership.

Programs in the School of Art are accredited by the National Association of Schools of Art and Design.

Programs in rehabilitation teaching and orientation and mobility in the Department of Blindness and Low Vision Studies are accredited by the Association for Education and the Rehabilitation of the Blind and Visually Impaired. The program in rehabilitation counseling is accredited by the Council on Rehabilitation Education, Inc.

Programs in the Haworth College of Business are accredited by the Association to Advance Collegiate Schools of Business International. The master’s program in accountancy is accredited by the Association to Advance Collegiate Schools of Business International - Accounting Accreditation.

The undergraduate programs in the Chemistry Department include a Bachelor’s degree approved by the American Chemical Society.

The computer science theory and analysis major in the Department of Computer Science is accredited by the Computing Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone (410) 347-7700.

The programs in aeronautical, chemical, computer, construction, electrical, industrial, mechanical, and paper engineering are accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone (410) 347-7700. The programs in engineering graphics and design technology, engineering management technology, and manufacturing engineering technology are accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone (410) 347-7700. The industrial design program is accredited by the National Association of Schools of Art and Design.

The baccalaureate programs in flight training organization are certified by the Federal Aviation Administration, and the flight school is licensed by the Michigan Department of Transportation. The aviation flight science program and the aviation maintenance technology program are certified by the Federal Aviation Administration and accredited by the Aviation Accreditation Board International. The aviation science and administration program is also accredited by the Aviation Accreditation Board International.

The dietetics programs in the Department of Family and Consumer Sciences are approved by the Commission on Accreditation for Dietetics Association of the American Dietetics Association. The bachelor’s and master’s programs in family studies in the Department of Family and Consumer Sciences are certified by the national Council on Family Relations.

In the Department of Counselor Education and Counseling Psychology, the master’s and doctoral programs in counselor education are accredited by the Council for Accreditation of Counseling and Related Educational Programs; the doctoral program in counseling psychology is accredited by the American Psychological Association.

Programs in the Department of Dance are accredited by the National Association of Schools of Dance.

The bachelor’s athletic training professional program in the Department of Health, Physical Education and Recreation is accredited by the Commission on Accreditation of Athletic Training Education and the Commission on Accreditation of Allied Health Education Programs; and the master’s athletic training programs by the National Athletic Trainer’s Association.
The interior design program in the Department of Family and Consumer Sciences is accredited by the Council for Interior Design Accreditation and by the National Association of Schools of Art and Design.

Programs in the School of Music are accredited by the National Association of Schools of Music.

Programs in the Bronson School of Nursing are accredited by the Commission on Collegiate Nursing Education and approved by the Michigan Board of Nursing.

Programs in the Department of Occupational Therapy are accredited by the Accreditation Council for Occupational Therapy Education.

The physician assistant program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc.

In the Department of Psychology, the master’s and doctoral programs in behavioral analysis are accredited by the Association for Behavior Analysis International; the doctoral program in Clinical Psychology in accredited by the American Psychological Association.

The master’s program in public administration is accredited by the National Association of Schools of Public Affairs and Administration. Students enrolled in non-profit leadership programs are eligible for certification through American Humanities (AH).

Programs in the School of Social Work are accredited by the Council on Social Work Education.

Graduate programs in the Department of Speech Pathology and Audiology are accredited by the Council on Academic Accreditation in Audiology and Speech Language Pathology.

Programs in the Department of Theatre are accredited by the National Association of Schools of Theatre.

Copies of accreditation documents are available for review upon request in the Office of the Provost and Vice President for Academic Affairs.

**Tuition**

For the current tuition rates, go to [www.wmich.edu/tuition](http://www.wmich.edu/tuition). These rates are subject to change without notice by action of the Board of Trustees.

Resident¹: See the Resident Classification section directly below for definition.

Non-Resident²: See the Residency Policy section directly below for definition.

**Residency Policy of Western Michigan University**

The governing board at each university in Michigan has the authority to establish a residency policy/guidelines for admissions and/or fee purposes. Therefore, residency policies (guidelines) may vary from school to school and are independent of those used by other state authorities to determine residency for purposes such as income and property tax liability, driving and voting.

The following policy was approved by the Western Michigan University Board of Trustees, effective with the Fall Semester, 2001. This policy applies to all students (undergraduate and graduate) at WMU. The Office of the Controller administers this policy. Information on this policy is available through the University's web site.
Additionally you may contact the Office of the Controller directly at 3080 Seibert Administration Building, Western Michigan University, Kalamazoo, MI 49008, or call (269) 387-2366 for additional information or to request an application form.

Residency Policy for University Admissions and/or Fee Purposes

Any student may apply for in-state resident classification for any semester/session in which they are enrolled by completing the "Application for Resident Classification for University Admissions and/or Fee Purposes" and submitting it to the Office of the Controller. Applications can be filed as early as one month prior to the start of each semester/session but not later than the first day of classes for the semester/session residency is sought. The deadline dates are the same for all students (undergraduate and graduate).

1. Since normally a student comes to Western Michigan University for the primary or sole purpose of attending the University rather than to establish a domicile in Michigan, one who enrolls in the University as a non-resident shall continue to be so classified throughout his/her attendance as a student, unless and until he/she demonstrates that his/her previous domicile has been abandoned and a Michigan domicile established. The burden of proof is on the student.

2. “Domicile” is defined as the place where an individual’s true, fixed and permanent home and principal establishment is and to which the individual returns whenever he/she is absent from the University. A student shall not be considered domiciled in Michigan unless the student is in continuous physical presence in this state for one year (12 consecutive months) immediately preceding the first day of classes of the term for which classification is sought and intends to make Michigan his/her permanent home, not only while in attendance at the University but thereafter as well, and has no domicile elsewhere.

3. Dependent Student: For tuition classification purposes, a student is presumed to be a dependent of the student’s natural parents and/or legal guardian if the student is 24 years of age or younger and (a) has been involved primarily in educational pursuits, or (b) has not been entirely financially self-supporting through employment.
   a. Dependent Student – Parent(s) in Michigan

   The domicile of a dependent student is presumed to be the same as that of the student’s natural parents. A dependent student whose parents are, according to University Residency Policy, domiciled in Michigan is presumed to be eligible for resident classification for University purposes as long as the student has not taken steps to establish a domicile outside of Michigan or any other action inconsistent with maintaining a domicile in Michigan.

   A dependent student with one parent domiciled in Michigan regardless of whether that parent is the student’s custodial parent, is presumed to be eligible for resident classification for tuition-paying purposes if one parent is, according to University Residency Policy, domiciled in Michigan.

   The domicile of a dependent student’s legal guardian(s) will be presumed to have the same evidentiary effect as that of a dependent student’s natural parent(s), and references to parents in this policy shall include legal guardians, only when the student is the dependent of the legal guardian, and such guardianship has been established due to complete incapacity or death of the student’s natural parent(s). A parent’s inability to provide funds necessary to support a college education shall not qualify as complete incapacity.

   A dependent student who is living in Michigan and who is, according to University Residency Policy, permanently domiciled in Michigan does not lose resident status if the parents leave Michigan provided: (1) that the student has completed at least the junior year of high school prior to the parents’ departure; (2) that the student remains in Michigan, enrolled as a full-time student in high school or an institution of higher education; and (3) that the student has not taken steps to
establish a domicile outside Michigan or any other action inconsistent with maintaining a domicile in Michigan.

b. Dependent Student – Parent(s) Not in Michigan

A dependent student whose parents are domiciled outside the State of Michigan is presumed to be a non-resident for tuition-paying purposes at Western Michigan University.

4. Independent Student: A student may be granted in-state residency for tuition-paying purposes, once the student provides evidence of 12 consecutive months (one year) of physical presence in the State of Michigan immediately preceding the first day of classes of the term in which the student is applying for a change in status. The year of continuous presence is never the only criterion used for determining in-state classification and, in itself, will not qualify a student for in-state status for tuition-paying purposes at WMU.

5. Residence of Spouse: The residence of a student who otherwise would be classified as a non-resident will follow that of his/her spouse if the spouse qualifies as a resident student for tuition-paying purposes.

6. Immigrants and Aliens: Only persons who are entitled to reside permanently in the United States may be eligible for resident classification at Western Michigan University. These individuals, like U.S. citizens, must still prove that they have established a Michigan domicile as defined in these regulations. In other words, having the privilege of remaining permanently in the United States, in itself, does not entitle a person to resident classification for University fee purposes. At the present time, non-citizens who are entitled to reside permanently in the United States include:
   a. Permanent Resident Alien must be fully processed and possess Permanent Resident Alien card or stamp in passport verifying final approval by filing deadline for applicable term.
   b. Refugees must have I-94 card with “Refugee” designation.
   c. A, E (primary), G, and I visa holders: Based upon current law, these non-immigrant visa classifications are the only ones that permit the visa holder to establish a domicile in the United States. As changes occur in applicable law, this list shall be updated.

7. Migrant Worker (Seasonal/Agricultural Employment): If an independent student, or the parent of a dependent student, has been employed as a migrant worker in Michigan for a minimum of two (2) months each year for the three (3) of the five (5) years prior to the date of the proposed in-state classification or for a minimum of three (3) months each year for two (2) of the five (5) years prior to the date of the proposed in-state classification, the student shall be classified as a resident. Proof and verification of employment is required. A migrant worker in Michigan is defined as one who travels to Michigan to pursue agricultural or related industry employment.

8. Misrepresentation and Falsification of Information: Students who provide false or misleading information or who intentionally omit relevant information on their admissions application or the “Application for Resident Classification for University Admission and/or Fee Purposes” or any other document relevant to residency eligibility may be subject to disciplinary and/or legal measures.

9. Appeal Process: Any student may appeal the decision on their residency application within 20 calendars days after he/she has been served notice of the decision on their application by taking the following steps:
   a. Provide a written notice of appeal to the Vice President for Business and Finance stating the reasons therefore. Please note that any additional documents that may provide evidence of domicile not submitted with the initial application must be included with the appeal.
   b. Additionally, the student must request in writing that all documents submitted with the initial application for residency be forwarded to the Vice President for Business and Finance so the entire file may be reviewed in the appeal process.
   c. Failure to comply within the required 20 days shall constitute a waiver of all claims to reclassification or rebates for the applicable semester/session.

The student will receive a written decision on the appeal when the review is complete. The decision on the residency appeal shall be the final recourse within the University.
The Student’s Responsibility and the Residency Application Process

While circumstances for each applicant are unique, the following information is designed to be a reference for students who are interested in applying for resident classification for tuition-paying purposes at Western Michigan University (WMU). The fact that a student may qualify for resident status at another college or university in the State of Michigan or that the student may be considered a resident by other laws or regulations within the State of Michigan is not used in determining resident status for tuition-paying purposes at WMU.

Required Documentation

When filing an Application for Resident Classification for University Admissions and/or Fee Purposes, the following documentation must be included with the application form:

- All applicants must provide a copy of a valid driver's license for their self and a copy of the driver’s license of the person(s) upon whom the applicant is basing the claim to resident eligibility
- All applicants must provide copies of the front and signature pages of the most recent year's federal and state income tax returns and accompanying W2s for the applicant and the person or persons upon whom the applicant is basing the claim to resident eligibility
- All applicants who are born outside of the United States must provide verification of U.S. citizenship or visa status
- All applicants who are dependents (refer to Stipulation 3 of our policy) must provide copies of the front and signature pages of their parent's most recent year's federal and state income tax returns and accompanying W2’s
- All applicants whose claim to eligibility for resident classification is based on permanent, full-time employment for themselves, a parent or spouse must provide a letter from the employer, written on company letterhead (including phone number), stating the position, status and dates of employment. A copy of the most recent pay stub showing Michigan taxes being withheld must also be included.
- All applicants whose claim is based on their spouse's status as a resident, must provide a copy of their marriage certificate with the application.
- All applicants are also responsible for providing any other documentation necessary to support their claim to residency eligibility that may be requested by the Office of the Controller.

General Information

A student enrolling at WMU for the first time shall be classified as an in-state or out-of-state student for tuition-paying purposes. It is the student’s responsibility to read the Residency Policy and to register under the proper residency classification. Students are encouraged to contact the Office of the Controller if they have questions regarding their residency classification or need assistance.

Any student who previously attended WMU as a non-resident student and reapplies for admission will continue to be classified as a non-resident student until an Application for Resident Classification for University Admission and/or Fee Purposes is filed and approved.

The admissions office performs the initial screening for in-state/out-of-state residency classification. If a student indicates Michigan resident on the admissions application and the admissions office questions the status, the student will be classified as a non-resident student. The fact that the student’s claim to residency for tuition-paying purposes is questioned does not necessarily mean that the student will be ineligible. It simply means that the student’s circumstances must be documented by completing an Application for Resident Classification for University Admission and/or Fee Purposes.

A student who has an out-of-state classification at the time of admission but claims eligibility for resident classification, must file an Application for Resident Classification for University Admission and/or Fee Purposes for an official determination of status if any of the following circumstances apply:
The student is living out of the state of Michigan at the time of application to the University
Either parent is living out of the state of Michigan (applies if the student is 24 years of age or younger and is a dependent student)
The student has attended or graduated from an out-of-state high school and has been involved in educational pursuits for the majority of time since graduation from high school
The student has had out-of-state employment or domicile within the last 3 years

Please Note: The above list is not exhaustive.

Before a student is granted residency status for admissions and/or fee purposes, the University will require the student and/or parent/spouse to have continuously resided in Michigan for one year (12 consecutive months) immediately preceding the first day of classes of the term in which the student is applying for in-state classification. If the student presents clear and convincing evidence which demonstrates the establishment of a Michigan domicile, the student will be eligible for in-state classification.

Establishing a Michigan Domicile

The following circumstances and activities which may demonstrate Michigan domicile, though not conclusive or exhaustive, may lend support to a claim to eligibility for in-state classification. This is not an exhaustive list.

- In the case of a dependent student, at least one parent domiciled in Michigan, as demonstrated by the parent’s permanent employment, establishment of a household and severance of out-of-state ties.
- Student employed in Michigan in a full-time, permanent job, provided that the student’s employment is the primary purpose for the student’s presence in Michigan.
- Student’s spouse employed in Michigan in a full-time, permanent job, provided that the spouse’s employment is the primary purpose for the student’s presence in Michigan.

The following circumstances and activities listed below are temporary or indeterminate and, in and of themselves, do not demonstrate domicile in Michigan:

- Enrollment in a Michigan high school, community college or university
- Employment in Michigan that is temporary or short-term
- Employment in Michigan in a position normally held by a student
- Payment of Michigan income or property taxes
- Ownership of property in Michigan
- Presence of relative in Michigan (other than parent(s) for dependent student)
- Possession of a Michigan driver’s license or voter’s registration
- A student’s statement of intent to be domiciled in Michigan.

In cases where it is determined that a student has not demonstrated establishment of a domicile in Michigan as defined by this policy, the University will require the student to document one year of continuous physical presence in the state. The year to be documented will be the 12 consecutive months immediately preceding the first day of classes of the semester/session in which the student is requesting residency.

In documenting the year of continuous presence in Michigan, the student will be expected to show actual physical presence by means of enrollment, employment, in-person financial transactions, etc. Having a lease or a permanent address in Michigan does not, in itself, qualify as physical presence. Short-term absences (vacation periods of 21 days or less, spring break, and break time between fall and spring semesters), in and of themselves, will not jeopardize compliance with the one-year requirement. The nature of the short-term absence will be assessed to determine whether it is contrary to an intent to be domiciled in Michigan. Absences from Michigan that exceed the time mentioned above or failure to document 12 consecutive months of physical presence will be considered as noncompliance.
Filing Dates/Deadlines

A student may apply for resident classification for any semester/session in which they are enrolled. The Application for Resident Classification for University Admissions and/or Fee Purposes” can be filed as early as one month prior to the start of the semester/session, such as: Fall Semester – August 1; Spring Semester – December 1; Summer Session I – April 1; and Summer Session II – June 1. The first day of classes for each semester/session is the deadline date for filing the Application for Resident Classification for University Admissions and/or Fee Purposes for all students (undergraduate and graduate).

(Note: Applications must be received in the Office of the Controller by the filing deadline. Applicants who do not file by the deadline will be responsible for paying tuition at the non-resident rate. Exceptions will not be granted.)

Incomplete information (supporting documentation) and/or absence of dates (month/day/year) could result in immediate denial of resident status and/or delay the processing of your application.

All official actions concerning the review of your residence application will be communicated in writing. It is the applicant’s responsibility to notify this office of any change in their mailing address.

Auditing Courses, Tuition for

Students who audit courses (who register for classes but do not desire credit) are governed by the same regulations and tuition and fees as students desiring credit.

Change in Credit Hour Load, Effect on Tuition

Changes in student credit hour load prior to the end of the final day for adding a course are considered to be reassessments, and a refund may be granted if the net reduction in the credit hour load changes the student's rate category. After the final day for adding a course, there is no reassessment or refund for reduction in credit hour load. An increase in credit hour load may result in an upward adjustment of the tuition fee assessment if the net addition in the credit hour load changes the student's rate category. Students should refer to the current Registration Information booklet for complete information pertaining to the University's refund policy.

Complete Withdrawal from All Courses, Effect on Tuition

The Registration Information booklet for the appropriate semester/session should be consulted for the refund policy that pertains to complete withdrawal.

Students completely withdrawing from all classes must enter this information into GoWMU or by going to the Registrar's office during the official drop/add days in order to process their withdrawal and assure a refund. The withdrawal date for refund purposes will normally be determined by the date that the Registrar receives a Request to Late Drop form or an Appeal for a Late Withdrawal form.

Students who find it impossible to be on campus to process a complete withdrawal and do not have access to GoWMU may write to the Registrar's office, Room 3210 Seibert Administration Building, for aid in processing their withdrawal. All written requests for complete withdrawal must bear the appropriate postmark date for consideration of any refund.

Student Fees Other Than Tuition

Admission Application Fee
A non-refundable fee of $40 must accompany each application for admission.

**Class Fees**

Some courses have class-specific fees for which the student will be responsible. The University makes every effort to publish such class-specific fees in the online class schedule.

**Collection Costs**

In addition to the tuition and fees, in the event the account is referred to a collection agency, the student will be responsible for any collection costs, collection fees, and collection charges and/or legal fees incurred in collecting the account balance.

**Enrollment Fee**

For all students registered in on-campus courses, the enrollment fee incorporates all required fees with the exception of the student organizations' assessment fee into a single per capita assessment. The enrollment fee for students registered in on-campus classes can be found on [www.wmich.edu/tuition](http://www.wmich.edu/tuition).

**Extended University Programs Fee**

Effective Fall 2008, the tuition rate for Extended University Program (EUP) courses is $297.46 per credit hours for undergraduate courses and $420.50 per credit hour for graduate courses, plus a $20 per class technology fee. Courses delivered by Extended University Programs are not part of the flat rate structure. This includes both online courses, open learning courses, and courses offered through EUP on the main campus or at regional site locations.

**Graduation Fee and Application Deadline**

- **Summer II Session Graduation (August)**
  $45.00 Application Deadline: February 1

- **Fall Semester Graduation (December)**
  $45.00 Application Deadline: August 1

- **Spring Semester Graduation (April)**
  $45.00 Application Deadline: December 1

- **Summer I Session Graduation (June)**
  $45.00 Application Deadline: February 1

**International Student Fee**

International students will be charged a $25.00 fee each semester or $12.50 fee each session.

**International Student Insurance Program: Mandatory Hospital, Medical, and Surgical Insurance**
All international students are required to carry health insurance if health care coverage is not provided by their sponsor. Students will be automatically enrolled in the University-sponsored policy unless an approved alternate policy is chosen. Non-sponsored international students must show proof of coverage and have alternate policies approved at the Sindicuse Health Center during the first two weeks of the semester/session. No refunds of insurance premiums can be given after that time. The insurance coordinator at the Health Center is available to assist students via e-mail at shc-usip@wmich.edu or phone at (269) 387-3266.

**Late Add Fee**

Students who are not registered for at least one class the day after census will be charged a late add fee of $100 per course. For the specific dates that this fee begins, look on [www.wmich.edu/registrar](http://www.wmich.edu/registrar) or the semester or session registration booklet.

**Liability Insurance Fee**

Students enrolled in courses requiring participation off-campus for field experience or practicum will be charged a liability insurance fee. This fee will be assessed one time per year, Fall semester through Summer II session. Students registered in classes that require more than one type of liability insurance will be charged for each type one time.

**Records Initiation Fee**

A one time fee of $300 is assessed for each entering undergraduate, graduate, or transfer student who is degree seeking. This fee is not charged to concurrently enrolled high school students, guest students (including MIGS students), or SCOPE students. This fee helps subsidize the establishment of each student's official academic record at the University, and supports related activities such as integrated web course registration, online grade and program reviews, automated degree audit, student accounts receivable, and the provision of an individual electronic portfolio that reflects the learning, educational growth, and personal accomplishments for each student.

**Residence Hall and Dining Fees**

For current rates go to [www.reslife.wmich.edu](http://www.reslife.wmich.edu)

The rates quoted are on the basis of two or more students per room and include a $25.00 per semester deferred maintenance fee. These fees and rates are subject to change without notice by action of the Board of Trustees. The Board of Trustees reviews annually the room and dining rates and may increase the rates if, in its opinion, such an increase is necessary.

Newly admitted undergraduate students are automatically sent information about residence hall offerings for the semester they anticipate coming to the University. Individuals returning to the University as re-entries, and newly admitted graduate students, will receive information by return mail upon requesting details from the Manager of Residence Hall Facilities, Student Services Building. Residence hall accommodations are not automatically made as a result of admission to the University.

**Student Assessment Fee**

A student assessment fee (SAF) of $21.00 per semester (Fall and Spring) and $10.50 per session (Summer I and Summer II) will be collected from all graduate and undergraduate students at the time of registration. This assessment is for the support of student organizations and agencies. The student organizations and agencies use this money to enhance the out of classroom experience on campus. The following is a sample of the programs funded in previous years: Bronco Bash, Homecoming, College Bowl, Miller Movies, Bernie's Afterhours, Bernhard Center’s Center Stage, lectures, etc.
**Transcript Fee**

An unofficial transcript may be printed by a current student from the web for no cost. An official transcript obtained in the Registrar’s Office or sent via regular mail is $5.00. The transcript will be released only upon written authorization of the student and only after payment is made.

**Tuition and Fee Payment for Graduate Appointees**

Graduate appointees (i.e., those holding assistantships, associateships, or fellowships) are entitled to a charge privilege for tuition and related fees. However, installment payments must be made. An account is considered to be delinquent thirty days after the beginning of a semester and thirty days after the beginning of a session. At that time a one and one-half percent monthly service charge will be added to the unpaid balance. Delinquent accounts are subject to all University collection procedures, including referral to an external collecting agency. All tuition and fees must be paid prior to registration for the next semester/session.

Registration is conducted via the web at Western Michigan University according to the schedule and procedures given in the Registration booklet, published prior to each semester and session and available in the Registrar's Office, in advising offices, and on the WMU web site. The Registration booklet should be consulted for details regarding procedures and regulations regarding the adding or dropping of courses, tuition and fee schedules and their methods of payment, final examination week schedules, and all the University regulations that affect the registration process. Registration by students signifies an agreement to comply with all regulations of the University whenever approved by the University.

Students should be aware that course information, including building, room, instructor, and time may change. The information in the online registration system is the most current.

To begin registration, the student will log in to GoWMU at [http://gowmu.wmich.edu](http://gowmu.wmich.edu) and follow the script displayed.

**Advance Registration**

Western Michigan University offers advance registration for each enrollment period as described in the Registration booklet issued prior to each semester and each session. Students are encouraged to take advantage of advance registration but are cautioned that any subsequent change in their schedules should be made before the final day of the drop/add period. See the sections below for more information about changing registration schedules.

**Adding and Withdrawing from Classes Before the Final Date to Drop**

Students may enroll in (add) any course through the first five days of classes of a semester or session. The final date for adding courses is published in the Registration booklet.

Students may withdraw (drop) classes during the five-day Drop/Add period (see the Registration booklet and the course will not be reflected on the student's official transcript. All withdrawals received after the Drop/Add period will be reflected on the student's academic record as a non-punitive “W” (Official Withdrawal).

**Dropping Classes and Withdrawing from All Classes**

Students may withdraw from one course, several courses, or all courses, without academic penalty from the day after the last day of the drop/add period for the semester or session, through the Monday of the tenth week (Fall/Spring semesters) and through the Monday of the fifth week (Summer I/II sessions). These withdrawals can be processed by the student online, through GoWMU. A non-punitive “W” will be recorded on the student’s transcript for any classes the student withdraws from after the drop/add period.
Students are encouraged to discuss a withdrawal with their instructor before withdrawing as the student may not re-enroll.

Students should also be aware that there may be financial implications following a withdrawal. A withdrawal from any course or courses which changes a student’s status from full time to part time may have insurance or other implications.

Students who wish to drop a course after the Monday of the tenth week of classes (Fall/Spring semesters) and through the Monday of the fifth week (Summer I/II sessions) because of genuine hardship (i.e. illness, death in the immediate family) must be passing the course, and must complete the late withdrawal form which requires the signature of the instructor of the course.

Students who wish to withdraw from all courses after the Monday of the tenth week (or the Monday of the fifth week in Summer I or II) must obtain the approval of the academic advisor as well as a financial aid advisor. International students must also obtain the approval of the Office of International Services and Student Affairs.

After a semester or session has ended, a student wishing to withdraw from a course may file an appeal for a late withdrawal, as described in the Course Grade and Program Dismissal Appeals section, in the Student Rights and Responsibilities section of this catalog.

The Registrar’s Office will record the drop or withdrawal if approvals are given as listed above.

Withdrawal time frame – Summary

1. From the end of drop/add period through: Monday of the tenth week (Fall/Spring semesters) or Monday of the fifth week (Summer I/II sessions):
   → Student can process the withdrawal online through GoWMU.

2. From the Tuesday of the tenth week (Fall/Spring semesters) through the end of the Semester or Tuesday of the fifth week (Summer I/Summer II sessions) through the end of the Session:
   → Student must have signed approval of instructor which requires that the student is passing and has a genuine hardship.

3. After semester or session has ended:
   → Student may file an appeal for a late withdrawal.

Graduate Credit and Course Numbers

To receive graduate credit, graduate students will register for courses offered at the 5000-, 6000-, or 7000-level. Courses numbered 6000 and above are open only to graduate students; courses numbered 5000 through 5990 are open to both graduate students and advanced upperclass students who meet the course prerequisites. Graduate students enrolling in courses at the 5000-level or higher will receive graduate credit.

All 7000-level courses are graded on a "Credit/No Credit" basis, without exception.

No graduate credit is given for registration in undergraduate courses, nor for any type of correspondence work, regardless of course number.
Graduate Leave of Absence

Western Michigan University supports a graduate leave of absence policy to assist graduate students who are temporarily unable to continue their programs. The leave of absence may extend consecutively for up to two semesters and two sessions. Extensions of a leave of absence may be possible with a new application. Reasons for requiring a leave usually include bereavement, illness, care giving, maternity, paternity, and call to active military duty. Students requesting a leave of absence must submit an application to their department/school/unit chairperson or director. The policy and form can be found at www.wmich.edu/grad/forms/leaveofabsencepolicy.pdf

Preparing the Application for Leave of Absence

In consultation with the supervising faculty member, an Application for Leave of Absence form is to be completed by the student, and signed by both the student and the advisor or supervising faculty member. The application is to be submitted to the chairperson/director for review and signature before being forwarded to the dean of the Graduate College. Whenever possible, application should be made in advance of the anticipated leave or as soon as possible after commencement of the leave. Whenever possible, it is helpful if the commencement and termination of the leave coincide with the beginning of a semester or session.

It is the student’s responsibility to ensure that the proposed leave is compatible with the regulations of any granting agency from which funding would normally be received during the leave period and that such agencies are informed of the proposed leave. Students on student loan programs should clarify the consequences that such a leave may have on their repayment status. International students are advised to consult with the Office of International Services and Student Affairs regarding their immigration status during a proposed leave.

A student granted a leave of absence will have his or her time-to-completion of degree extended by the amount of time granted in the leave of absence. The continuous enrollment policy will also be held in abeyance during this time.

Graduate Appointees Requesting a Leave of Absence

A graduate student holding an assistantship, associateship, or fellowship who is granted a leave of absence will have his or her salary and stipend (where applicable) suspended during the period of the leave. During the absence, a student replacement will serve usually on a temporary basis. Whenever possible, the remainder of the appointment will be held for the student upon his or her return to the next term. However, in situations where research activity has progressed substantially during the absence, the original appointee may no longer be able to resume the appointment. In situations where the student is returning in the next academic year, efforts will be made for that student to resume his or her appointment if possible.

In the event that a student appointee and chairperson/director disagree on the leave or its arrangements, students may follow the dispute resolution process available under the policy on Adjudication of Situations Involving Graduate Students Rights and Responsibilities.

Annual Review of Graduate Students

A graduate student’s academic performance, professional development, research progress, and where applicable, professional/ethical behavior will be reviewed annually to determine the student’s eligibility to continue in the program. Upon the student’s initial enrollment in a graduate certificate or master’s or specialist or doctoral program, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress, performance, or behavior may result in a student’s dismissal from the program.
Registration in Master’s Thesis, Specialist Project, Doctoral Dissertation

A student who intends to register for the Master's Thesis (7000), Specialist Project (7200), or Doctoral Dissertation (7300) for the first time is required to file a completed Permission to Elect form with The Graduate College before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

Registration for Continuous Enrollment in Master’s Thesis, Specialist Project, Doctoral Dissertation

Following a student's first enrollment in the Master's Thesis (7000), Specialist Project (7200), or Dissertation (7300), the student must have continuous enrollment in that same course until all thesis or project or dissertation requirements are completed satisfactorily and approved by all appropriate bodies. Registration deadlines apply. For students not enrolled in the Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II.

Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in the Summer I or Summer II session, the student must be enrolled in that session. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions may do so by paying the customary computer fee for each session in which computer and remote library services are desired.

Research Subject Protection and Registration

Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate University board, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. There are no exceptions to this requirement. Registration for courses in which research is conducted that requires such prior approval should not be attempted until the appropriate University board grants approval. The department requiring the course is responsible for assuring that the student has complied with federal, state, and WMU requirements. The student completing such regulated research for a master's thesis, specialist project, or doctoral dissertation must include the written approval or exemption letter from the appropriate board as an appendix to the thesis, project, or dissertation, and a student completing such regulated research for a course report, paper, or project must include the written approval or exemption letter from the appropriate board as an addendum to the report, paper, or project. For more information, call the Office of the Vice President for Research, (269) 387-8298.

Academic Forgiveness

Students who are readmitted into graduate study will not have grades and credit hours count in the computation of their grade point average that were earned more than seven years prior to their new entrance date. In such cases, the transcript will read, “Grades and credit hours earned more than seven years prior to current entrance date were not included in the computation of the grade point average.” The request for academic forgiveness must occur at the time of readmission.

Graduate Student Permanent Program of Study

A Graduate Student Permanent Program of Study is a document composed by a graduate student's program advisor that lists all course and other requirements necessary for completion of the degree program to which the student was admitted. The Graduate Student Permanent Program of Study is approved by the student's program advisor and by
the graduate dean, filed in the Registrar’s Office, and used to audit the student's eligibility for the degree. For more information, see the section in this catalog entitled Graduation Procedures and Requirements.

Identification Card

The Bronco Card is the student's photo identification card at WMU. In addition, the Bronco Card is the student's access card for the library, dining areas, Student Recreation Center, and computer centers and is a security access card for buildings on campus.

The Bronco Card also enables the student to ride for free on the Metro Bus Service on any route around the Kalamazoo area.

The Bronco Card has the size, look, and feel of a credit card. Included on the card are the student's picture and signature. On the back of the card is a magnetic strip, used for authentication.

The Bronco Card will serve the student as a University ID for as long as the student remains at WMU.

Name Change

Students may maintain academic records under the name used at the time of admission. However, any active student desiring to make an official name change must report to the Registrar's Office, third floor Seibert Administration Building to record the change. Legal proof is required.

Transcript

A student's permanent academic record or transcript is a document listing, at minimum, all courses taken and credit hours and grades earned in the courses.

An unofficial transcript may be printed by a current student from the web for no cost. An official transcript obtained in the Registrar's Office or sent via regular mail is $5.00. The transcript will be released only upon written authorization of the student and only after payment is made. Current students may also order official transcripts through GoWMU.

Academic Standards

Notwithstanding the Academic Standards policy outlined below, a student admitted with Conditional Admission or Provisional Admission status must meet the specified performance level within the time frame identified in the letter of admission or may not continue to enroll in University courses. Further, the Academic Standards policy inherently presumes the student will first meet satisfactorily any obligations or requirements specified in the letter of admission before the Academic Standards policy shall have any effect on the continuing enrollment of the student.

1. Good Standing: A graduate student admitted to a graduate degree or certificate program is in good standing whenever that student's degree or certificate program grade point average is at least 3.0.
2. Warning: Whenever the grade point average for any enrollment period is less than 3.0, but the degree program grade point average is 3.0 or above, the student will be warned.
3. Probation: If a student's degree program grade point average falls below 3.0, the student will be placed on probation.
4. Extended Probation: The student will be placed on Extended Probation when, following a semester on Probation, the student’s degree program grade point average is below 3.0 and the student’s grade point average for the enrollment period is 3.0 or above.

5. Final Probation: The student will be placed on Final Probation when, following a semester on Extended Probation, the student’s degree program grade point average is below 3.0 and the student’s grade point average for the enrollment period is 3.0 or above.

6. Probation Removed: When the conditions of Good Standing are restored, Probation will be removed.

7. Dismissal: Students on Probation or Extended Probation who fail to achieve at least a 3.0 grade point average for the enrollment period, or students on Final Probation who fail to achieve a 3.0 cumulative grade point average will be dismissed from the University.
   - Dismissed students must apply for readmission through the normal admission process. The student will send a Readmission Application to the Admissions Office that, in turn, will forward the student's Readmission Application to the program or academic unit admission body for decision on readmission.

8. Appeal Procedure: Upon appeal by the student, the program or academic unit admission body will determine whether to grant Extended Probation or Final Probation status. The status must be granted by the program or academic unit admission body in order for the student to register. The appeal must be initiated and the decision made by the program or unit prior to the subsequent semester's last day to add classes.

Annual Review of Graduate Students

A graduate student’s academic performance, professional development, research progress, and, where applicable, professional/ethical behavior will be reviewed annually to determine the student’s eligibility to continue in the program. Upon the student’s initial enrollment in a graduate certificate or master’s or specialist or doctoral program, the department shall provide a document to the graduate student outlining the annual review criteria and procedures. The review will assist the student in measuring timely progress toward completion of the program of study and in providing documentation for awards or assistantships or, if deficiencies are apparent, note them and indicate corrections necessary. Uncorrected deficiencies and/or unsatisfactory progress, performance, or behavior may result in a student’s dismissal from the program.

Attendance

Students are responsible directly to their instructors for class and laboratory attendance, and for petitions to excuse absences.

Course Grades and Grading System

A grade is given in each course in which a student registers. Grades are indicated by letters and assigned honor points as shown in the table below. **Credit toward a degree program will be granted only for courses in which a grade of "C" or better is earned.**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Definition</th>
<th>Honor Points Per Credit Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Outstanding, Exceptional</td>
<td>4.0</td>
</tr>
<tr>
<td>BA</td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td>B</td>
<td>Very good</td>
<td>3.0</td>
</tr>
<tr>
<td>CB</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>DC</td>
<td></td>
<td>1.5</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>E</td>
<td>Failing</td>
<td>0.0</td>
</tr>
<tr>
<td>X</td>
<td>(Failure) Unofficial Withdrawal</td>
<td>0.0</td>
</tr>
</tbody>
</table>
I - Incomplete: This is a temporary grade which the instructor may give to a student when illness, necessary absence, or other reasons beyond the control of the student prevent completion of course requirements by the end of the semester or session. The grade of “I” (Incomplete) may not be given as a substitute for a failing grade.

A grade of "I" must be removed by the instructor who gave it or, in exceptional circumstances, by the department chairperson.

Incomplete grades (except those given in Master's Thesis 7000, Specialist Project 7200, and Doctoral Dissertation 7300, and courses directly related to them or identified by departments) will convert to an "X" if not removed within one calendar year, or sooner if so stipulated by the instructor. Students who receive an incomplete grade in a course must not reregister for the course in order to remove the "I".

An instructor who assigns a grade of "I" will submit a Report of Incomplete Grade Form located on the faculty menu in GoWMU indicating the remaining requirement for removal of the incomplete grade and indicating the time allowed, if less than one year. An e-mail will be automatically generated to the student, the Registrar’s Office as well as an e-mail confirmation sent to the instructor.

W - Official Withdrawal: A grade of "W" is given in a course when a student officially withdraws from that course or from the University before the final withdrawal date in the semester or session specified in the Registration booklet.

CR or NC - Credit or No Credit: The Credit/No Credit grading system is used in all 7000-level courses, as well as some departmental courses approved by the University. The student's transcript will indicate "CR" when the grade received is an A, BA, or B; "I/NC" when incomplete; and "NC" when the grade received is a CB, C, DC, D, E, or X.

AU - Audit: The symbol "AU" is used to indicate that a student has enrolled in a course as an auditor, has attended at least three-fourths of the class or laboratory sessions, and has given evidence to the course instructor that the role as auditor has been satisfactory. A student who registers for a graduate course as an auditor, with the permission of the instructor, is not eligible to sit for examinations, earns no credit hours for the registration, and pays full tuition. The student must enroll in the audit status at the time of registration, and may not be transferred from the audit status after the course has begun.

Grade Change

A student who believes that an error has been made in the assignment of a grade must follow the procedure described later in this catalog in the Student Rights and Responsibilities section under the heading, “Course Grade and Program Dismissal Appeals.”
Grade Point Average

A grade point average is obtained by dividing the total number of honor points earned by the total number of semester hours completed. For example, a total of forty-eight honor points earned in a semester by a student who completed sixteen hours of course work gives a grade point average of 3.0 for the semester.

Graduate Credit by Examination

Each academic unit responsible for offering a graduate program may, with the approval of its dean, establish a procedure for granting credit by examination for any course numbered 5000 through 6990. All credit by examination is subject to the following regulations:

1. The academic unit which offers a graduate program shall determine if an equivalency examination may be used to obtain credit for a particular 5000- or 6000-level course in that academic unit.
2. All equivalency examinations will be administered and graded by no fewer than two faculty members from the academic unit offering the particular course.
3. All credit by examination shall be graded "Credit" or "No Credit." "Credit" will be posted on the transcript as "Credit earned by examination" without letter grade or honor points. Students who do not achieve a sufficient score to receive "Credit" will have no entry made on their transcripts.
4. Credit by examination can be used to meet all other University graduation requirements except the residency requirement.
5. Credit by examination can be earned only by those students admitted to a specific graduate degree or certificate program and who are enrolled concurrently with the examination for credit.
6. Credit by examination earned at another university may transfer in accordance with the current policies of The Graduate College governing the transfer of credit.
7. Examination fees are assessed on a credit hour basis and are the same for all students. The current fee schedule: less than four credit hours, $50.00; four credit hours to eight credit hours, $100.00. By special arrangement, some course examinations may require higher fees.

Honor Points

The number of honor points earned in a course is the number of semester hours credit given by the course multiplied by the value of the letter grade received. (See the “Grading System” table above.) For example, a grade of "B" (3 honor points) in a four-hour course gives 3 X 4, or 12 honor points.

Honor points are not generated in a Credit/No Credit course, such as in any 7000-level course.

Credit earned in undergraduate courses is not computed into the graduate point-hour ratio.

Honor point deficiencies acquired in credits earned at Western Michigan University cannot be made up by credits and honor points earned at another university. Only credit hours transfer from another university—not grades and not honor points.

Final Examination

All students enrolled in a course in which a final examination is given must take the examination.

Student requests for an examination at any other time than that scheduled may not be honored.

Full-time/Part-time Student Status
For all graduate students taking courses for a stated degree or certificate program, six hours constitutes full-time status, and three hours constitutes half-time status in Fall and Spring semesters. In the Summer I and Summer II sessions, three hours in either session constitutes full-time status for that session and two hours constitutes half-time status.

Students who have completed all course work for their master’s or doctoral level program and who have only the thesis or dissertation to complete are required by Western Michigan University to enroll for a minimum of one-hour in thesis or dissertation credits in all Fall and Spring semesters through the semester of graduation. If the student will graduate in the Summer I or Summer II session, the student must be enrolled in that session. Such enrollment will satisfy WMU’s continuous enrollment requirement.

However, students must be aware that FICA regulations and some federal loan deferment regulations require at least half-time enrollment, which at WMU is now at least three hours of enrollment. Graduate students, even those enrolled for thesis or dissertation hours, must be enrolled for at least half-time (3 hours at WMU) in order to qualify for FICA tax exemption or to be eligible for loan deferments.

Since enrollment fees are determined by hours enrolled, and not by full- or part-time status, students (whether graduate or undergraduate) who enroll for four or fewer hours are charged a lesser enrollment fee than those who enroll for five or more hours, and consequently they will be required to pay an additional fee for unlimited use of the recreation center. Students enrolling for four or fewer hours will have access to the recreation center for 10 visits without extra fee charges.

**Independent Study**

Independent Study refers to enrollment in an appropriately designated, variable-credit course for a specific plan of study, authorized and supervised by a designated, consenting faculty member.

Independent Study is not a substitute for regular courses, but an enrichment opportunity. Normally, it is a project designed to allow students to investigate an area of interest not within the scope of a regular course, to probe in more depth than is possible in a regular course, or to obtain an educational experience outside that normally offered by a regular course.

Since individual Independent Study projects are not normally reviewed through the usual departmental and University processes, it is essential that the academic adequacy of such projects be assured by some other means applied consistently throughout the University.

The following policy guidelines are intended to serve that function.

**Proposals for Independent Study**

Independent Study requires an adequate description of the work to be undertaken, requiring planning in advance of the registration period. Sufficient time, therefore, must be allowed for such planning and for obtaining the necessary faculty and administrative approvals.

While the Independent Study project is normally student-initiated, early interaction with faculty is essential in the development of a mutually acceptable project description. At a minimum, such a description should contain an outline of the study topic, specification of the work to be done and the materials to be read, the credit to be given, the type and frequency of faculty-student contacts, and a statement of the evaluative criteria to be used by the faculty member.
Approval Process

The faculty member must accept and approve the student and the project, and then submit the agreed-upon proposal on the appropriate University form to the department chairperson for approval. If the chairperson approves, information copies of the form must be submitted to the dean and the Registrar.

The granting of approval by the department chairperson may involve considerations, such as faculty workload, which go beyond the merits of the project.

Faculty Responsibility

Independent Study is basically a tutorial process, necessarily involving substantial faculty participation. In that respect, it should be distinguished from "credit by examination," a different option in which the role of the faculty member is primarily evaluative.

A student is on his/her own in Independent Study in that it involves no class meetings or formal lectures, but the faculty member is the responsible custodian of the project, obliged to provide guidance, assistance, criticism, suggestion, and evaluation, and shall be the instructor of record who is responsible for turning in a grade to the Registrar’s Office.

Repeated Course

With the exception of courses that are approved by the University Curriculum Review Policy as repeatable for credit (e.g., multi-topic or umbrella courses), no more than two courses may be retaken and no course may be repeated more than once during the student’s graduate career (inclusive of both master’s and doctoral programs) at WMU. This number may be further limited by individual departments. Permission to retake a course must be obtained from the program advisor and graduate dean before registration for the course to be repeated takes place. The original grade for the course will remain on the student’s transcript, and both the original and repeated course grade will be computed into the degree program grade point average.

Thesis, Project, and Dissertation

Composition and Role of Thesis Committee, Project Committee, and Dissertation Committee

Master’s Thesis Committee

A master's thesis committee shall be appointed for each student undertaking a thesis as partial fulfillment of the requirements for a master's degree. The purpose of the thesis committee is twofold: 1) to provide the range of expertise necessary to advise a student in the conduct of the master's thesis, and 2) to ensure that evaluation of the thesis represents a consensus of professionals in the student's chosen discipline.

The master's thesis committee is charged with the supervision and evaluation of the master's thesis, a task that includes but is not limited to the following responsibilities: a) advise the student on selection and/or development of a master's thesis topic; b) review and approve a proposal for the master's thesis; c) provide consultation regarding
progress on the thesis; d) evaluate the oral defense of the thesis.

In addition to the previously described responsibilities that are generic to all thesis committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those departments where this responsibility is not discharged through other mechanisms, advise the student regarding selection of thesis committee members; b) routinely monitor student progress on the thesis; c) call thesis committee meetings; d) evaluate the readiness of the thesis proposal and of the thesis for committee review and action; and e) inform the student of the need to adhere to the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations.

Each thesis committee shall consist of a minimum of three members or associate members of the graduate faculty of Western Michigan University. The committee chair must be a full member of the graduate faculty. At least two of the committee members must be from the department or academic program in which the student is pursuing the master's degree. The appointment of a master's thesis committee is a three-stage process requiring, first, a mutual agreement between the master's student and the prospective committee members; second, a formal appointment by the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the office of the dean of the Graduate College regarding this appointment.

Each unit offering a master's degree in which the thesis is either required or optional may approve and disseminate additional guidelines concerning master's thesis committees, including the qualifications for committee membership, the procedures used to select and appoint committee members, and the specific functions and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate an updated list of faculty who qualify to serve on master's thesis committees and their respective areas of expertise.

If there are differences among the members of a master's thesis committee over the approval of the thesis and its oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's master's thesis committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the committee cannot reach a unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the dean of the Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the thesis. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the master's thesis committee if the case merits it.

**Specialist Project Committee**

A specialist project committee shall be appointed for each student undertaking a project as partial fulfillment of the requirements for a specialist degree. The purpose of the project committee is twofold: 1) to provide the range of expertise necessary to advise a student in the conduct of the specialist project, and 2) to ensure that evaluation of the project represents a consensus of professionals in the student's chosen discipline.

The specialist project committee is charged with the supervision and evaluation of the specialist project, a task that includes but is not limited to the following responsibilities: a) advise the student on selection and/or development of a specialist project topic; b) review and approve a proposal for the specialist project; c) provide consultation regarding progress on the project; d) evaluate the final document; and e) in those departments requiring an oral defense, evaluate the oral defense of the project.

In addition to the previously described responsibilities that are generic to all project committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those departments where this responsibility is not discharged through other mechanisms, advise the student regarding selection of project committee members; b) routinely monitor student progress on the project; c) call project committee meetings; d)
evaluate the readiness of the project proposal and of the project for committee review and action; and e) inform the
student of the need to adhere to the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations.

Each project committee shall consist of a minimum of three members or associate members of the graduate faculty
of Western Michigan University. The committee chair must be a full member of the graduate faculty. At least two of
the committee members must be from the department or academic program in which the student is pursuing the
specialist degree. The appointment of a specialist committee is a three-stage process requiring, first, a mutual
agreement between the specialist student and the prospective committee members; second, a formal appointment by
the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the
office of the dean of the Graduate College regarding this appointment.

Each unit offering a specialist degree in which the project is either required or optional may approve and
disseminate additional guidelines concerning specialist project committees, including the qualifications for
committee membership, the procedures used to select and appoint committee members, and the specific functions
and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate
an updated list of faculty who qualify to serve on specialist project committees and their respective areas of
expertise.

If there are differences among the members of a specialist project committee over the approval of the project and its
oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these
differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's specialist project committee, the student
shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the
committee cannot reach an unanimous agreement and the student wishes to appeal further a negative decision, a
Review Committee shall be established consisting of the dean of the Graduate College, the appropriate academic
dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy
without passing on the project. The Review Committee handling such a case is limited to procedural actions, such as
reconstituting the specialist project committee if the case merits it.

**Doctoral Dissertation Committee**

A doctoral dissertation committee shall be appointed for each student undertaking a dissertation as partial fulfillment
of the requirements for a doctoral degree. The purpose of the dissertation committee is to review the dissertation
proposal, procedures, and results; to make suggestions relative to these matters to the student; and to decide whether
to approve the dissertation and the oral defense as fulfilling these requirements for the doctoral degree.

Each doctoral dissertation committee shall consist of at least three members. The student's major dissertation advisor
shall serve as chairperson of the committee. At least one member shall be from outside the student's department
(this person may be from a related cognate discipline, from outside the student's college, or from outside WMU)
who shall serve as a bona fide, fully participating member of the committee. The committee shall be approved and
recommended by the unit, approved by the office of the appropriate academic dean, and approved and appointed by
the graduate dean. Each member of the committee must be either a member or an associate member of the graduate
faculty; the committee chair must be a full member of the graduate faculty.

All members of this committee must approve the dissertation and at least three must be in attendance for and
approve its oral defense. The dissertation must be in a form acceptable to the unit and to the Graduate College before
the student may be awarded the doctoral degree.

Each unit offering a doctoral program shall approve and publish its policies concerning doctoral dissertation
committees, including the qualifications for membership on doctoral dissertation committees, the procedures used to
select who should serve on these committees, and the specific functions and responsibilities that the members of
these committees have. The chairperson of each student's doctoral dissertation committee shall indicate in writing
the specific responsibilities that individual members of that committee have.
If there are differences among the members of a doctoral dissertation committee over the approval of the dissertation and its oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's doctoral dissertation committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the committee cannot reach a unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the dean of the Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the dissertation. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the doctoral dissertation committee if the case merits it.

**Transfer Credit**

Transfer credit will be recorded on the Western Michigan University transcript as "Credit" (CR) only and will not be calculated into the honor points earned and the graduate grade point average at Western Michigan University. Grades and honor points do not transfer; only credit transfers. As a consequence, honor point deficiencies acquired in credits earned at Western Michigan University cannot be made up by credits earned at another university. (Exception: Grades for courses taken at other Michigan institutions under the Michigan Intercollegiate Graduate Studies [MIGS] program are applied to the student’s grade point average at WMU and appear on the student transcript. See [http://www.wmich.edu/grad/forms/migs.pdf](http://www.wmich.edu/grad/forms/migs.pdf) for more information about the MIGS program.

Graduate credit may be transferred from other schools provided:

1. The credits were earned in an institution accredited for graduate study and are of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better.
2. The credit is earned within the time limit for the degree program (six years for master’s or specialist programs or seven years for doctoral programs), is represented on an official transcript of the other university, and is identified as graduate credit.
3. The student's department verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.
4. The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.

**Master's Program**

A student enrolled in a master’s program must complete a minimum of 24 semester hours at Western Michigan University. Any credits transferred into a master’s program from other universities may not exceed sixteen semester credit hours and must have been earned within the six-year period prior to graduation.

**Second Master's Program**

A student enrolled for a second master’s degree from Western Michigan University must complete a minimum of 24 additional semester hours at Western Michigan University. Any credits transferred internally into the second master’s program may not exceed sixteen semester credit hours and must have been earned within the six-year period prior to graduation.

**Specialist Program**

A student with a master's degree from another university who completes a specialist degree at Western Michigan University may transfer up to thirty-six semester hours of approved graduate credit. A student without a master's degree who completes a specialist degree at Western Michigan University may transfer up to twelve semester hours.
of approved graduate credit. All credits transferred into a specialist program must have been earned within the six-year period prior to graduation.

**Doctoral Program**

A student enrolled in a doctoral program must complete a minimum of thirty semester hours, excluding the dissertation, at Western Michigan University after admission to the doctoral program. The thirty hours, excluding the dissertation, may not include any credit earned at another institution. Credit earned at another institution in addition to the thirty hours (excluding the dissertation) earned at WMU after admission to the doctoral program, however, may be approved by the doctoral program advisor and included in the student's Graduate Student Permanent Program of Study. All credits transferred into a doctoral program must have been earned within the seven-year period prior to graduation.

**Undergraduate Credit in a Graduate Program**

In certain instances, an advisor may permit a student to include up to six semester hours of 3000- or 4000-level courses in a graduate program, provided the student receives written permission from the advisor, the department chair, and the graduate dean prior to registering for these courses and then earns a grade of "B" or better. These courses earn undergraduate credit only which is not computed into the graduate grade point average.

**Graduation Procedures**

When a student satisfactorily completes all academic requirements for a degree, fulfills all financial and legal obligations to the University, and meets all relevant processing deadlines, the student is eligible for graduation and to receive the appropriate degree. An eligible student may graduate at the end of a semester or a session - in December, April, June, or August; however, a Commencement Ceremony is held only in December, April, and June.

**Graduation Process**

The graduation process requires students to

1. Apply for graduation by submitting the form Application for Graduation Audit and a $45.00 fee will be applied to the student account. The application form may be obtained from the Registrar's Office on the third floor of the Seibert Administration Building or on the Internet at <www.wmich.edu/registrar/pdf/forms/gradaudit.pdf>. Doctoral students should apply at least two semesters prior to intended graduation date.

   **Graduation Fee and Application Deadline**

   Graduation Fee: $45

   Application Deadlines:
   Fall Semester Graduation (December) August 1
   Spring Semester Graduation (April) December 1
   Summer I Session Graduation (June) February 1
   Summer II Session Graduation* (August) February 1
   *No Commencement Exercises in August

2. Fulfill all degree and University requirements and obligations.
3. If required for the degree, successfully complete, defend, and have approved by the graduate dean the master's thesis, specialist project, or doctoral dissertation.
4. Meet all department, Graduate College, and University deadlines for the completion of all work required for the program or degree and the submission of all materials required for graduation.

All work taken either on or off the campus must be completed by graduation day.

**Graduation Audit**

The graduation audit, initiated by the submission of the Application for Graduation Audit, is a process by which a student's academic record is examined to make sure all the requirements for the degree have been met. A graduation auditor in the Registrar's Office conducts the audit, and its outcome depends greatly on the completeness and appropriateness of the materials contained in the student's academic record. Students should ensure that the following requirements are met and the following documents are contained in their academic record before applying for graduation:

1. A Graduate Student Permanent Program of Study is completed, approved by the advisor and graduate dean, and filed in the Registrar's Office with the appropriate graduation auditor. The Graduate Student Permanent Program of Study should be filed as soon as practicable after the student begins enrollment following admission to the degree program.
   a. Master’s degree students will file their Permanent Program of Study prior to completion of 12 credit hours of study.
   b. Specialist degree students will file their Permanent Program of Study after completion of 12 credit hours of study or by the end of their first academic year of enrollment.
   c. Doctoral degree students will file their Permanent Program of Study after completion of 18 credit hours of study or by the end of the second semester of enrollment.

2. All transfer credit, if applicable, is approved, and the Graduate Transfer Credit form is appropriately signed by the advisor and the graduation auditor.
3. All completed course work (and other program requirements, where applicable) coincides with the Graduate Student Permanent Program of Study.
4. Where applicable, all relevant documents are filed attesting to the approval of committee appointments, passing of comprehensive examinations, completion of research tools, successful defense of thesis or specialist project or dissertation, fulfillment of any residency requirement, and compliance with the continuous enrollment requirement within the time limit allowed for the completion of degree requirements.

Students who do not meet all degree and University requirements will be removed from the graduation class automatically. Such students must change their graduation date. Under no circumstances will any student be graduated with a class if the student's academic record does not show complete fulfillment of all requirements within thirty days after the established commencement date.

Students who wish to change from one graduation class to another need to complete a change of graduation date form. The graduation auditor will not automatically move the student to another graduation class. No fee is charged for submitting a change of graduation date form.

**Non-degree Graduate Certificate Program**

Students completing the requirements for a Graduate Certificate Program, whether together with a degree or independent of a degree, may apply for a certificate of completion. The process, fee, and requirements for obtaining a graduate certificate are similar to that described above for obtaining a degree. The essential differences are that the student applying for a graduate certificate will have been officially admitted to the certificate program, will have
completed the application form entitled Application to Receive Graduate Certificate, and will have completed satisfactorily the certificate program requirements recorded on the student's advisor-approved Graduate Certificate Program, Program Outline.

Graduation Requirements

Graduates of specific degree programs offered by Western Michigan University are expected to meet the same academic standards and requirements. These academic standards and requirements vary, however, by discipline, by degree level, by program concentration, and often by conditions related to a student's admission (for example, the completion of specified courses or experiential prerequisites). For more specific information about the graduation requirements for each department's degree programs, read the program requirements section of the relevant department's listing in this catalog or contact the degree program's graduate advisor or the department office.

Master's Degree

In addition to the minimum University requirements for graduation listed below, each master's degree program requires students to complete satisfactorily specific courses, examinations, research, and/or experiences. For more complete information about the requirements for each master's program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Minimum Credit Hours: Completion of a minimum of thirty hours of accepted graduate credit in an approved program of study. Hours in addition to thirty may be required by a specific program; consult the program advisor for complete information.
   - At least one-half of the credits earned for the master's degree must be in courses numbered 6000 or above.
   - A master's level Graduate Student Permanent Program of Study may include a maximum of four hours of credit in 5980 (Readings).

2. Grade Point Average: A degree program grade point average of at least 3.0 is required for all work taken for the master's degree at Western Michigan University.
   - Credit toward the master's degree is granted only for graduate courses in which a grade of "C" or better is earned. Courses with lower grades will not count toward graduation.

3. Transfer Credit: A student enrolled in a master’s program must complete a minimum of 24 semester hours at Western Michigan University. Any credits transferred into a master’s program from other universities may not exceed sixteen semester credit hours. Graduate credit may be transferred from other schools provided:
   - The credits were earned at an institution accredited for graduate study and are of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better. [Honor points and grades earned at another university do not transfer to Western Michigan University. Transfer credit will be recorded on the Western Michigan University transcript at “Credit” (CR) only and will not be calculated into the honor points earned and the grade point average at Western Michigan University.]
   - The credit is earned within a six-year period prior to graduation from Western Michigan University, is represented on an official transcript of the other university, and is identified on that transcript as graduate credit.
   - The student's department verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.
   - The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.

4. Time Limit: All work accepted for the degree program must be completed within six years preceding the date on which the master’s degree is conferred. All work must be completed satisfactorily by the day of graduation. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the six years may also be granted for other students by the dean of the Graduate College for such legitimate reasons as illness, injury, or
hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than six years before the projected date of graduation.

5. Research Subject Protection: Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate University board, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. There are no exceptions to this requirement. For more information, call the Office of the Vice President for Research, (269) 387-8298.

6. Enrollment in Master's Thesis (7000): A student who intends to register for the Master's Thesis (7000) for the first time is required to file a completed Permission to Elect form with the Graduate College before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

7. Continuous Enrollment in 7000: The course 7000, Master’s Thesis, is six credit hours and may be registered for in increments of one to six hours. Following a student's first enrollment in 7000, the student must have continuous enrollment in 7000 until all thesis requirements are completed satisfactorily and approved by the appropriate bodies. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment in 7000 to the semester in which the student graduates.

   - A student unable to complete the thesis within the first six hours of registration will be required to continuously enroll in 7000; however, only six hours of 7000 will count toward meeting the program requirements for the master’s degree.
   - If the student will graduate in Summer I or Summer II, the student must be enrolled in that session.
   - For students on continuous enrollment who are not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions may do so by paying the customary computer fee for each session in which computer and remote library services are desired.
   - Students on continuous enrollment status who are not enrolled in Summer I or Summer II may not hold graduate appointments during any session in which they are not enrolled and will not qualify for resources restricted to enrolled students, such as the Graduate Student Research and Travel Fund.

8. Submission of Master's Thesis (7000) Manuscript: The manuscript must be submitted by the deadline established by the Graduate College and must conform to the style and format requirements explained in the University's Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations, available for purchase in Western's Campus Bookstore or for free downloading at http://www.wmich.edu/grad/. Also, the manuscript may be submitted for review only after it has been approved by the student's thesis committee and only with the signed committee approval forms certifying departmental approval of the manuscript and of the student's successful defense of it. Students who submit a thesis electronically through the ETD site must submit these approval forms as well as any other documents containing signatures, such as research protocol approval letters, separately to the Graduate College.

See the Graduate Studies section of this catalog, under GRAD 7000, for additional information regarding the Master's Thesis.

Second Master’s Degree

A student enrolled for a second master’s degree from Western Michigan University must complete a minimum of 24 additional semester hours at Western Michigan University. Any credits transferred internally into the second master’s program may not exceed sixteen semester hours and must have been completed within 6 years of the conferral of the second master’s degree. The second degree program must fulfill all of the other usual requirements for a master's degree.
Acquiring a Master’s Degree *en route* to the Doctoral Degree

Students who enter a doctoral program with a bachelor’s degree may, upon recommendation of their department, acquire the master’s degree by the following means:

1. The student requests the departmental graduate advisor to review the student’s program of study to ascertain that it meets the requirements for the master’s degree.
2. The graduate advisor or chair submits a program of study demonstrating that the student has met all requirements for the master’s degree as defined by the Graduate College and the student’s academic unit/department and submits a letter indicating that the department recommends that the student be awarded the master’s degree.
3. The student files an application for graduation with a master’s degree, initiating the graduation audit which determines the student’s eligibility for graduation.
4. A student who receives a master’s degree *en route* to the doctoral degree must complete the minimum number of semester hours of graduate course work beyond the master’s degree specified by the doctoral program in which the student is enrolled and must meet the additional competencies that distinguish the doctoral degree from the master’s degree.
5. A separate application for graduation with a doctoral degree must be filed.

Students who enter a doctoral program holding a master’s degree may, upon recommendation of their department, acquire a second master’s degree *en route* to the doctoral degree by the following means:

1. Six hours from the first master’s program may be applied to the second degree if evaluated and approved by the advisor and the graduation auditor as meeting the general and program requirements for transfer credit to a graduate program.
2. The student requests the departmental graduate advisor to review the student’s program of study to ascertain that it meets the requirements for the master’s degree.
3. The graduate advisor or chair submits a signed program of study for the master’s degree demonstrating that the student has met all requirements for the master’s degree as defined by the Graduate College and the student’s academic unit/department and appends a letter indicating that the department recommends that the student be awarded a master’s degree.
4. The student files an application for graduation with a master’s degree, initiating the graduation audit which determines the student’s eligibility for graduation.
5. With the approval of the advisor, the semester hours of course work earned and applied to the second master’s degree may be applied to the doctoral degree. The student must complete the minimum number of semester hours specified by the doctoral program and must demonstrate that he or she has met the additional competencies that distinguish the doctoral degree from the master’s degree.
6. A separate application for graduation with a doctoral degree must be filed.

**Specialist Degree**

In addition to the minimum University requirements for graduation listed below, each specialist degree program requires students to complete specific courses, examinations, research, and/or experiences. For more complete information about the requirements for a specialist program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Minimum Credit Hours: Completion of a minimum of sixty hours of accepted graduate credit in an approved program of study. Hours in addition to sixty may be required by a specific program; consult the program advisor for complete information.
   - A specialist level Graduate Student Permanent Program of Study may include a maximum of four hours of credit in 5980 (Readings).
2. Residency Requirement: A residency requirement is established by each specialist program and approved by the University's curriculum review process and must be met prior to graduation. Unless otherwise approved by the University for an individual academic unit, the general residency requirement for specialist
students is one academic semester of full-time study on campus or enrollment in two sessions in consecutive years and the intervening semesters. Consult the program advisor for complete information.

3. Grade Point Average: A degree program grade point average of at least 3.0 is required for all work taken for the specialist degree at Western Michigan University.
   o Credit toward the specialist degree is granted only for graduate courses in which a grade of "C" or better is earned. Courses with lower grades will not count toward graduation.

4. Transfer Credit: A student with a master's degree from another university who completes the remaining credits for a specialist degree at Western Michigan University may transfer up to thirty-six semester hours of approved graduate credit. A student without a master's degree who completes a specialist degree at Western Michigan University may transfer up to twelve semester hours of approved graduate credit. Graduate credit earned at another university is eligible for transfer to a Western Michigan University specialist program provided:
   o The credit is earned at an institution accredited for graduate study and is of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better. [Honor points and grades earned at another university do not transfer to Western Michigan University. Transfer credit will be recorded on the Western Michigan University transcript as "Credit" (CR) only and will not be calculated into the honor points earned and the grade point average at Western Michigan University.]
   o The credit is earned within a six-year period prior to graduation from Western Michigan University, is represented on an official transcript of the other university, and is identified on that transcript as graduate credit.
   o The student's program advisor verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.
   o The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.

5. Time Limit: A student admitted to the specialist program with a master’s degree is required to complete the specialist program within five years; a student admitted without a master’s degree is required to complete the specialist program within six years. All work must be completed satisfactorily by the day of graduation. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the six years may also be granted for other students by the dean of the Graduate College for such legitimate reasons as illness, injury, or hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than six years before the projected date of graduation.

6. Research Subject Protection: Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate University board, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. There are no exceptions to this requirement. For more information, call the Office of the Vice President for Research, (269) 387-8298.

7. Enrollment in Specialist Project (7200): A student who intends to register for the Specialist Project (7200) for the first time is required to file a completed Permission to Elect form with the Graduate College before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

8. Continuous Enrollment in 7200: The course 7200, Specialist Project, may be registered for in increments of one to six hours. Following a student's first enrollment in 7200, the student must have continuous enrollment in 7200 until all project requirements are completed satisfactorily and approved by the appropriate bodies. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates.
   o A student unable to complete the project within the first six hours of registration will be required to continuously enroll in 7200; however, only six hours of 7200 will count toward meeting the program requirements for the master’s degree.
   o If the student will graduate in Summer I or Summer II, the student must be enrolled in that session.
For students on continuous enrollment who are not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions may do so by paying the customary computer fee for each session in which computer and remote library services are desired.

Students on continuous enrollment status who are not enrolled in Summer I or Summer II may not hold graduate appointments during any session in which they are not enrolled and may not qualify for resources restricted to enrolled students, such as the Graduate Student research and Travel Fund.

9. Submission of Specialist Project (7200) Manuscript: The manuscript must be submitted by the deadline established by the Graduate College and must conform to the style and format requirements explained in the University's Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations, available for purchase in Western's Campus Bookstore or for free downloading at http://www.wmich.edu/grad/. Also, the manuscript may be submitted for review only after it has been approved by the student's project committee and only with the signed committee approval forms certifying departmental approval of the manuscript and of the student's successful defense of it. Students who submit a project electronically through the ETD site must submit these approval forms as well as any other documents containing signatures, such as research protocol approval letters, separately to the Graduate College.

See the Graduate Studies section of this catalog, under GRAD 7200, for additional information regarding the Specialist Project.

Doctoral Degree

In addition to the minimum University requirements for graduation listed below, each doctoral degree program requires students to complete specific courses, examinations, research, and/or experiences. For more complete information about the requirements for each doctoral program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

1. Minimum Credit Hours: After admission to the doctoral program, completion of a minimum of thirty hours, excluding the dissertation, at Western Michigan University in an approved program of study. Hours in addition to thirty may well be required by a specific program; consult the program advisor for complete information. The thirty hours, excluding the dissertation, may not include any credit earned at another institution. Credit earned at another institution in addition to the thirty hours and dissertation earned at WMU after admission to the doctoral program, however, may be approved by the doctoral program advisor and included in the student's program of study.

   o Each student's program will be planned by a committee selected in consultation between the student and the graduate advisor of the program in which the student wishes to study. The exact distribution of courses, seminars, and research will depend upon the program and may vary from one student to another. Each program, however, will contain a significant amount of research, and each student will be required to complete a dissertation [except in those programs where a dissertation is not a program requirement].

   o A doctoral level Graduate Student Permanent Program of Study may include a maximum of four hours of credit in 5980 (Readings).

2. Research Tools: Demonstration of proficiency in two appropriate research tools, as determined by the department and approved by the University. Normally, the research tools are selected from among foreign language, statistics, research methodology, and computer programming; however, other tools have been approved for some programs.

3. Residency Requirement: The general residency requirement for doctoral students is one academic year (two consecutive semesters) of full-time study on campus. Each doctoral program may, however, with approval of the University through the curriculum review process, establish its own residency requirement. Students
must meet the residency requirement prior to approval for candidacy. Students should consult with their advisor regarding the residency requirement for the specific program of interest.

4. Comprehensive Examinations: Passing the required comprehensive examination(s) that cover the principal subject matter areas included in the student's program of study.

5. Grade Point Average: A degree program grade point average of at least 3.0 is required for all work taken for the doctoral degree at Western Michigan University.

- Credit toward the doctoral degree is granted only for graduate courses in which a grade of "C" or better is earned. Courses with lower grades will not count toward graduation.

6. Transfer Credit: Often doctoral students attend Western Michigan University after earning a master's or other graduate degree elsewhere, and their subsequent course work is then usually elected at Western Michigan University. However, graduate credit earned at another university after admission to the doctoral program is eligible for transfer provided:

- The credit is earned at an institution accredited for graduate study and is of "B" grade (3.0) or better. Moreover, the student's overall grade point average for all graduate work taken at the other institution must also be "B" (3.0) or better. [Honor points and grades earned in courses at another university do not transfer to Western Michigan University. Transfer credit will be recorded on the Western Michigan University transcript as "Credit" (CR) only and will not be calculated into the honor points earned and the grade point average at Western Michigan University. A graduate degree earned elsewhere that comprises part of the student's doctoral program of study at Western Michigan University will be posted on the student's transcript, but the degree's courses, grades, and honor points will not be transferred nor posted on the transcript.]
- The credit is earned within a seven-year period prior to graduation from Western Michigan University, is represented on an official transcript of the other university, and is identified on that transcript as graduate credit.
- The student's program advisor verifies that the transfer credits contribute to the student's degree program and includes them in the student's Graduate Student Permanent Program of Study.
- The graduate dean approves the inclusion of the transferred credits in the student's Graduate Student Permanent Program of Study.

7. Time Limit: After admission, all requirements for the degree must be completed within seven years preceding the date on which the degree is conferred. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the seven years may also be granted for other students by the dean of the Graduate College for such legitimate reasons as illness, injury, or hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than seven years before the projected date of graduation.

8. Research Subject Protection: Students conducting research that involves human or animal subjects, biohazards, genetic materials, or nuclear materials/radiation must have prior approval of the research proposal by the appropriate University board, thus assuring compliance with the regulations for the protection of such subjects or for the use of such materials. There are no exceptions to this requirement. For more information, call the Office of the Vice President for Research, (269) 387-8298.

9. Enrollment in Doctoral Dissertation (7300): A student who registers for the Doctoral Dissertation (7300) for the first time is required to file a completed Permission to Elect form with the Graduate College before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

- Doctoral Dissertation (7300) varies in credit from a minimum of twelve hours to a maximum of twenty-four hours. The minimum and maximum number of hours of 7300 required by each department in a student's program of study will be determined by the department in a proposal approved by the University's curriculum review process. A department may require all students within the program to register for a specific, common total of hours between twelve and twenty-
four, or a program may require different students within the program to register for a variety of total hours between twelve and twenty-four. For more complete information about the dissertation requirements for each doctoral program, read the program requirements section of the relevant program's listing in this catalog or contact the program's graduate advisor or the department office.

See the Graduate Studies section of this catalog, under GRAD 7300, for additional information regarding the Doctoral Dissertation.

10. Continuous Enrollment in 7300: The course 7300, Doctoral Dissertation, may be registered for in increments of one or more hours. Following a student's first enrollment in 7300, the student must have continuous enrollment in 7300 until all dissertation requirements are completed satisfactorily and approved by the appropriate bodies. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment in 7300 to the semester in which the student graduates.

- A student unable to complete the dissertation within the number of hours specified on the program of study will be required to continuously enroll in 7300; however, only the program-stipulated hours for 7300 will count toward meeting the program requirements for the doctoral degree.
- If the student will graduate in Summer I or Summer II, the student must be enrolled in that session.
- For students on continuous enrollment who are not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Students who desire to have remote access to WMU’s library databases during the Summer I and Summer II sessions may do so by paying the customary computer fee for each session in which computer and remote library services are desired.
- Students on continuous enrollment status who are not enrolled in Summer I or Summer II may not hold graduate appointments during any session in which they are not enrolled and will not qualify for resources restricted to enrolled students, such as the Graduate Student Research and Travel Fund.

11. Dissertation Defense Scheduling: The doctoral candidate must schedule an oral, public dissertation defense. The following procedures must be observed:

- the doctoral candidate must have applied for graduation, be currently listed in an active graduation class, and the candidate’s graduation audit must show that all requirements except the defense and submission of the dissertation have been met.
- the candidate must complete the dissertation defense scheduling form found on the Graduate College website and email the abstract to the Coordinator of Dissertations.
- the dissertation defense scheduling form must be submitted to the Graduate College at least 2 weeks prior to the proposed defense in conjunction with the Graduate College calendar of deadlines, and
- a two-hour block of time must be reserved for the defense. At least three members of the student’s committee must be present at the defense.

12. Submission of Doctoral Dissertation (7300) Manuscript: The manuscript must be submitted by the deadline established by the Graduate College and must conform to the style and format requirements explained in the University's Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations, available for purchase in Western's Campus Bookstore or for free downloading at [http://www.wmich.edu/grad/](http://www.wmich.edu/grad/). Also, the manuscript may be submitted for review only after it has been approved by the student's dissertation committee and only with the signed committee approval forms certifying departmental approval of the manuscript and of the student's successful defense of it. Students who submit a dissertation electronically through the ETD site must submit these approval forms as well as any other documents containing signatures, such as research protocol approval letters, separately to the Graduate College.

13. Publication of the Dissertation Manuscript: All doctoral dissertations will be published (microfilmed) by ProQuest/UMI and an abstract of the dissertation will be prepared by the student for publication in Dissertation Abstracts. A check made payable to WMU, as well as other items specified on the dissertation check-in form, must accompany the manuscript when it is submitted to the Graduate College.
Non-degree Graduate Certificate Program

To signify that a student has satisfactorily completed an approved curriculum in a Graduate Certificate Program, a certificate of completion is awarded. Regular admission to the program by the relevant academic unit is required.

The student must complete the fifteen (15) to twenty-one (21) hours of course requirements of the graduate certificate program with a “B” (3.0) or better program grade point average, with no course grade lower than a “C,” with all coursework completed no more than 6 years prior to the conferral of the certificate. Students whose certificate programs are taken primarily through part-time study have the option of requesting an extension from the graduate dean. Extensions beyond the six years may also be granted for other students by the dean of the Graduate College for such legitimate reasons as illness, injury, or hardship. In such situations, the student and department must demonstrate how the student will bring up to date the content knowledge from courses taken more than six years before the projected date of completion of the certificate program.

For more information about the completion requirements for each certificate program, read the program requirements section of the relevant program's listing in this catalog or contact the program's advisor or the department office.
Fellowships, Assistantships, Associateships, Grants

Western Michigan University provides fellowships, associateships, and assistantships for students planning to pursue graduate study. Collectively, these awards are known as graduate appointments. Graduate appointees are first and foremost students. As such, their most important task is to complete their degree requirements in a timely fashion; this is the primary expectation of the University. Graduate appointments are funded through state appropriations and federal, state, local, and private grants for at least three principal reasons. First, employment of graduate students in teaching, research, and non-teaching positions during their graduate education encourages and supports their participation in these major functions of university life and thereby strengthens the quality of the students’ educational experience. Second, appointments provide direct financial support to outstanding students who are essential to the development of quality graduate programs. Third, graduate students provide valuable and necessary services to the University in their roles as appointees. Applications are due by February 15, and appointments are usually made by April 1 for students planning to enroll in the fall semester. Appointments are often renewable, except for Dissertation Fellowships. For more information, visit or call the Graduate College (269) 387-8212, or visit the Graduate College’s financial assistance website: www.wmich.edu/grad/funding.html

The following appointments are available:

Departmental Doctoral Associateship
Doctoral Associateships are available to students admitted to a doctoral program. A full appointment requires 20 hours of service per week from the student in the department or in a related area. Types of appointment duties include teaching, research, or service. Enrollment of at least six hours per semester and three hours per session is required. The associateship will pay up to 9 hours of full tuition per semester or 3 hours per session. Application deadlines vary by department; inquiries should be made with the academic unit.

Departmental Graduate Assistantship
Graduate Assistantships are available in many departments of the University for both master’s and doctoral students. A full appointment requires 20 hours of service per week from the student in the department or in a related area. Types of appointment duties include teaching, research, or service. Enrollment of at least six hours per semester and three hours per session is required. The assistantship also provides full or partial tuition remission. Inquiries should be sent to the chairperson of the department.

Graduate College Dissertation Completion Fellowship
Graduate College Dissertation Completion Fellowships for two semesters and two sessions are awarded in open competition and on the basis of superior scholarly achievement to assist full time doctoral students with completion of their dissertations. To be eligible, an applicant must be a doctoral candidate who can demonstrate superior academic achievement and a record of timely and steady progress toward degree completion. Applicants must have completed all requirements for the degree except the dissertation and must have an accepted dissertation proposal. During the Fellowship, enrollment of at least six hours per semester and three hours per session is required, until the Fellow has completed the minimum number of dissertation hours specified by their program and then continuous enrollment is required. The Fellowship provides a tuition scholarship of up to 18 hours of full tuition. Application deadline: February 15.

Thurgood Marshall Fellowship
Thurgood Marshall Fellowships for the academic year plus the Summer I and Summer II sessions are available to U.S. citizens who are beginning their master's or doctoral degree programs and who have regular admission to the program; they are awarded to exceptional students who exemplify the life, career and ideals of Justice Thurgood Marshall. Master’s level recipients are required to enroll in a minimum of six hours per semester and three hours each summer session and perform 10 hours of service per week in the student’s department or academic unit; a partial tuition scholarship of 67 percent up to 27 hours is provided. Doctoral recipients are required to enroll in six hours per semester and three hours each session, and perform 10 hours of service per week in the department or academic unit; full tuition up to 24 hours is provided the students. Application deadline: February 15.
Martin Luther King/César Chavez/Rosa Parks Future Faculty Fellowship
Martin Luther King/César Chavez/Rosa Parks Future Faculty Fellowships are available to U.S. citizens with regular admission to a doctoral program and who wish to pursue a full-time teaching or administrative career in post-secondary education within the United States. These KCP Fellowships are awarded to exceptional students who exemplify the life, career, and ideals of Martin Luther King, César Chavez or Rosa Parks. The fellowship does not require departmental service; however, students must meet other requirements as stated in the guidelines for KCP Fellowships. KCP fellowships can be awarded in conjunction with other appointments. Inquiries should be sent to the Graduate College. Application deadline: February 15.

Western Michigan University (WMU) – Alliance for Graduate Education and the Professoriate (AGEP) Fellowship
Under the terms of a grant from the National Science Foundation, WMU-AGEP Fellowships are available to U.S. citizens who derive from African-American, Hispanic, Native American (with tribal affiliation) or Asian/Pacific Islander heritage and who have secured regular admission to a doctoral degree program in a STEM (science, technology, engineering, or mathematics) area. The AGEP Fellowship is competitive and awarded to exceptional students. Retention and professional development programs offered through the National Science Foundation and the Michigan Alliance for Graduate Education and the Professoriate are available to the fellowship recipients. For further details, contact the Graduate College. Application deadline: March 1.

Graduate Student Research Fund
The Graduate Student Research Fund was established to support graduate students engaged in independent scholarly research, scientific inquiry, inventive technology, and original artistic activity. The fund is intended to help students pay extraordinary or unusual costs incurred in research projects. The typing of theses and dissertations and project papers, as well as the purchase of supplies and equipment commonly provided by departments or by other existing grants or funds, are not considered to be unusual expenses.

To be eligible for a grant from the Graduate Student Research Fund, an applicant must be regularly admitted to a graduate degree program, in good academic standing, and enrolled for at least six hours in the semester or for at least three hours in the session that the research takes place (students on "continuous enrollment" status can meet this requirement with one hour of enrollment) and the sole or principal investigator.

Applicants whose research involves human subjects, animals, and/or bio-safety requirements must provide documentation of prior approval of the research proposal by the appropriate University review body.

Grants will range up to $1,000.00 for those applicants selected for funding. The amount will depend, in part, on the number of applications received and the budget available and, in part, on the priority given the application by the selection committee. Normally, preference is given to applications submitted before the research project has been completed. However, applicants should be aware that not all applications may be selected for funding and that not all applicants may receive the amount of funding requested. Applications are available at the Graduate College or at www.wmich.edu/grad/funding. Application deadlines: September 15, November 1, and March 15.

Graduate Student Travel Fund
The Graduate Student Travel Fund was established to support graduate students engaged in independent scholarly research, scientific inquiry, inventive technology, and original artistic activity. The fund supports graduate student travel to meetings or events sponsored by professional organizations for the purpose of reporting the results of research, exhibiting or performing creative works, or otherwise disseminating results of their scholarly activity. This fund does not cover conference attendance for other purposes (e.g., as a non-presenting attendee or workshop participant), to present the findings of another's scholarly work, or for credit-generating activities such as study abroad programs.

To be eligible for a grant from the Graduate Student Travel Fund, an applicant must be regularly admitted to a graduate degree program, in good academic standing, enrolled for at least six hours in the semester or for at least
three hours in the session that the travel takes place (students on "continuous enrollment" status can meet this requirement with one hour of enrollment), the sole or principal investigator and the invited presenter.

Applicants whose research involves human subjects, animals, and/or bio-safety requirements must provide documentation of prior approval of the research proposal by the appropriate University review body.

Grants will range up to $600.00 for those applicants selected for funding. The amount will depend, in part, on the number of applications received and the budget available and, in part, on the priority given by the selection committee. Normally, preference is given to applications submitted before the travel has been completed. However, applicants should be aware that not all applications may be selected for funding and that not all applicants may receive the amount of funding requested. Applications are available at the Graduate College or at www.wmich.edu/grad/funding. Application deadlines: September 15, November 1, and March 15.

**University Dames Endowed Scholarship Grant**

University Dames Endowed Scholarship grants are available for candidates who are admitted to a graduate degree program, who have successfully completed at least 15 credit hours of graduate work, and who are in good academic standing. Preference is given to female candidates. The award amount is credited to the student’s University account and applied toward tuition, fees, and books. Nominations from department chairs or graduate advisors must include the nominee’s vita and a letter of support from either the department chair or graduate advisor. The scholarship is awarded on an annual basis each spring. Application deadline: May 15.

**George and Beatrice Fisher Gerontology Dissertation Prize**

This annual award recognizes the doctoral dissertation that best advances the study and understanding of the process of aging. The prize may be awarded in any discipline or field related to gerontology. Candidates must be in good academic standing. Nominations from department chairs or graduate advisors must include a summary of the nominee’s gerontology research, a vita, and a letter of support from the department chair or graduate advisor. The annual award is made during the month of June. Application deadline: May 15.

**Gwen Frostic Doctoral Fellowships**

These generous and highly competitive fellowships will be awarded annually by the Graduate College to doctoral students engaged in dissertation research from any field. The fellowships, in an amount to be determined by the Graduate College, will defray or reimburse education expenses, including tuition and fees, materials, and travel. Funds must be spent in the year (365 days) following the award. The award terminates when the doctoral degree has been conferred upon a Fellow.

Upon announcement of the application deadline by the Graduate College, students may be nominated by their dissertation adviser, with a letter of transmission from the department chair or program head. These letters shall indicate the significance of the dissertation research, the accomplishments of the student, and the scholarly or scientific promise of the student. The nomination must be accompanied by the student’s curriculum vitae, approved dissertation proposal, and a budget of expenses.

**Patricia Lee Thompson Dissertation Award**

The Patricia Lee Thompson Dissertation Award is an annual award that assists with completion of the dissertation. Award monies may be used for any costs associated with completion of the dissertation. Each doctoral degree program at WMU may nominate one student for the award. Nominees must have completed all requirements for the degree except the dissertation and have a graduate GPA of 3.25 or above. Nomination deadline is in mid-May and announced each spring by the Graduate College.

**Policies Governing Graduate Appointees**

**Definitions and Classifications**
1. A graduate appointee is a student enrolled in a program leading to a graduate degree or to a graduate certificate who receives a University-administered salary. Amounts may vary by program, but minimum established rates are posted on the Graduate College website.

2. To be eligible for a graduate appointment a student must be regularly admitted, in good academic standing, and enrolled in a program leading to a graduate degree or a graduate certificate. In most cases graduate appointees are required to be enrolled as full-time students. A student admitted to a graduate degree program or concurrently to a graduate degree program and a graduate certificate program is eligible for an appointment in any unit in the University. A student admitted only to a graduate certificate program is eligible for an appointment only within the academic unit offering the graduate certificate.

3. Although graduate appointments differ in many important ways, each can be classified as either an assistantship/associateship or a fellowship. Assistants/Associates provide service to the University which is part of the learning experience in their disciplines. As apprentices they perform part of the functions of their academic units. In contrast, Fellows have no formal service obligation to the University, although they are expected to participate in the normal activities of their academic units which is considered training for participants within the program.

4. More than one fractional appointment may be held simultaneously. However, in no case shall one person hold more than the equivalent of one full appointment.

5. A student may be awarded an appointment for only one program at the master’s level and one program at the doctoral level.

6. A master’s level student may receive funding for up to two years. At the academic dean’s discretion, a third year of funding may be provided.

7. A doctoral level student may receive funding for up to five years.

Types of Appointments

Assistantship

a. Assistantships are awarded to graduate students with the expectation of appropriate professional service. Graduate assistants are apprentices in the profession, and while the service aspect is emphasized in the definition in order to make a distinction, Graduate Assistants, first and foremost, are students and valued members of the community of scholars. They are chosen for their scholarship and manifest interest in the discipline as well as for their ability to perform the needed service.

b. The service of a Graduate Teaching Assistant (T.A.) consists of activities directly related to teaching, while the service of a Graduate Research Assistant (R.A.) consists of research activity under the supervision of a faculty member or administrator, and the service of a Graduate Non-Teaching Assistant (N.T.A.) includes all other professional work in the unit accepted as appropriate and germane to the student's educational goal.

c. Teaching assistants as defined in the Teaching Assistants Union (TAU) contract are subject to the terms and conditions of the 2009-12 contract between Western Michigan University and TAU. [www.tauaft.org]. Under terms of the contract, at the beginning of each academic term TAU will be provided with a list of all graduate teaching assistants and these will be considered employees represented by the bargaining unit. The bargaining unit will communicate with these employees about rights and responsibilities accorded by the contract, including the payment of union dues.

Associateship

Associateships are assistantships awarded to outstanding students in doctoral programs. Service may involve teaching, research, or other appropriate activity.

Fellowship

Fellowships are awarded to students who have distinguished themselves by outstanding academic achievement or special abilities. Fellowships are provided by the University or by another donor with the approval of the University. The fellowship grant (stipend) is a gift to help the Fellow achieve an educational goal.
Service Requirement

The kinds of service required of Graduate Assistants/Associates may vary among departments, each of which determines its own range of appropriate possibilities subject to administrative review. Whatever kind of service is expected, however, a full assistantship in any department consists of twenty hours of service per week or its equivalent. Equivalency is calculated on the basis of the value assigned by a department to the performance of each particular service.

No service is required of students holding Fellowships; the fellowship grant (stipend) is a gift to help the Fellow achieve an educational goal, rather than a payment for services.

Stipends and Salaries

1. The amount of a fellowship grant (stipend) is set by the donor with the concurrence of the Provost and Vice President for Academic Affairs.
2. The minimum salary for full-time Assistants and Associates in each type of appointment is established by the Provost and Vice President for Academic Affairs.
3. Fractional awards are made for fractional appointments.
4. Assistantship, associateship, and fellowship awards have tax implications. Detailed records of educational expenses and check stubs from any payment received from the University should be kept for tax purposes.

Affirmative Action

The University's Affirmative Action Policy shall apply to graduate appointments.

Professional Ethics

Graduate assistants and associates shall adhere to the same standards of professional ethics as those of the regular faculty. (See "Statement on Professional Ethics" in current Agreement between WMU and the AAUP.)

Notification of Status

1. At the time of their appointment, graduate appointees shall be informed in writing of the specific conditions of the appointment. They shall be informed that the offer of an appointment is contingent upon acceptance into a graduate degree program at the University, and continuance of the appointment depends in part on satisfactory progress in that program and satisfactory performance of assigned duties. The letter shall also state the amount of the award, whether a tuition scholarship is involved, the probable assigned activities, the length of the appointment, conditions of service, and, if appropriate, the criteria for renewal. Any other conditions peculiar to an individual appointment shall be contained in the letter of appointment.
2. Each appointee shall be provided with information prepared by the Graduate College concerning current University-wide procedures, practices, privileges, and responsibilities that relate to graduate appointees. Each department is responsible for providing any supplemental information on these matters that is necessary and special.

Professional Development

1. Assigned activities of graduate appointees shall be relevant professional experiences.
2. Graduate appointees can expect professional guidance and timely evaluation in the performance of their duties.

Enrollment Status
1. A full appointment requires a minimum enrollment of six credits per semester or three credits per session. Individual departments may require an enrollment of more than the minimum number of credit hours. Some circumstances may allow for decreased enrollment; however, departments will advise appointees.

2. It should be noted that students registered for five or more credits a semester (four or more credits a session) are assessed, as part of the enrollment fee, prepaid student health center and recreation center fees that allow access to health center services and recreation center facilities. Students enrolled for four or fewer credits a semester (three or fewer credits a session) are assessed a lesser enrollment fee which continues to allow for services at the health center and provides ten visits to the recreation center. Students in the latter example must pay an additional fee to enable them to have unlimited recreation center privileges.

Evidence of Status

1. For formal identification as a graduate appointee, students are placed on an electronic list shared with various campus offices that provide services to appointees.

2. Validation may be authorized during the summer sessions for graduate appointees on academic year appointments even if the appointee is no longer receiving a stipend.

Appointee Benefits

1. Tuition Scholarships: Graduate appointees may, at the discretion of the University, be granted partial or full tuition scholarships. Any such tuition scholarship will be identified in the appointment letter and on the appointment form. Tuition scholarships are awarded only during the semester(s) or session(s) a graduate appointment is held. Students who are granted such partial or full tuition scholarships and subsequently withdraw from a class or from classes after the refund period may be required to repay the portion of the tuition scholarship that was granted as a benefit of the appointment.

2. University housing: Graduate appointees will be accorded priority in securing University housing in residence halls or family housing apartments (if deadlines are observed and as facilities permit).

3. Library: Graduate appointees will be accorded the same privileges and responsibilities as faculty members in the use of the library facilities. These are specified in the faculty handbook (Western Michigan University Policy Handbook). Appointees will also have access to library carrels on a space available basis after faculty requests have been filled.

4. Parking: Graduate appointees are exempt from paying the motor vehicle registration fee, but are required to register their motor vehicles. Application may be made to the Public Safety Annex for parking privileges in designated lots; the appointee will be required to present the ID and appear on the electronic validation list held at the service desk, or to present the letter of appointment.

5. Campus Bookstore: Graduate appointees will be accorded discount privileges on purchases at the Western Michigan University Bookstore in the same manner and degree as faculty and staff members. Discount will be given for current semester or session only; the appointee will be required to present the student identification card and appear on the electronic validation list held at the service desk.

6. University facilities: Graduate appointees will be accorded the use of University facilities (e.g., student offices, research facilities, etc.) authorized by the director of the facilities on the same basis that they are authorized for part-time faculty.

7. Health Care: Appointees may elect to enroll in a University-sponsored Health Insurance Program. [All students enrolled at Western Michigan University are eligible to participate in the Student Health Insurance Program (dependent coverage available) where each participant pays the full cost of coverage.] Graduate appointees are eligible to receive a University contribution towards the cost of coverage, provided they complete the necessary enrollment process during the prescribed enrollment period. Enrollment materials and information are available at the Sindecuse Health Center and the Graduate College.
Financial Aid and Scholarships

At Western, we encourage every student to apply for Financial Aid FIRST. Financial aid is the best, most cost-efficient way to pay for college. Everyone qualifies for some type of aid. We are dedicated to meeting the needs of our diverse and talented campus community by providing excellent customer service in an accurate and timely manner through the use of advanced technology and a knowledgeable staff.

Financial aid comes in several forms. Your aid package may include a grant, which is “free money” you don’t have to repay. It can also include work study and federal student loans. Federal student loans offer the lowest interest rates and allow you to defer repayment.

The information in this section is based on the 2009-10 award year criteria. Should federal, state, or University regulations and procedures change, Student Financial Aid will be responsible for administering programs according to updated descriptions and criteria.

To see the most current information about opportunities and application procedures, visit the Student Financial Aid Web site: www.wmich.edu/finaid. If you have questions you may visit Bronco Express in the Bernhard Center, e-mail: finaid-info@wmich.edu or call (269) 387-6000.

Types of Financial Aid

Graduate Scholarships

There are a variety of scholarships and programs available. For complete and up-to-date information, visit our Web site: www.wmich.edu/finaid/Publication/scholarship/AssistanceGraduateStudents.

Work Study

College work-study is a need-based financial aid program funded by the Federal Government, the State of Michigan and Western Michigan University. It is awarded to eligible students who are enrolled at least half-time during the period of their employment. Unlike grants and scholarships, work-study awards are earned and paid through the payroll process in the form of a bi-weekly paycheck. Work-study awards and amounts are subject to eligibility requirements and fund availability. Early application is very important. For more information, visit the work-study Web site: www.wmich.edu/finaid/work-study.

Loans

These financial aid programs are designed to assist students, allowing them to borrow at a lower interest rate with opportunities to defer principal payments and possibly interest payments until after enrollment ends.

**Federal Perkins Loan** – allows undergraduate and graduate students with unmet need to borrow funds on an annual basis with an interest rate of 5.0 percent. The annual amount ranges up to $5,500 per academic year for undergraduate students and $8,000 per year for graduate students. Interest and principal payments are deferred as long as a student is enrolled at least half-time. Repayment of the loan plus interest begins nine months after the student ceases to be enrolled at least half-time.

**Federal Direct Subsidized (FDS) Loan** – allows undergraduate and graduate students with financial need to borrow funds on an annual basis with a fixed interest rate of 6.8 percent for graduates. The annual amount is dependent upon cost of attendance, expected family contribution, grade level, and other resources received. Interest and principal payments are deferred as long as a student is enrolled at least half-time. Borrowers pay an origination
fee that is deducted from each disbursement. Repayment of the loan plus interest begins six months after the student ceases to be enrolled at least half-time.

**Federal Direct Unsubsidized (FDU) Loan** – not based on need and allows undergraduate and graduate students to borrow funds on an annual basis with a fixed interest rate of 6.8 percent. The annual amount is dependent upon cost of attendance, grade level, and other resources received. Interest accrues while the student is enrolled in school and the student has the option of paying the interest payments or letting the interest payments be added to the principle loan amount. Loan principal payments are deferred as long as a student is enrolled at least half-time. Borrowers pay an origination fee that is deducted from each disbursement. Repayment of the loan plus interest begins six months after the student ceases to be enrolled at least half-time.

**Federal Direct Graduate PLUS** – not based on need and allows graduate students to borrow funds on an annual basis with a fixed interest rate of 7.9 percent. Repayment of interest and the principle begins 60 days after the loan is fully disbursed. Repayment will be deferred automatically if the student is enrolled a minimum of half-time. Borrowers pay an origination fee that is deducted from each disbursement. The Graduate PLUS application must be completed by the student’s parent. Borrowers must pass a credit check.

**Alternative Loans** – available through a variety of private loan programs. These loans supplement financial aid. Each program will vary. For more information about how to choose a private loan lender, see our Web site, [www.wmich.edu/finaid/2-awards/loans.html#alt](http://www.wmich.edu/finaid/2-awards/loans.html#alt).

**Other Resources**

**On and Off Campus Student Employment** – many opportunities exist. The Career and Student Employment Services Office actively recruits both on- and off-campus employment, including community service opportunities. Students may review the jobs listed with the service in room A-100, Ellsworth Hall or on the Web site at [http://broncojobs.wmich.edu](http://broncojobs.wmich.edu).

**U.S. Armed Forces** – offer students a variety of educational assistance programs. Contact your local armed forces recruiter for complete information.

**Procedures and Policies**

**Applying for Financial Aid**

The financial aid application process begins when a student files a Free Application for Federal Student Aid (FAFSA) online each year at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). WMU may be selected using our school code, 002330. A Personal Identification Number (PIN) needs to be acquired from [www.pin.ed.gov](http://www.pin.ed.gov). This PIN serves as the electronic signature and will be used throughout the financial aid process. A FAFSA may be filed as early as January 1. Keep in mind, while there is no cutoff deadline, awards funded by the State of Michigan have a priority deadline of March 1. Other types of aid are awarded until funds are exhausted, so apply as early as possible. Returning students should file a Renewal FAFSA each year as well.

The FAFSA gathers information regarding the parents’ and students’ income, assets, and other related information to determine the expected family contribution (EFC). The EFC is used to determine the amount of need-based eligibility for the student based on the cost of attendance (COA). The COA is based on an estimate of tuition, fees, books, supplies, housing, food, transportation and personal expenses. The amount of need-based aid may also be affected by other financial aid resources. The cost of attendance and a personal budget worksheet can be found on our Web site at [www.wmich.edu/finaid/nextsteps](http://www.wmich.edu/finaid/nextsteps).

Along with the FAFSA, other documents and processes may be required before an award notice or payment is processed. Notification of these additional requirements will be e-mailed to students through their WMU e-mail address. Students may also check on the status of their financial aid online any time through GoWMU.
Awarding Process

Student Financial Aid automatically considers students for all types of federal, state, and institutional grants, work-study, and loans. Any scholarships, stipends, or other resources will be assessed first before awarding need-based financial aid. Additional eligibility factors will be considered in determining the type and amount of aid programs in the award package.

In general, the eligibility factors that are reviewed are citizenship, residency, class and grade level, enrollment hours, semesters of enrollment, degree status, default status, and satisfactory academic standing.

Most financial aid programs require a minimum enrollment equivalent to half-time status to be eligible for payment. Awards are initially based on full-time enrollment; however, payments to the student’s account will be based on actual enrollment.

Any additional resources, changes to funding or regulations may affect student’s financial aid awards. If the information received affects student’s financial aid awards, a revised award letter will be e-mailed through the student’s WMU e-mail address.

Payment Process

Financial aid payments are made to a student’s WMU account as early as 10 days before the beginning of the semester. Payments are disbursed based upon the program eligibility requirements, and minimum enrollment requirements. Payments will be applied to a student’s tuition, fees, housing, food and other authorized charges. Any excess funds remaining will be refunded to students (or parents if requested for the Parent PLUS loan) via direct deposit or a mailed check.

Maintenance Requirements

In accordance with federal and state regulations, the financial aid office must monitor academic progress towards graduation. Graduate students must complete at least 67 percent of attempted hours to maintain eligibility for federal and state financial aid. Students who lose financial aid eligibility and who have experienced unusual circumstances may submit a written appeal with the documentation to the Student Financial Aid Office to be considered by an appeal committee.

Withdrawal from All Courses, Effect on Financial Aid

Financial aid recipients contemplating a partial or complete withdrawal should discuss withdrawal plans with a Financial Services Specialist in Student Financial Aid before withdrawal.

Financial aid recipients who drop some classes during the drop/add period (or indicate having never attended some classes) may lose some or all financial aid eligibility. Financial aid recipients who drop all classes prior to the start of the semester (or having never attended any classes) are no longer eligible for financial aid for that semester. All scholarship, grant, assistantship, associateship, and loan payments (and refunds of financial aid) must be returned to Western Michigan University.

A Federal financial aid recipient who completely withdraws from all classes after the beginning of the semester will have the amount of Federal aid earned up to that point determined by a specific formula. If more Federal aid was received than earned, the excess Federal aid must be returned. The amount of Federal aid earned is determined on a pro-rata basis. That is, if 30 percent of the semester is completed, 30 percent of the Federal aid received is earned. Once having completed more than 60 percent of the semester all of the Federal aid is earned.
Receipt of Assistantship/Fellowship

An assistantship, associateship, or fellowship awarded by a department or college will not be indicated on the financial aid award letter until the financial aid office has been notified of the award. If a student has been awarded Federal loans, the loans may be reduced when the assistantship, associateship, or fellowship (or any other awards) are added to the award file. Even if the loans have been disbursed, they may be reduced at the time the financial aid office receives notification of the receipt of additional assistance.

Admittance Status

Students need to be admitted to a graduate degree-seeking program to be eligible for most types of financial aid. Students who are admitted to WMU in a non-degree program may not be eligible for financial aid. Students admitted to complete teacher education certification requirements to obtain permanent certification may be eligible for loans at the undergraduate level.

International Students

International students are not eligible for Federal or State aid. There may be scholarships, assistantships, associateships, or fellowships available through WMU departments or the Graduate College. International students may also be eligible for an “alternative loan” if a U.S. citizen, that is credit-worthy, is willing to co-sign the loan.
General University Policies

In addition to the several policy statements included below, the University’s general academic policies may be found on Western Michigan University’s website: www.wmich.edu/sub/policies.html

Code of Honor

Western Michigan University (WMU) is a student-centered research university that forges a responsive and ethical academic community. Its undergraduate, graduate, and professional programs are built upon intellectual inquiry, investigation, discovery, an open exchange of ideas, and ethical behavior. Members of the WMU community respect diversity, value the cultural differences of those around them, and engender a sense of social obligation. Because of these values, all individuals are expected to conduct themselves in a professional and civil manner. This includes exemplifying academic honesty, integrity, fairness, trustworthiness, personal responsibility, respect for others, and ethical conduct. These attributes are exhibited in the University as well as in the community. Members of the University community abide by this code out of commitment to serve as responsible citizens of the University, the community, the nation, and the world. Responsibility for fulfilling the obligations of the code of honor is shared by the students, faculty, and every other member of the University community.

Student Rights

Basic Rights

As provided by University policy or by law:

1. Students have the right to free inquiry, expression, and association.
2. Students should be free from discrimination and harassment based on race, sex, sexual orientation, age, color, national origin, religion, disability, marital status, or family status.
3. Students should be secure in their persons, living quarters, papers, and effects.
4. Students are protected against improper disclosure as provided for in the Family and Education Rights and Privacy Act of 1974.
5. Students have the right to access their personal records and other University files as provided for under the Michigan Freedom of Information Act.
6. Students are free to participate in the governance of the University through membership in appropriately designated University and college committees.

Academic Rights

Students have those academic rights and responsibilities as described in the University catalogs, including but not limited to the following:

1. Student performance will be evaluated solely on academic criteria.
2. Students have protection against prejudiced or capricious academic evaluation.
3. Students are free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.
4. Students will be informed by the faculty about course requirements, objectives, and policies in each class. This information will be provided at the beginning of the semester or sufficiently in advance of actual evaluation.

Each course instructor is required to make available to students a course syllabus that shall contain a basic course description, course objectives, course requirements and policies, grading criteria, and instructor contact information. Instructors are encouraged to include a tentative schedule indicating when various
topics will be addressed, and when quizzes, exams and due dates for assignments shall occur. Instructors are further encouraged to include in their syllabi basic University policies regarding academic conduct, human rights, diversity, and students with disabilities.

5. Students have the right to have all their examinations and other graded material made available to them with an explanation of the grading criteria. Faculty will retain all such materials not returned to the student for at least one full semester (or through the Summer I and Summer II sessions) after the course was given. Faculty are not required to return such material to the student, but must provide reasonable access.

Student Academic Conduct

The following policies and procedures shall apply to all matters of student academic conduct.

Academic Honesty

If a student is uncertain about an issue of academic honesty, he/she should consult the faculty member to resolve questions in any situation prior to the submission of the academic exercise.

Violations of academic honesty include but are not limited to:

Cheating

*Definition:* Cheating is intentionally using or attempting to use unauthorized materials, information, notes, study aids or other devices or materials in any academic exercise.

*Clarification*

1. Students completing any examination are prohibited from looking at another student's examination and from using external aids (for example, books, notes, calculators, conversation with other) unless specifically allowed in advance by the faculty member.
2. Students may not have others conduct research or prepare work for them without advance authorization from the faculty member. This includes, but is not limited to, the services of commercial term paper companies.

Fabrication, Falsification, and Forgery

*Definition:* Fabrication is the intentional invention and unauthorized alteration of any information or citation in an academic exercise. Falsification is a matter of altering information while fabrication is a matter of inventing or counterfeiting information for use in any academic exercise or University record. Forgery is defined as the act to imitate or counterfeit documents, signatures, and the like.

*Clarification*

1. "Invented" information shall not be used in any laboratory experiment, report of results or academic exercise. It would be improper, for example, to analyze one sample in an experiment and then "invent" data based on that single experiment for several more required analyses.
2. Students shall acknowledge the actual source from which cited information was obtained. For example, a student shall not take a quotation from a book review and then indicate that the quotation was obtained from the book itself.
3. Falsification of University records includes altering or forging any University document and/or record, including identification material issued or used by the University.
**Multiple Submission**

*Definition*: Multiple submission is the submission of substantial portions of the same work (including oral reports) for credit more than once without authorization from instructors of all classes for which the student submits the work.

*Clarification*

Examples of multiple submission include submitting the same paper for credit in more than one course without all faculty members’ permission; making revisions in a credit paper or report (including oral presentations) and submitting it again as if it were new work.

**Plagiarism**

*Definition*: Plagiarism is intentionally, knowingly, or carelessly presenting the work of another as one's own (i.e., without proper acknowledgment of the source). The sole exception to the requirement of acknowledging sources is when the ideas, information, etc., are common knowledge.

Instructors should provide clarification about the nature of plagiarism.

*Clarification*

1. Direct Quotation: Every direct quotation must be identified by quotation marks or appropriate indentation and must be properly acknowledged, in the text by citation or in a footnote or endnote.
2. Paraphrase: Prompt acknowledgment is required when material from another source is paraphrased or summarized, in whole or in part, in one's own words. To acknowledge a paraphrase properly, one might state: "To paraphrase Locke's comment,..." and then conclude with a footnote or endnote identifying the exact reference.
3. Borrowed facts: Information gained in reading or research which is not common knowledge must be acknowledged.
4. Common knowledge: Common knowledge includes generally known facts such as the names of leaders of prominent nations, basic scientific laws, etc. Materials which add only to a general understanding of the subject may be acknowledged in the bibliography and need not be footnoted or endnoted.
5. Footnotes, endnotes, and in-text citations: One footnote, endnote, or in-text citation is usually enough to acknowledge indebtedness when a number of connected sentences are drawn from one source. When direct quotations are used, however, quotation marks must be inserted and acknowledgment made. Similarly, when a passage is paraphrased, acknowledgment is required.

Faculty members are responsible for identifying any specific style/format requirement for the course. Examples include but are not limited to American Psychological Association (APA) style and Modern Languages Association (MLA) style.

**Complicity**

*Definition*: Complicity is intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.

*Clarification*

Examples of complicity include knowingly allowing another to copy from one's paper during an examination or test; distributing test questions or substantive information about the materials to be tested before the scheduled exercise; collaborating on academic work knowing that the collaboration will not be reported; taking an examination or test for another student, or signing another's name on an academic exercise.
(NOTE: Collaboration and sharing information are characteristics of academic communities. These become violations when they involve dishonesty. Faculty members should make clear to students expectations about collaboration and information sharing. Students should seek clarification when in doubt.)

**Computer Misuse**

*Definition:* Academic computer misuse is the use of software to perform work which the instructor has told the student to do without the assistance of software.

**Conduct in Research**

Research and creative activities occur in a variety of settings at the University, including class papers, theses, dissertations, reports or projects, grant funded projects and service activities. Research and creative activities rest on a foundation of mutual trust. Misconduct in research and in creative activity destroys that trust and is prohibited. Students shall adhere to professional standards of integrity in both artistic and scientific research including appropriate representations of originality, authorship and collaborative crediting.

*Definition:* Misconduct in research is defined as serious deviation, such as fabrication or falsification of data, plagiarism, or scientific or creative misrepresentation, from accepted professional practices of the discipline or University in carrying out research and creative activities or in reporting or exhibiting/performing the results of research and creative activities. It does not include honest error or honest differences in judgments or interpretations of data.

**Clarification**

Examples of misconduct in research include but are not limited to:

1. Fabrication of Data: Deliberate invention or counterfeiting of information.
2. Falsification of Data: Dishonesty in reporting results, ranging from unauthorized alteration of data, improper revision or correcting of data, gross negligence in collecting or analyzing data, to selective reporting or omission of conflicting data.
3. Plagiarism and Other Misappropriation of the Work of Another: The representation of another person's ideas or writing as one's own, in such ways as stealing others' results or methods, copying or presenting the writing or ideas of others without acknowledgment, or otherwise taking credit falsely. Representing another's artistic or technical work or creation as one's own. Just as there are standards to which one must adhere in the preparation and publication of written works, there are standards to which one must adhere in creative works in the tonal, temporal, visual, literary and dramatic arts.
4. Abuse of Confidentiality: Taking or releasing the ideas or data of others which were given in the expectation of confidentiality, e.g., stealing ideas from grant proposals, award documents, or manuscripts intended for publication or exhibition/performance when one is a reviewer for granting agencies or journals or when one is a juror.
5. Dishonesty in Publication or Exhibition/Performance: Knowingly publishing, exhibiting or performing work that will mislead, e.g., misrepresenting material, particularly its originality, or adding or deleting the names of other authors without permission.
6. Deliberate Violation of Requirements: Failure to adhere to or receive the approval required for work under research regulations of federal, state, local or university agencies, including guidelines for the protection of human subjects or animal subjects and the use of recombinant DNA, radioactive material, and chemical or biological hazards.
7. Failure to Report Fraud: Concealing or otherwise failing to report known misconduct or breaches of research or artistic ethics.
Research Board Requirements

Misconduct in research includes failure to comply with requirements of the conduct of research and creative activities, e.g., the protection of human subjects, the welfare of laboratory animals, radiation, and biosafety. Allegations in these areas may be brought by Human Subjects Institutional Review Board, the Institutional Animal Care and Use Committee, and the Institutional Biosafety Committee.

Charges of Violations of Academic Honesty and Conduct in Research

Western Michigan University’s academic honesty and conduct in research policies have been created and defined by members of its academic community, recommended by its Faculty Senate, and adopted by its Board of Trustees. The processes necessary to support these policies are managed and facilitated by the Office of Student Conduct (OSC). If you have questions about the forms, the process, your role in the process, or anything else related to academic honesty, please call the Office of Student Conduct at 387-2160. These policies take effect August 30, 1999, and supersede previous catalog sections entitled “Academic Policy and Status,” “Academic Conduct Violation: Consequences and Appeals,” “Academic Grade Appeals Procedure,” and “General Academic Appeals Procedure.”

This section applies to cases in which a student is to be charged with a violation of the Academic Honesty Policy, including the policy on Academic Honesty and the policy on Conduct in Research.

1. Charging a student with a violation: An Academic Dishonesty/Conduct in Research Charge Form is filled out by the instructor for the purpose of charging the student. After the instructor completes the form, the instructor sends it (or may fax it) to the OSC. A staff member in that office will then contact the student and schedule a meeting between the student and the OSC. An OSC staff member will also notify the Registrar of the pending case, and will institute a “disciplinary hold” preventing the student from dropping, adding, or registering in classes.

2. If the student admits the charge: If the student admits responsibility, the OSC will contact the instructor and arrange an appointment between the instructor and the student to communicate the instructor’s penalty for the behavior, unless the instructor chooses not to meet with the student. The instructor may impose an academic penalty up to failure of the course in which the student is enrolled. The OSC may also impose non-grade-related penalties ranging from reprimand to dismissal from the University.

3. If the student denies responsibility: If the student denies the charge, the OSC will consult with the instructor to ascertain the instructor’s preference as to the hearing type. The hearing may be a meeting between the instructor and the student or a meeting between the student and an Academic Integrity Committee. An Academic Integrity Committee will consist of three faculty members and two students, selected using procedures established by the Professional Concerns Committee of the Faculty Senate. The choice of hearing type is the instructor’s. The OSC will assist the instructor in setting up the hearing and will notify the student of its time, date, and location.

4. If the student wants to appeal a finding of responsibility after a hearing with the instructor: A student may appeal a finding of responsibility resulting from a hearing with the instructor to an Academic Integrity Committee within five University business days. The student cannot appeal after that time has elapsed.

5. The authority of the Academic Integrity Committee: An Academic Integrity Committee will conduct hearings to determine whether the student is responsible for academic dishonesty. An Academic Integrity Committee makes no decisions regarding the penalties and/or grades to be imposed, either by the instructor or by the OSC.

6. If a finding of “responsible” has been made: A finding of “responsible” occurs when a student admits responsibility to the OSC, the instructor so decides, or an Academic Integrity Committee so decides by majority vote. When that finding has occurred, the instructor may impose an academic penalty up to and including failure of the course in which the student is enrolled. A decision by the instructor regarding a grade penalty cannot be appealed by the student once the student has been found responsible and has exhausted or waived all appeals. Also, once the student has been found responsible and has exhausted or waived all appeals, that student’s continued attendance in the relevant class depends on the penalty imposed by the instructor and/or the OSC. If the instructor determines to fail the student in the course, the student is not permitted to continue attending class. Again, following a finding of responsibility, the OSC
may impose additional penalties ranging from reprimand to dismissal from the University. In all cases when a final finding of responsibility has been made, the finding will be included in the student’s educational record. Students will not be permitted to withdraw from a course to avoid imposition of any academic penalty.

7. If a finding of “not responsible” has been made: If a finding of “not responsible” has been made, the charge is dismissed and no penalties are imposed.

8. While a case is pending: A case is considered pending until one of two events occurs: (1) the student admits responsibility or (2) the hearing process is completed. While a case is pending, the student has the right to attend and participate in the class. If the case is pending at the end of the semester, the instructor must assign an Incomplete grade and then submit a change of grade once the process is complete.

9. Instructor unavailable to assign grade: Circumstances may arise which may prevent an instructor from assigning a grade in a timely manner. In such instances, the academic unit chair/director will make reasonable efforts to contact and ask the instructor to supply a grade. If these efforts are unsuccessful, the instructor’s academic unit chair/director will appoint another qualified faculty member to assign the grade.

Selection, Training, and Organization of Academic Integrity Committee (AIC)

An Academic Integrity Committee (AIC) will be drawn from a panel of faculty and students who are trained by the Office of Student Conduct (OSC). For each instance of an academic dishonesty charge which requires AIC review (see above), a five-member AIC composed of three faculty members and two students will be selected to hear the charge of academic dishonesty and to determine whether the charge has merit. Procedures for selection of a five-member AIC and, when required, AIC replacements from the AIC panel will be constructed and administered by the Professional Concerns Committee (PCC).

Each academic unit will elect one tenured or tenure-track faculty member to serve on the AIC panel. Student AIC panel members must be recommended by faculty, and each academic unit is asked to recommend one undergraduate and one graduate student to the OSC. Students recommended to the AIC panel will be screened by the OSC to ensure that no AIC student member has incurred a previous academic dishonesty sanction and that each AIC student member has a satisfactory disciplinary record.

Faculty members will serve three-year terms (with staggered terms for the first AIC panel, to ensure continuity of experience and training). Students will serve one-year terms with reappointment possible for up to a total of three years. It will be necessary to include on the panel those who can serve in the spring and summer.

For a charge against an undergraduate student, at least one student member of the panel shall be an undergraduate student. For a charge against a graduate student, at least one member of the panel shall be a graduate student. Each AIC will elect a faculty member to chair the committee, and, whenever possible, hearings should be conducted with a full panel. However, should extenuating circumstances arise (e.g., a panelist is ill), a hearing may be conducted with four members. When necessary, faculty and/or student members of an AIC may be replaced with AIC panel members selected by the PCC.

The Professional Concerns Committee (PCC) shall also function as an oversight committee for reviewing and monitoring all University policies and procedures dealing with academic conduct, including academic dishonesty, grade appeal and program dismissal issues. A report of all AIC activities shall be made to the Faculty Senate Executive Board each year by the PCC, and recommendations for changes in policies and procedures regarding academic conduct, including academic dishonesty, grade appeal and program dismissal issues, may be part of that annual report. Such recommendations may result in modifications to these procedures and policies.

Course Grade and Program Dismissal Appeals

Course Grade Appeals

This section applies when a student wants to appeal a final course grade that has been recorded by the Registrar on the student’s academic record. Appeal panels are assembled from the faculty under the authority of and by the
The accepted bases of a course grade appeal are:

A. Grades were calculated in a manner inconsistent with University policy, the syllabus, or changes to the syllabus.
B. The grade(s) was/were erroneously calculated.
C. Grading/performance standards were arbitrarily or unequally applied.
D. The instructor failed to assign or remove an Incomplete or to initiate a grade change as agreed upon with the student.
E. Late withdrawal from class(es), after grades have been assigned, due to genuine hardship. (Students appealing on this basis should proceed by contacting the Registrar's Office and following the procedures for a late withdrawal appeal.)

A grade appeal cannot be made in response to a grade penalty assessed as a result of an official finding of responsibility for academic integrity violations. Such a finding will have been made through the procedures provided in the academic integrity policy.

The steps to be taken in appealing a grade are:

1. Informal meeting with instructor: A student is encouraged to begin the appeal process by meeting with the instructor who assigned the grade. Such meetings often help students understand the grading practices of instructors and often lead to resolution of differences over grades.

2. Written appeal and conference with the academic unit chair/director: A student must submit a letter requesting an appeal to the academic unit chair/director. This letter must be received by the academic unit chair/director within sixty business days of the last day of the semester or session in which the grade was recorded on a student’s record. The Provost or designate may grant an extension should a genuine hardship arise (i.e., illness, death in the immediate family). The letter must identify the basis of the appeal and must state in detail why the student believes that grade should be changed. Following a conference with the student, the chair/director must respond in writing to the student with a copy to the instructor, their dean, and the Grade and Program Dismissal Appeals Committee (GAPDAC) within twenty business days. In this letter, the chair/director should confirm the meeting with the student, recap their discussion, and state whether the student has an appeal which meets the established criteria (A, B, C, D, or E above). If the situation appears to meet the criteria for appeal, the chair/unit director may recommend that the instructor reevaluate the student’s work. The chair/director cannot change the student’s grade without the instructor’s agreement.

Note: Grade appeals or other complaints based on charges of discrimination or sexual harassment should be taken to the Office of Institutional Equity or other office, pursuant to other University policies and procedures.

3. Appeal to committee: After the chair/director has completed the response to the student’s appeal, the student may appeal to GAPDAC. This appeal must be initiated within twenty business days of the completion of step 2. If the student has requested a meeting with the academic unit chair/director and has not been granted such a meeting within forty business of the student’s request, the student may then initiate an appeal to GAPDAC.

The student will initiate an appeal through the Provost's Office. When the appeal is received, the Provost or designate will schedule a meeting of GAPDAC using procedures determined by the Professional Concerns Committee of the Faculty Senate. The GAPDAC will consist of three members drawn from a panel of faculty established for this purpose. In a grade appeal, both the student(s) and the instructor should provide a written statement describing the situation under consideration. An appearance to provide
additional information at the appeal by either the instructor or the student(s) may be requested by the appeals committee.

A GAPDAC can effectuate a grade change by majority vote. The decision of the hearing panel is final and not subject to appeal.

4. Instructor unavailable to assign grade: Circumstances may arise which may prevent an instructor from assigning a grade in a timely manner. In such instances, the academic unit chair/director will make reasonable efforts to contact and ask the instructor to supply a grade. If these efforts are unsuccessful, the instructor’s academic chair/director will appoint another qualified faculty member to assign the grade.

**Program Dismissal Appeals**

This section applies when a student wants to appeal a decision to dismiss the student from an academic program for reasons other than charges of violations of academic integrity policies. Appeal panels are assembled from the faculty under the authority of and by the designate of the Provost and Vice President for Academic Affairs. Throughout this process, the Provost's Office is available to students and instructors for assistance on procedures and clarification of the rights of all parties.

The accepted bases of a program dismissal appeal are:

- **A.** The program dismissal decision was made in a manner inconsistent with University policy or the program policy.
- **B.** The program dismissal procedures were not followed.
- **C.** Evaluation/performance standards were arbitrarily or unequally applied.

A program dismissal appeal cannot be made in response to an academic integrity or conduct dismissal from the University. The student’s status, as dismissed from the program, will remain unaltered until a successful appeal is completed.

Note: A program dismissal appeal based on charges of discrimination or sexual harassment should be taken to the Office of Institutional Equity or other office, pursuant to other University policies and procedures.

Appeal to committee: The student may appeal to a Grade and Program Dismissal Appeals Committee (GAPDAC). This appeal must be initiated within twenty business days of the notification of program dismissal. The student will initiate an appeal through the Provost's Office. When the appeal is received, the Provost or designate will schedule a meeting of GAPDAC using procedures determined by the Professional Concerns Committee of the Faculty Senate. The GAPDAC will consist of three members drawn from a panel of faculty established for this purpose. In a program dismissal, the student appellant should attend the meeting of the appeal panel and must provide a written statement describing the grounds for appeal. A University representative from the program must attend the meeting and must provide a written statement describing the grounds for and circumstances of dismissal.

A GAPDAC may reverse or sustain a program dismissal by majority vote. The decision of the hearing panel is final and not subject to appeal.

**Selection, Training, And Organization of Grade and Program Dismissal Appeal Committee (GAPDAC)**

A Grade and Program Dismissal Appeal Committee (GAPDAC) will be drawn from a pool of faculty who are trained under procedures determined by the Professional Concerns Committee (PCC) of the Faculty Senate. For each appeal that requires review, a GAPDAC panel will be selected to hear the appeal and to decide the matter.

Each academic college shall provide a cohort of tenured or tenure-track faculty members to serve on the GAPDAC pool in proportion to its respective student credit hour production. Faculty members will serve three-year terms.
(with staggered terms for the first GAPDAC pools, to ensure continuity of experience and training). It will be necessary to include in the pool those who can serve during summer sessions.

Each GAPDAC shall be composed of three faculty members, at least one of whom is from the college where the course or program in question resides. Each GAPDAC will elect a faculty member to chair the committee, and each GAPDAC must have all three members present to have a quorum. Procedures for selection of a GAPDAC will be constructed and administered by the PCC.

**Faculty Oversight of Grade and Program Dismissal Appeals Committees**

The PCC shall function as an oversight committee for reviewing and monitoring all University policies and procedures dealing with grade and program dismissal appeal issues. A report of all GAPDAC activities shall be made to the Faculty Senate Executive Board each year by the PCC, and recommendations for changes in policies and procedures regarding grade and program dismissal appeal issues may be part of that annual report. Such recommendations may result in modifications to these policies and procedures.

**Dissertation/Thesis/Project Appeals Procedure**

If there are differences among the members of a thesis/project/dissertation committee over the approval of the thesis/project/dissertation and its oral defense, it shall be the responsibility of the committee to undertake every reasonable effort to resolve these differences and come to a unanimous decision.

In the event a student wishes to appeal a negative decision by the student's thesis/project/dissertation committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case the committee cannot reach a unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the dean of The Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the thesis/project/dissertation. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the committee if the case merits it.

**The Family Educational Rights and Privacy Act**

The Office of the Registrar is the institution’s official custodian of educational records. This office also holds the final responsibility in the enforcement of the Federal Educational Rights and Privacy Act of 1974 (FERPA). Maintaining confidentiality of educational records is the responsibility of all users whether the individuals are faculty, staff, or students. The Family Educational Rights and Privacy Act affords students certain rights with respect to their educational records. They are:

1. The right to inspect and review the student’s educational records within 45 days of the date the University receives a request for access.

Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

An educational record is a record which is maintained by the institution directly related to a student, and from which a student can be identified. Educational records do not include the records of instructional, administrative, and educational personnel, which are in the sole possession of the maker and are not accessible or revealed to any individual except a temporary substitute, records of the law enforcement unit, student health records, employment records, or alumni records.
Students may not inspect and review the following as outlined by the Act:

- Financial information submitted by their parents
- Confidential letters and recommendations associated with admissions, employment, or job placement.
- Honors information to which they have waived their rights of inspection and review.
- Educational records containing information about more than one student, in which case the institution will permit access only to that part of the record which pertains to the inquiring student.

2. The right to request the amendment of the student’s educational records that the student believes are inaccurate, misleading, or otherwise in violation of the student’s privacy rights.

Students may ask the University to amend a record they believe is inaccurate or misleading. They should write the University official responsible for the records, clearly identifying the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student’s educational records, except to the extent that FERPA authorizes disclosures without consent.

One exception, which permits disclosure without consent, is disclosure to University officials with legitimate educational interests and/or needs to review an educational record in order to fulfill his or her professional responsibility. A University official for the purpose of this policy is defined as follows:

- Members of the faculty
- Members of the professional, executive and administrative staff, excluding any member of the WMU Police Department
- Students, when properly appointed as members of a hearing panel or screening committee
- Representatives of the State Auditor General when performing their legal function
- A person or company with whom the University has contracted (e.g., attorney, auditor, or collection agency) but limited to only the specific student information needed to fulfill their contract
- Others as designated in writing by the President, Vice President, of Dean
- Persons in compliance with a court order
- Accrediting agencies performing an accreditation function

The University, upon request, may disclose educational records to officials of another school in which a student seeks to enroll, with a student’s consent.

Another exception that permits disclosure without consent is when the information consists solely of “Directory Information.” Directory Information may be published or released by University faculty and staff at their discretion. Unless a student specifically directs otherwise, as explained more fully in paragraph four (4) below, WMU designates all of the following categories of information about its students as “Directory Information.”

Name
Address
Telephone number
Date and place of birth
Curriculum and major field of study
Dates of attendance
Enrollment status (full/part-time)
Degrees/awards received
Most recent previous educational agency or institution attended by the student
Participation in officially recognized activities and sports
Weight and height of athletes

4. A student has the right to refuse the designation of all categories of personally identifiable information listed above as Directory Information. If a student exercises this right, it will mean that no Directory Information pertaining to the student will be published or otherwise released to third parties without consent, a court order or a subpoena.

Any student wishing to exercise the right of withholding all categories of personally identifiable information must inform the Registrar’s Office in writing by not later than the fifth day of the semester/session. A student’s notification to withhold information will remain in effect until the student requests in writing that the prior withholding be revoked.

5. A student has the right to file a complaint with the U.S. Department of Education concerning alleged failures by WMU to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is Family Policy Compliance Office, U.S. Department of Education, 600 Independence Avenue SW, Washington, D.C. 20202-4605.

Residency Policy of Western Michigan University

The entire residency policy of Western Michigan University is included in the “Tuition and Fees” section of this catalog.

Policy of Sexual Harassment and Sexism

Western Michigan University is committed to an environment which encourages fair, humane, and beneficial treatment of all faculty, staff, and students. In accordance with that fundamental objective, the University has a continuing commitment to assure equal opportunity and to oppose discrimination because of race, color, sex, sexual orientation, age, religion, national origin, handicap, height, weight, or marital status. Therefore, in that same perspective, neither sexual harassment nor sexism will be tolerated at Western Michigan University. It is expected that each member of the University community will consider himself/herself responsible for the proper observance of this policy.

Definitions

Sexual Harassment

Sexual harassment is defined as unwelcome sexual conduct which is related to any condition of employment or evaluation of student performance. This definition is intended to include more than overt advances toward actual sexual relations. It applies as well to repeated or unwarranted sex-related statements, unwelcome touching, sexually explicit comments, and/or graphics. All persons should be sensitive to situations that may affect or cause the recipient discomfort or humiliation or may display a condescending sex-based attitude towards a person. Sexual harassment is illegal under both state and federal law. In some cases, it may be subject also to prosecution under the criminal sexual conduct act. Conduct will be defined as sexual harassment when any or all three of the following conditions exist:

1. The sex-related situations are unwelcome by the recipient.*
2. A specific or implied connection with employment or student status is involved.
3. The sexual harassment continues after the recipient has made it clear that the conduct is unwelcome.*
* Note: In some cases of overt physical sexual conduct, a blatant threat if sexual favors are not given, or promised reward in exchange for sexual favors, no notice that the conduct is unwelcome shall be necessary and a finding of sexual harassment may be based on a single occurrence.

**Sexism**

Sexism is defined as the perception and treatment of any person, not as an individual, but as a member of a category based on sex. Whether expressed in overt or subtle form such as sex-related jokes or materials, sexism in the classroom or workplace is unacceptable at the University; and its elimination shall be the responsibility of the entire University community. Depending upon the seriousness of the misconduct, informal corrective action may be adequate.

**Complaint Procedure**

Sexual harassment and sexism constitute acts of misconduct. Therefore, whenever such acts are reported and confirmed, prompt, disciplinary action will be taken, up to and including discharge. However, to enable the University to act through these formal procedures, employees and students are encouraged to report such incidents. Employees should report such conduct to the Director of Compensation and Employee Relations, 1275 Seibert Administration Building (387-3620). Students should report such conduct to the Affirmative Action Director and Assistant General Counsel, Office of Institutional Equity, 1015 Trimpe Building (387-6316).

The Director of Compensation and Employee Relations and the Affirmative Action Director and Assistant General Counsel shall jointly establish appropriate procedures to implement this policy. They shall also investigate thoroughly any complaints of alleged sexual harassment or sexism, and then report the results of such investigation to the President of the University.

If you hesitate to file a sexual harassment complaint for fear of retaliation, you need to know that:

Federal and state law, as well as University policies, protect any person who has filed a complaint of sexual harassment from being intimidated, threatened, coerced, discriminated against or any other form of retaliation.

Likewise, protection is afforded any person who testifies, assists or participates, in any manner, in an investigation resulting from a sexual harassment complaint.

Therefore, any individual so harassed, intimidated, or otherwise retaliated against may file a complaint alleging harassment, intimidation, or retaliation. Such complaint should be filed with the Office of Institutional Equity, 1015 Trimpe Building (387-6316).

**President’s Statement on Racial and Ethnic Harmony**

Western Michigan University is firmly committed to the principles of racial equality and nondiscrimination. On its campus, students, faculty, and staff of many races and ethnic backgrounds live and work closely together day by day in offices, classrooms, and residence halls. This racial and ethnic mix brings richness and diversity to the cultural, intellectual, and personal dimensions of campus life. The University benefits from this diversity and seeks to enhance it.

All members of the University are expected to contribute to an atmosphere of racial and ethnic harmony on campus, displaying tolerance for cultural differences and courtesy and civility in discourse with students, faculty, and staff of diverse backgrounds and origins. In this environment there is no room for any derogatory comments of a racial nature, be they in the form of slurs, posters, songs, jokes, graffiti, or the like.
Most members of the campus community need not be reminded of the institutional position in this regard. The very few who need the admonition must realize that the University will take the strongest possible action, including dismissal, against those who through racist acts bring discord to this campus.

**Discrimination: Complaints and Grievance Procedure**

Western Michigan University, in accordance with the law, prohibits discrimination in the provision of all student instruction, activities, and programs. Discrimination based on race, color, religion, national origin, sex, sexual orientation, age, disability, height, weight, veteran status, family status, or marital status shall not be tolerated in the determination of eligibility, participation, or grading for any courses or program established for the benefit of students unless otherwise provided by law.

Students who have inquiries about the University's Anti-Discrimination Policy or about anti-discrimination laws, including Title IX and the Rehabilitation Act of 1973, or who have complaints of prohibited discrimination, may file their inquiries and complaints with the Office of Institutional Equity, 1015 Trimpe Building (387-6316).

The Office of Institutional Equity will receive and investigate complaints of prohibited discrimination filed with it by students and may assist the students in resolving their concerns. The complaint, an oral allegation or charge against the University, an employee(s), or agent, stating prohibited discrimination has occurred, must be filed with the Office of Institutional Equity or professor, instructor, or program director within fourteen (14) calendar days of events or knowledge of events giving rise to the complaint. A complaint must be filed by the student and discussed with the Office of Institutional Equity before any formal grievance can be initiated.

The Office of Institutional Equity will make reports and recommendations to the complaining students and to the academic dean or program director concerned. In the event the student's complaint is not satisfactorily resolved, the student may file a formal written grievance. Formal written grievances protesting prohibited discrimination shall be filed in accordance with the Anti-Discrimination Grievance Procedure for Students.

A grievance is defined as a formal written allegation by a student or students that there has been a violation of the University's Anti-Discrimination Policy or a discriminatory application of official University policies, procedures, rules, or regulations regarding student rights or privileges.

Any student who wants to file such a grievance should contact the Office of Institutional Equity, 1015 Trimpe Building (387-6316). The grievance must be filed with the Affirmative Action Department on an official University Grievance Form and be signed by the student(s) involved. The grievance must be timely, state all facts relevant to the protested events, indicate when the incident(s) occurred, and specify the discriminatory acts and policies, rules, or regulations involved. The Office will serve as an intermediary for written grievances and is to receive copies of all grievance correspondence. Any student(s) filing a written grievance may choose to have a representative present at any step in the Grievance Procedure, provided the Office is given at least twenty-four (24) hours notice prior to the concerned meeting.

**The Grievance Procedure**

**Step 1: Departmental Level**

A formal grievance must be filed with the Office of Institutional Equity no later than thirty (30) calendar days after the event or events being grieved took place. The Affirmative Action Department will then forward the grievance to the Step 1 representative, who will be the Department Head or any other person designated by the appropriate Vice President to respond to the grievance. The Step 1 representative must provide a written answer within fourteen (14) calendar days after receiving the formal grievance.

**Step 2: Appeal to the Vice Presidential Level**
If the grievance is not resolved at Step 1, the student may appeal to the appropriate Vice President within seven (7) calendar days after receiving the departmental representative’s written answer. The student must file the appeal with the Office of Institutional Equity, using an official University appeal form. The Office will, in turn, notify the departmental representative and the appropriate Vice President of the student's appeal. The appropriate Vice President or his/her designated representative will then arrange a meeting with the grievant, his/her representative (if requested), and any other individuals who may help resolve the grievance. This meeting must be held within fourteen (14) calendar days after the appropriate Vice President or his/her designee hearing the appeal receives the grievance from the Office of Institutional Equity. Within seven (7) calendar days after this meeting, the appropriate Vice President or his/her designee hearing the appeal will communicate an answer in writing to the involved parties.

Step 3: Appeal to the Presidential Level

If the grievance has not been resolved at Step 2, it may be appealed to the University President. The Office of Institutional Equity must receive the appeal within seven (7) calendar days after the grievant receives the Step 2 answer. The President, at his/her discretion, will handle the grievance personally or will designate a representative to conduct a hearing or investigation of the grievance, report findings, and recommend a decision. The President will make the final grievance decision and communicate it to the appropriate parties.

In addition to filing a grievance with The Office of Institutional Equity, the student may file a complaint directly with the Office of Civil Rights, U.S. Department of Education, or pursue both avenues of complaint resolution.

**Western Michigan University’s Student Code**

A student who chooses to enroll at Western Michigan University assumes the obligation for conduct that is compatible with the University’s mission as an educational institution. While students have the privilege to enroll at Western Michigan University requires a student to become aware of, and to abide by the behavior standards of the University. Ignorance of acceptable boundaries of student behavior as contained in the Student Code is not a basis for excusing inappropriate behavior.

Western Michigan University is an educational community that aspires to be purposeful, open, just, disciplined, caring, and celebrative. The Student Code and the Office of Student Conduct are tangible examples that illustrate commitment to these ideals. The Student Code describes the boundaries of acceptable student behavior and is approved by the Board of Trustees. The Office of Student Conduct interprets and enforces the Student Code.

The University disciplinary process is not analogous to, is not equivalent to, and does not conform to, criminal law processes. This process is designed, in part, to determine responsibility, or lack thereof, for violations of the Student Code only—not guilt or innocence relative to criminal matters. The University disciplinary process shall be informal in nature so as to provide substantial justice and it shall not be bound by legal jargon, court-like proceedings, or legal definitions, which are the province of the criminal courts.

The discipline of students in the educational community is a part of the teaching process and as such, its focus shall be educational. This includes the possible use of suspension or expulsion as disciplinary measures as they may prove invaluable tools in the education of the University community. The student judicial system is not only concerned with the individual student’s welfare, but also the welfare of the University community. Any question about the processes, rules, or policies, or any other concern not specifically covered by the Student Code shall be decided solely by the Dean of Students or his/her designee. Additionally, the Student Code provisions may be extended or amended to apply to new and unanticipated situations which may arise.

Enrollment in the University does not insulate students from their obligation to behave in a manner consistent with local, state, and federal law. Violation of local, state, and federal law while on University premises is a violation of the Student Code. While the University does not desire to act as a policing authority for the activities of the student off of University premises, the University may take appropriate action in situations involving misconduct demonstrating flagrant disregard for any person or persons, and/or when a student’s or student organization’s behavior is judged to threaten the health, safety, and/or property of any individual or group. Many of the items of
misconduct referred to in the Student Code may also constitute violations of local, state, and federal law and carry the possibility of criminal prosecution as well.

While any violation of the Student Code is considered a serious matter, certain violations are considered to be of an especially serious nature. These violations include acts of academic dishonesty, any acts that disrupt the functions of the University, and any acts that threaten the health or safety of any member of the University community or any other person. Student involved in these activities are considered a threat to the orderly functioning of the University, and their behavior is considered detrimental to the educational mission.

The complete text of the Western Michigan University Student Code is published by the Office of Student Conduct of the Division of Student Affairs and may be obtained from that Office.

Western Michigan University Expectations for Good Practice in Graduate Education

The Mission of WMU

Western Michigan University is a student-centered research university, building intellectual inquiry, investigation, and discovery into all undergraduate, graduate, and professional programs. The university provides leadership in teaching, research, learning, and public service. Nationally recognized and internationally engaged, the University:

- Forges a responsive and ethical academic community
- Develops foundations for achievement in pluralistic societies
- Incorporates participation from diverse individuals in decision-making
- Contributes to technological and economic development
- Engenders an awareness and appreciation of the arts

Graduate education at WMU encompasses all of these goals and strives to provide students an environment that fosters scholarship, independent judgment, academic rigor, and intellectual honesty.

Professional Rights of Student Appointees

A portion of students at Western Michigan University has been granted graduate appointments. These graduate appointees serve an academic or service unit within the university. In return for their service they are given a stipend, and partial or full tuition remission. Graduate appointees, in addition to having the basic and academic rights mentioned below, also have professional rights. These include meaningful teaching, research, or service responsibilities; clear and reasonable departmental expectations; work activities that average twenty hours per week for a full appointee; approved leaves of absence; and due process in regard to service disputes. The rights of teaching assistants are specifically given in the 2009-12 contract between Western Michigan University and the Teaching Assistants Union [www.tauaft.org].

Student Rights and Responsibilities

Basic and academic rights and responsibilities are set forth in the Graduate Catalog, the Research Misconduct Policy, the Student Code of Conduct, and other policies of Western Michigan University. Basic rights include, but are not limited to, the rights of inquiry, expression, and association; freedom from discrimination and harassment; personal security; freedom from improper disclosure; access to personal records; and participation in university governance. Academic rights include, but are not limited to, the right to be evaluated fairly; to have academic freedom in discussing their subject; to be fully informed by faculty regarding the requirements of each class and course of study; and to have access to and explanations of all graded materials.
Student Responsibilities

Along with rights come responsibilities. Students at WMU are required to conduct themselves in a mature, professional, ethical, and civil manner. This includes engaging in academic honesty and ethical research conduct. In the academic arena, students are expected not to engage in such behaviors as cheating; fabrication, falsification, or forgery; multiple submissions; plagiarism; computer misuse; and complicity with others regarding such offenses. While conducting research, students are expected to maintain the same standards as they apply to the design of studies, treatment of subjects, collection of data, and reporting of that data. A complete listing of responsibilities is detailed in university policies.

Graduate students must:

- Conduct themselves appropriately in all interactions with faculty and staff in accordance with the accepted standards of the discipline and WMU policies governing discrimination and harassment.
- Take primary responsibility to inform themselves of regulations, rules, and policies governing their graduate studies and research at WMU.
- Recognize that faculty and staff have many professional responsibilities, in addition to graduate education.
- Recognize that the faculty have broad discretion to allocate their own time and other resources in ways that are academically productive.
- Recognize that the faculty adviser, who provides the intellectual and instructional environment in which that student plans a program of study, may be involved with research for which the student provides assistance, and that the University, through the faculty adviser's access to teaching and research funds, may also provide the student with special financial support for that research.
- Expect that a student's research results, with the appropriate recognition, may be incorporated into progress reports, summary documents, applications for continuation for funding, and similar documents authored by the faculty adviser.
- Recognize that the faculty adviser is responsible for monitoring the accuracy, creativity, validity, and integrity of the student's research. Careful, well conceived research reflects favorably on the student, the faculty adviser, the degree program, and WMU.
- Exercise the highest integrity in taking examinations, completing master's, specialist's, and doctoral projects, and/or collecting, analyzing, and presenting research data in theses, dissertations, and presentations.
- As applicable to the student's degree program, acknowledge contributions of the faculty adviser and other members of the research team to the student's work in all publications and conference presentations; acknowledgement may mean co-authorship when that is appropriate.
- Recognize that in some disciplines, the faculty adviser will determine when a body of work is ready for publication, exhibition or performance, and is an acceptable product, since the faculty adviser bears responsibility for overseeing the performance of the students and ensuring the validity of any applicable research.
- Maintain the confidentiality of the faculty adviser's professional activities and research prior to presentations and/or publication, in accordance with existing practices and policies of the discipline and the University.
- Be allowed the opportunity to participate in the governance of the University as designated by the Graduate Student Advisory Committee for representation on the councils of the Faculty Senate. They shall also have representation at the departmental level, in faculty meetings and on standing committees, (e.g. policy, hiring, graduate issues) except in cases where confidential personnel matters are under consideration.
- When serving as teaching assistants, abide by the academic regulations of the University and be afforded the rights of an instructor, including the protection of academic freedom.
- Cooperate and assist in any investigations as requested by the University.

Correspondingly, it is imperative that faculty:

- Interact with students in a professional and civil manner in accordance with the accepted standards of the discipline and Western Michigan University's policies governing discrimination and harassment.
- Impartially evaluate student performance, regardless of the graduate student's religion, race, gender, sexual orientation, nationality or other criteria as established by law, the collective bargaining agreement, and/or University policies.
- Serve on graduate student committees without regard to the religion, race, gender, sexual orientation, nationality, or other criteria as established by law, the collective bargaining agreement, and/or University policies.
- Prevent personal rivalries with colleagues from interfering with their duties as graduate advisers, committee members, directors of graduate studies, or colleagues.
- Avoid dual relationships that could impair their professional judgment. They will excuse themselves from serving as advisers on graduate committees or supervising assistantship work when there is a financial, familial, friendship, or other close personal relationship that could result in a conflict of interest.
- Acknowledge any student contributions to research and/or creative activity presented at conferences, in professional publications, or in applications for copyrights and patents.
- Not impede a graduate student's progress and completion of his/her degree in order to benefit from the student's proficiency as a teaching or research assistant.
- Create in the classroom, lab, or studio, supervisory relations with students that stimulate and encourage students to learn creatively and independently.
- Have a clear understanding with graduate students about their specific academic, creative activity, and/or research responsibilities, including time lines for completion of comprehensive examinations, research, and the thesis or dissertation, as applicable.
- Provide oral and written comments and evaluation of each student's work in a timely manner.
- Assist the departmental director of graduate studies in an annual review of graduate students' progress.
- Discuss laboratory, departmental and authorship policy with graduate students in advance of entering into collaborative projects.
- Ensure an absence of coercion with regard to the participation of graduate students as human research subjects in their faculty advisers' research.
- Be aware of the responsibilities inherent in the faculty-student relationship and avoid dual relationships that may exploit students by virtue of their authority. Faculty who have a direct teaching or advising relationship with a student are prohibited from requesting that a student do personal work (mowing lawns, babysitting, etc) with or without appropriate compensation.
- Familiarize themselves with policies that affect their graduate students.
- Evaluate students' progress and performance in regular and informative ways consistent with timely completion of the degree.
- Cooperate and assist in any investigations as requested by the University.

Transmission of Knowledge in Graduate Education

Graduate education is structured around the generation and transmission of knowledge at the highest level. In many cases, graduate students depend upon faculty advisors to assist them in identifying and gaining access to financial and/or intellectual resources that support their graduate programs. In addition, faculty advisors and department administrators must apprise students of the "job market" so that students can develop realistic expectations for the outcomes of their studies.

In some academic units, the student's specific advisor may change during the course of the student's program. The role of advising may also change and become a mentoring relationship.

The reward of finding a faculty advisor implies that the student has achieved a level of excellence and sophistication in the field or exhibits sufficient promise to merit the more intensive interest, instruction, and counsel of faculty.

To this end, graduate students must:

- Devote an appropriate amount of time and energy toward achieving academic excellence and earning an advanced degree.
• Be aware of time constraints and other demands imposed on faculty members and program staff.
• Take the initiative to ask questions that promote understanding of the academic subjects and advances in the field.
• Communicate regularly with faculty advisors, particularly in matters related to research and progress within the graduate program and with any teaching responsibilities.

Correspondingly, faculty advisors should:

• Provide clear guidelines for all requirements each student must meet, including course work, languages, research tools, examinations, and thesis or dissertation, teaching/laboratory assistantships, and delineating the amount of time expected to complete each step.
• Evaluate student progress and performance in regular and informative ways consistent with the practice in the field.
• Help students develop interpretive, writing, oral, and quantitative skills, in accordance with the expectations of the discipline and the specific degree program.
• Assist graduate students in the development of grant writing skills, where appropriate.
• Take reasonable measures to ensure that graduate students who initiate thesis or dissertation research/creative activity do so in a timely fashion, regardless of the overall demand of assistantships in the laboratory, studio, or classroom.
• When appropriate, encourage graduate students to participate in professional meetings or display their work in public forums and exhibitions.
• Stimulate in each graduate student an appreciation of professional skills they will be required to master in their respective disciplines, i.e., teaching, administration, research, writing, and creativity.
• Create an ethos of collegiality so that learning takes place within a community of scholars.

In academic units, faculty advisors support the academic promise of graduate students in their programs. In some cases, academic advisors are assigned to entering graduate students to assist them in academic advising and other matters. In other cases, students select faculty advisors in accordance with the disciplinary interest or research expertise of faculty. Advising is variant in its scope and breadth and may be accomplished in many ways.

A student's academic performance and faculty member's scholarly interest may coincide during the course of instruction and research/creative activity/performance. As the faculty-graduate student relationship matures and intensifies, direct collaboration may involve the sharing of authorship or right to intellectual property developed in research or other creative activity. Such collaborations are encouraged and are a desired outcome of the mentoring process.

It is understood that the standards of mentoring may differ by department, depending on the degrees students are pursuing and the availability of the time that students who work as professionals in communities outside Kalamazoo have to consult with their advisors. Nevertheless, it is recommended that advisement, consultation and mentoring be nurtured via electronic means if they cannot be nurtured in person.

It is further understood that the department must establish appropriate policies and practices to assist students whose major advisor or committee member is no longer able to serve in that capacity. Graduate students assigned to participate in externally funded research grants must become aware of the special importance of completing their research commitments. These commitments extend beyond financial concerns to encompass issues of professional ethics, legal compliance with external authorities, and institutional loyalty.

Note: Western Michigan University wishes to thank the University of Missouri at Columbia for permission to use portions of their graduate code.
Western Michigan University Adjudication of Situations Involving Graduate Students’ Rights and Responsibilities

1.0 Academic Rights and Responsibilities

Whenever a graduate student has been accused of behavior that is in violation of academic regulations, the existing Graduate Catalog governs the adjudication of the accusation.

2.0 Basic Rights and Responsibilities

Whenever a graduate student has been accused of behavior that is in violation of non-academic regulations, the University Student Code governs the adjudication. The Research Misconduct Policy governs the adjudication of alleged violations of ethical research behavior.

In addition to the rights and responsibilities of all graduate students, there are rights and responsibilities that pertain specifically to graduate students who are serving on appointments. These appointments include doctoral associateships, doctoral fellowships, graduate assistantships, and graduate fellowships. Because of the special nature of the relationship between a graduate appointee and the faculty members in the department being served, there are additional requirements.

3.0 Professional Rights and Responsibilities of Graduate Appointees

This resolution process governs matters other than those governed by the Graduate Catalog, the Student Code and/or the Research Misconduct Policy.

Graduate appointees serve the University through appointments that are awarded by the departments/schools under the sponsorship of Academic Affairs and the Graduate College. Therefore, the path to resolving certain disputes resides first with the department/school and next with the Graduate College.

For graduate appointees with a teaching classification, the terms of the 2009-12 contract between Western Michigan University and the Teaching Assistants Union (www.tauaft.org ) regarding grievance and arbitration procedures (Article 16) will supersede the policy given below.

3.1 Departmental/School Level. Resolution of issues at the departmental/school level may be handled informally. If disputes arise between graduate appointees and their departments, both should attempt to resolve them in informal, direct discussions. If the problem remains unresolved, then the unit administrator should be consulted. If still aggrieved, a student may then submit a formal, written request for consideration by the Department/School Hearing Board. The Department/School Hearing Board shall be comprised of the unit administrator or designee, two faculty members, and two graduate students from the department. The faculty members are to be selected by the department. One graduate student is to be selected by the departmental graduate student organization and a second graduate student by the Graduate Student Advisory Committee. Where no departmental graduate student organization exists, both students will be selected by the Graduate Student Advisory Committee. If the unit administrator is directly involved in the case, neither the unit administrator nor the designee may serve on the hearing board. In such cases, the office of the Dean of the Graduate College will appoint a replacement member.

3.2 Graduate College Level. The Graduate College shall establish a hearing board comprised of a representative of the Academic College as designated by the Dean of that College, the Dean of the Graduate College or designee, the Chair of the Graduate Student Advisory Committee or designee, one faculty member from the department in question, and one student chosen by the Graduate Student Advisory Committee.

3.3 A member who has faculty rank from a unit not involved with the dispute shall chair each hearing board.
3.4 Term of Office. Hearing board members at both levels shall be selected in the fall of the year and shall serve one year. The one-year term shall not preclude reappointment of any member the following year.

3.5 The formal request alleging violations of professional rights must include a proposed remedy that could be implemented by a responsible administrator. The Department/School, within the limits of its resources and the limits imposed by due respect for the professional rights of the faculty, seeks an appropriate remedy for legitimate student complaints.

3.6 Written requests for a hearing must be initiated no later than mid-term of the semester or the end of the session following the term wherein the alleged violation occurred. The appropriate Hearing Board may grant an exception to this provision if the involved party or student is absent from the University during that session.

3.7 The student initiating the grievance may request the hearing at the Department/School level. Under special circumstances (with approval of the Graduate College) the resolution of an issue may begin at the Graduate College level.

3.8 Hearing Boards shall establish their own procedures in a manner consistent with this document. A copy of the procedures adopted by each unit shall be filed with the appropriate Dean's office and with the office of the Dean of the Graduate College.

3.9 Upon receipt of a formal request, the chairperson of the Hearing Board shall transmit a copy of the grievance within ten (10) class days to the Hearing Board members and to the person(s) party to the matter.

3.10 In urgent cases in which it is alleged that a regulation, administrative decision or action threatens immediate and irreparable damage to any of the parties involved, the Hearing Board or judiciary shall expedite the hearing and final disposition of the case.

3.11 A Hearing Board or judiciary is empowered to act on a request to direct an individual or unit to discontinue or postpone an administrative decision or action that threatens immediate and irreparable damage to any of the parties involved, pending final disposition of the case. The Hearing Board shall expedite the hearing and final disposition of this urgent case.

3.12 A Department/School or college Hearing Board shall review each hearing request for jurisdiction and judicial merit and may then forward a copy of the request to the appropriate individual and invite a written response. After considering all submitted information, the board may:

- a. Accept the request, in full or in part, and proceed to schedule a hearing.
- b. Reject the request and provide an appropriate explanation.
- c. Invite all parties to meet with the board for an informal discussion of the issues. Such a discussion shall not preclude a later hearing.

3.13 Notice of hearing. At least three (3) days prior to a formal hearing, both the respondent and the complainant shall be entitled to a written notification of the hearing from the appropriate hearing body. This notice of hearing shall state:

- a. The nature of the issues, charges and/or conflicts to be heard with sufficient particularity to enable both the respondent and the complainant to prepare their respective cases.
- b. The time and place of the hearing.
- c. The body adjudicating the case.
- d. The names of the respondent and complainant.
- e. The name(s) of any potential witnesses.
Either the complainant or the respondent may request, with cause, a postponement prior to the scheduled time of a hearing. The Hearing Board may grant or deny such a request.

Both the respondent and the complainant shall be expected to appear at the hearing and present their cases.

- Should the complainant fail to appear, the board may either postpone the hearing or dismiss the case.
- Should the respondent fail to appear, the board may either postpone the hearing if good cause has been given for the failure to appear or hear the case in his or her absence.
- The judiciary may accept written statements from a party to the hearing in lieu of a personal appearance, but only in unusual circumstances. Such written statements must be submitted to the board at least one (1) day prior to the scheduled hearing.

Hearing Boards shall ensure that a collegial atmosphere prevails in hearings. Involvement of counsel should normally not be required. When present, counsel shall be limited to a member of the student body, faculty, or staff of the University.

During the hearing, parties to a complaint shall have an opportunity to state their cases, present evidence, designate witnesses, ask questions, and present a rebuttal.

The Hearing Board shall prepare a written report of findings and rationale for the decision and shall forward copies to the parties involved, to the responsible administrator(s), and to the Dean of the Graduate College. The report shall indicate the major elements of evidence, or lack thereof, which support the Hearing Board's decision. All recipients are expected to respect the confidentiality of this report. When a Hearing Board finds that a violation of professional rights has occurred and that redress is possible, it shall direct the responsible administrator to provide redress. The administrator, in consultation with the hearing board, shall implement an appropriate remedy.

Appeals. The decision of the original Hearing Board is final, except in cases which result in a recommendation of termination of appointment. In such cases the decision may be appealed by either party to a grievance only to the next level hearing board. If the original hearing was by a Department/School Hearing Board, the appeal shall be made to the Graduate College Hearing Board. If the original hearing was by the Graduate College Hearing Board, the appeal should be made to the Graduate Studies Council. In such cases, a subcommittee of the Graduate Studies Council shall be appointed by the chair of the council and shall include the chair as well as one council member and a graduate student serving on the council.

Appeals must allege either that applicable procedures for adjudicating the case were not followed in the previous hearing or that the findings of the Hearing Board were not supported by the preponderance of the evidence. Presentation of new evidence will not be permitted at an appeal hearing. All appeals must be written and signed and must specify the alleged defects in the previous adjudication(s) in sufficient detail to justify further proceedings. The appeal must also specify the redress that is sought.

Appeals must be filed within ten (10) class days following a notice of a decision. Any action regarding the original decision shall be held in abeyance while under appeal.

The appellate board shall review each appeal request and may then forward a copy of the request to the appropriate individual and invite a written response. After considering all submitted information, the appellate board may

- Decide that sufficient reasons for an appeal do not exist and that the decision of the lower hearing body shall stand;
- Direct the lower hearing body to rehear the case or to reconsider or clarify its decision; or
- Decide that sufficient reasons exist for an appeal and accept the request, in full or in part, and proceed to schedule an appeal hearing.
3.23 Following an appeal hearing, an appellate board may affirm, reverse, or modify the decision of the lower hearing body.

3.24 Any intimidation or retaliation against a graduate student, including but not limited to actions which negatively impact the student's grades or appointment status, solely for raising an issue concerning his/her appointment, questioning assignments or duties, and/or initiating or participating in proceedings under this policy, is strictly forbidden. Any person confirmed to have so intimidated or retaliated will be subject to disciplinary action, up to and including termination.

3.25 Nothing in this process shall be construed to be considered a contract between the graduate student and the University, and/or to supersede or negate other University policies, procedures, and/or contractual requirements.

Note: Western Michigan University wishes to thank Michigan State University for permission to adapt portions of their graduate adjudication process.
University and Student Services

Complete and current information about University and Student Services may be obtained by visiting the University’s Web site (http://www.wmich.edu/). The services listed below are only a portion of those offered by the University to students, alumni, staff, and visitors.

Academic Technology and Instructional Services (ATIS)

In order to meet the varying needs of today’s learners, Academic Technology and Instructional Services (ATIS) offers a broad spectrum of courses and programs via multiple e-learning technologies. Through ATIS, Western Michigan University provides access to high-quality education for those unable to travel to campus, yet who want to pursue and/or continue their academic goals. ATIS and WMU academic units partner to offer expanded access to educational opportunities. Courses are offered through ATIS in the following modalities:

- Compressed video-interactive television (CVIT)
- Online (which includes open learning)
- “Mixed mode” or “hybrid” solution in which some class meetings are face-to-face or CVIT and some class work in completed online.

Along with acting as a first line of student and faculty support for e-learning courses. Academic Technology and Instructional Services provides additional services such as instructional design assistance to faculty, technical support for students, on-campus testing, and coordination of test proctoring arrangements.

Dr. Craig Kaml
Associate Dean, Academic Technology and Instructional Services
1260 Ellsworth Hall
Kalamazoo, MI 49008
(269) 387-2847
atis.wmich.edu

Archives

The University Archives and Regional History Collections is located in East Hall, Room 111. Staff collect, preserve, and make accessible records documenting the history of the University and of twelve southwestern Michigan counties. Holdings include: books, ephemera, newspapers, microfilm, photographs, oral history tapes, and manuscript collections. In addition, local public records from southwestern Michigan are on deposit from the Archives of Michigan.

Athletics, Intercollegiate

The University is represented by men's teams in football, baseball, basketball, tennis, ice hockey, and soccer. Women's teams represent the University in basketball, cross country, golf, gymnastics, softball, tennis, indoor and outdoor track, soccer, and volleyball. Represented by the athletics mascot “Buster Bronco”, WMU Athletics keeps every Bronco fan up to date through the official athletics web site, www.wmubroncos.com

Athletics are governed by the Athletic Board, which adheres to the policies and principles established by the National Collegiate Athletic Association (NCAA), Mid-American Conference (MAC) and Central Collegiate Hockey Association (CCHA). Western Michigan University is a member of the Mid-American Conference in all sports but Ice Hockey. Ice Hockey members are WMU, Bowling Green, Miami of Ohio, Notre Dame, Ohio State, Michigan State University, University of Michigan, Lake Superior State, Northern Michigan, Omaha Nebraska, Alaska, and Ferris State. Other members of the Mid-American Conference are Akron, Ball State, Bowling Green, Buffalo, Central Michigan, Eastern Michigan, Kent State, Miami (Ohio), Northern Illinois, Ohio, Toledo, and Temple in the sport of football.
Career and Student Employment Services

Career and Student Employment Services advises students regarding skill development, exploring career options and obtaining professional employment upon graduation. Services include: advising by appointment and drop-in hours at various locations on campus, web-based employment listings and resources to part-time employment, internship and full-time opportunities, on-campus interviewing, career fairs and integration of relevant career programs into existing courses throughout the university. Career program topics address current issues related to linking majors to occupational fields, interviewing, speaker panels, resume writing and job search strategies.

For more information or to schedule an appointment, call (269) 387-2745. The Office is located on first floor of Ellsworth Hall. [http://www.broncojobs.wmich.edu](http://www.broncojobs.wmich.edu).

Children’s Place Learning Center

The Children's Place Learning Center, located in the middle of campus at 2210 Wilbur, is open from 7:00 a.m. to 5:30 p.m. weekdays. The convenient location and flexible care schedules make the center an attractive child-care option for WMU faculty, staff, and students. Children 18 months to 9 years old may be enrolled full-time, part-time, or hourly. Breakfast, lunch, and snacks are included in the tuition and are provided by WMU Dining Services. A full vegetarian menu is available each day.

The Children's Place philosophy emphasizes child-initiated learning within a culturally diverse community. The program nurtures and supports the development of children by providing developmentally appropriate activities which address each child's need for fun, creativity, active play, communication skills, problem solving, social interaction, rest and nutrition. The program is licensed by the State of Michigan and accredited by the National Association for the Education of Young Children (NAEYC). For more information and an application call (269) 387-2277 or visit [www.wmich.edu/childrensplace](http://www.wmich.edu/childrensplace).

Disabled Student Resources and Services

Disabled Student Resources and Services assists Western Michigan University students with disabilities as they seek to find effective accommodations maximize their abilities and gain independence. DSRS offers advocacy, registration assistance, readers/scribes for tests and other classroom accommodations, textbooks in alternate formats, accessibility information, transportation information including Bronco Transit and Metro-van, adaptive equipment, and referral to other campus and community agencies. The website is [www.dsrs.wmich.edu](http://www.dsrs.wmich.edu).

The office can be reached by calling (269) 387-2116.

Housing

Western Michigan University students may live on or off campus. Two options exist on-campus, the residence halls and WMU Apartments, and both deliver tremendous value to their residents. Besides the convenience of living in the heart of campus, studies show students who live on campus adjust better and are more successful academically than those who live off campus. For these reasons, students should carefully consider the benefits of on-campus housing when choosing where to live. Utilities, cable TV and local phone service are all included in housing costs.

Your residence hall application will be sent upon admission to Western Michigan University. An apartment application may be submitted before you are officially admitted to the University. The application date is the basis for assignment and the probability of an assignment increases with early application.

**WMU Residence Life**
For information contact the Residence Life Office, 3510 Faunce Student Services Building, Western Michigan University, Kalamazoo, MI 49008-5312. Telephone: (269) 387-4735. Fax: (269) 387-4786. E-mail: RL-staff@wmich.edu. Web site: www.wmich.edu/housing.

WMU Apartments

For more information contact the WMU Apartment Office, 3510 Faunce Student Services Building, Western Michigan University, Kalamazoo, MI 49008-5079. Telephone: (269) 387-2175. Fax: (269) 387-4786. Website: www.wmich.edu/apartment.

Office of Information Technology

The Office of Information Technology (OIT) provides video, voice, and data services for the western community. This includes provisioning the Bronco NetID, which gives students access to the GoWMU portal for course registration, e-learning, e-mail, financial aid, and other resources. OIT also manages and maintains the data network for Internet access and the campus telephone system. OIT operates the public computing labs in the Bernhard Center and in the University Computing Center, located in the heart of the main campus. For more information, go to www.wmich.edu/oit.

International Programs and Services

Western Michigan University annually hosts more than one thousand international students and has a long tradition of international involvement across all colleges. Commitment to continued expansion of our international dimension is included in the university mission statement. The “international” key on the university’s World Wide Web home page will take you to a comprehensive directory of international programs and services. Offices that administer international programs and services are conveniently located together in Ellsworth Hall.

Diether H. Haenicke Institute for Global Education

B2425 Ellsworth Hall
Western Michigan University
Kalamazoo MI 49008-5245
Telephone: (269) 387-5890; Fax (269) 387-0630
E-mail: dhi-dept@wmich.edu
http://international.wmich.edu

The Haenicke Institute (HIGE) collaborates with colleges, departments, and interdisciplinary programs to promote global, international, and area studies throughout Western Michigan University. The Institute houses designated centers and offices devoted to international education.

Office of International Services and Student Affairs

Ms. Rebecca Solomon, Director
A411 Ellsworth Hall
Western Michigan University
Kalamazoo MI 49008-5246
Telephone: (269) 387-5866; Fax (269) 387-5899
E-mail: oiss.info@wmich.edu
http://www.wmich.edu/oiss

The Office of International Services and Student Affairs handles admissions and special needs for international students. Services include:
• Processing of applications for admission
• Immigration advising
• Orientation program for newly arrived international students
• Assistance with housing arrangements
• Coordination of international student organizations and activities
• Liaison between international students and financial sponsors
• Personal and social counseling

International students interested in seeking admission to Western Michigan University may access application information and an online or printable application at http://international.wmich.edu/old/cms/oiss_appstrate/index.php

Career English Language Center for International Students (CELCIS)

Ms. Kim Cho
B0530 Ellsworth Hall
Western Michigan University
Kalamazoo MI 49008-5223
Telephone: (269) 387-4800; Fax (269) 387-4806
E-mail: celcis_info@wmich.edu
http://www.wmich.edu/oia/celcis

The Career English Language Center for International Students (CELCIS) provides intensive English language instruction for prospective students who need further training to qualify for admission to Western Michigan University. Holders of F-1 visas in the CELCIS program must be enrolled full-time; resident aliens and holders of F-2 visas may attend CELCIS programs on a part-time basis.

CELCIS classes at various levels include: speaking and listening comprehension, grammar, academic reading and vocabulary building, academic writing, and research paper writing. Extra-curricular activities include monthly social hours, conversation partners, home visits, and various social, sport, and cultural programs.

CELCIS operates four terms per year: two fifteen-week terms (fall and spring), and two seven-week terms (summer I and II). University Testing and Evaluation Services offers the institutional TOEFL at the conclusion of each term. CELCIS issues the Certificate of Eligibility for a visa (Form I-20 or IAP-66) specifically for admission to CELCIS programs. Admission to CELCIS does not imply admission to WMU’s Graduate College or to a degree program.

Contact the CELCIS office for application materials, or access information and forms online at http://international.wmich.edu/content/view/530/306/

Study Abroad

Ms. Joyce Lew, Director
B2425 Ellsworth Hall
Western Michigan University
Kalamazoo MI 49008-5245
Telephone: (269) 387-5890; Fax (269) 387-0630
E-mail: study-abroad@wmich.edu
http://www.wmich.edu/studyabroad

Study Abroad offers more than 60 study programs varying in length from a few weeks to a full academic year and access to hundreds of non-WMU study abroad providers to destinations in 35 countries. Programs are available for undergraduates and graduates in a broad spectrum of disciplines for an academic year, one semester, or summer
terms. Competitive scholarships and grants are available, such as the President’s Grant for Study Abroad that offers up to $9,000 for foreign-language students seeking an overseas language-intensive experience.

Graduate students who undertake study abroad programs, or conduct individualized research, field studies, internships or other experiences outside the United States that carry WMU academic credit, and/or under the direct auspices of WMU faculty, must register with the Office of Study Abroad.

Study Abroad also provides a number of important services to WMU students preparing to study, intern, or to conduct research outside the United States. Services include orientation programs, insurance procedures, and current information about conditions in countries of destination. Study Abroad maintains an extensive research area and databases on programs offered by other colleges and universities. The office also serves as a contact point between WMU students overseas and the university.

**Multicultural Affairs, The Division of**

The Division of Multicultural Affairs (DMA) mission is to provide support in the recruitment, retention, and graduation of diverse students through programs and services that will enhance their learning experiences, build new relationships, and prepare them to successfully interact in a multicultural world.

DMA initiates and coordinates cultural programming and facilitates opportunities for learning and personal development for all students at Western Michigan University. The Division's activities are designed to define and positively react to diverse students' needs. By doing so, students are ensured the greatest opportunity for a successful and relevant educational experience.

For information, call 269-387-4420 or visit the office in Ellsworth Hall or visit the website [www.multicultural.wmich.edu](http://www.multicultural.wmich.edu)

**Martin Luther King, Jr. (MLK) Academy**

The Martin Luther King, Jr. Academy provides a broad range of cultural and academic learning experiences that are designed to bring together individuals as well as groups of students from diverse racial, ethnic, cultural, social class, and religious backgrounds for meaningful interactions and to provide a broad base of learning experiences, curricular, co-curricular, research, service, independent, creative, artistic, and study abroad to reach the unique potential of each student participant.

For information, call (269) 387-4420 or visit DMA on the 2nd floor of Ellsworth Hall. The Web site address is: [www.multicultural.wmich.edu](http://www.multicultural.wmich.edu)

**Parking and Vehicle Registration**

Detailed regulations concerning the use of motor vehicles on campus is available from the Department of Public Safety's Parking Services. All students are eligible to park a motor vehicle on University property; however, they must first register their motor vehicle, motorcycle, and/or moped with the Parking Services and pay a registration fee. Information concerning parking regulations, parking permits, and parking violations can be obtained by visiting Parking Services located at 2507 West Michigan Avenue (at the corner of West Michigan and Knollwood) or by telephoning (269) 387-4609 Monday through Friday. 7:30 a.m. – 5 p.m. Visit our web page at [www.parking.wmich.edu](http://www.parking.wmich.edu) for complete rules and sticker prices.

**Police**

Located at 511 Monroe Street, off the 1300 block of West Michigan Ave., the Department of Public Safety is open 24 hours a day, providing a full range of police services through the use of a uniformed patrol division, a detective
division, and a communications center. The Department of Public Safety is responsible for investigating all crimes and accidents occurring on University property and is committed to providing an environment conducive to the education of the students at Western Michigan University. Towards that goal, the department's various divisions and bureaus have coordinated their efforts to create and maintain a feeling of security and safety within the University community. Information can be obtained by visiting the office, telephoning (269) 387-5555 or 911 in an emergency.

Publications

Western Herald (www.westernherald.com), WMU's independent student newspaper, is published Mondays, Tuesdays, Wednesdays, and Thursdays during the fall and spring semesters; Mondays and Thursdays during the summer I session, and Wednesdays during the summer II session. The Western Herald is 100 percent self-supporting, generating the majority of its revenue through advertising sales. All positions on the paper are filled by students with the exception of the general manager/advisor.

Western News is the official publication for administration, faculty, and staff members. It is published every other Thursday during fall and spring semesters and the Summer I session by the Office of University Relations. That office also produces WMU News, an online news source that is updated daily and can be found at www.wmich.edu/wmu/news, as well as the Western Michigan University Magazine, which is published quarterly and distributed to alumni, donors, friends, and the University community.

Radio

WMUK is owned and operated by Western Michigan University and broadcasts in HD with an effective power of 50,000 watts at 102.1 FM. The station is a non-profit public radio station and charter member of both National Public Radio and the Michigan Public Radio Network as well as an affiliate of American Public Media and Public radio International. The station broadcasts to an area 80 miles in radius, including most of the southwestern corner of Michigan. Listeners can also hear WMUK over the Internet at www.wmuk.org.

WMUK provides a cultural extension of the area through its broadcast of campus, community, and area events. The station has built an enviable reputation in classical, bluegrass and jazz music programming as well as programming for Spanish-speaking audiences.

The majority of WMUK funding comes from Western Michigan University and listener support. Additional funds are provided by local underwriters and the Corporation for Public Broadcasting.

WIDR(FM), a 100-watt station operated by students, broadcasts on 89.1. Facilities of WIDR(FM) are located in 1501 Faunce Student Services Building. WIDR(FM) offers a unique opportunity for Western Michigan University students to gain experience in programming, promotion, and station operation. For more information, please visit the Web site at www.widr.org.

Sindecuse Health Center

Accredited by the Accreditation Association for Ambulatory Health Care (AAAHC), Sindecuse Health Center is a student-oriented medical facility that exists to assist the University community members to achieve and maintain their optimal health status. As a student attending Western Michigan University, you have access to high-quality, convenient health care through our many professional services. Our entire staff works as a team to assist you with your health care and health education needs. For a complete explanation of services, visit the Center’s website at www.sindecuse.com

Important Phone Numbers  (Area Code 269)
Appointments  387-3290
Information  387-3287
Insurance Information  387-3266
Speech, Language, and Hearing Services

The Charles Van Riper Language, Speech, and Hearing Clinic is a service program provided by the Department of Speech Pathology and Audiology for persons with communication disorders. It is located in the Unified Clinics at University Medical and Health Sciences Center, 1000 Oakland Drive. Students may take advantage of diagnostic and therapeutic services by contacting the Clinic for an appointment. Telephone: 387-8047.

Student Activities and Leadership Programs

The mission of the Student Activities and Leadership Programs is to enhance student learning and leadership development by engaging students in educationally purposeful academic and social activities.

Student Activities and Leadership Programs has registered over 300 student organizations at WMU representing a diverse range of interests. We welcome you as a valued member of our community and are excited to be a part of your learning and personal development.

For detailed information, visit the website at www.salp.wmich.edu or visit the office, 2420 Faunce Student Services Building.

Substance Abuse Services

For alcohol and substance abuse services and referrals, please contact the University Counseling and Testing Center at (269) 387-1850, 2513 Faunce Student services Building between 8:00 am and 5:00 pm, Monday through Friday. Services for students are free unless they are court ordered. Requests for court ordered services are referred to the University Substance Abuse Clinic, located in the Unified Clinics at (269) 387-8230, 1000 Oakland Drive, 3rd floor. For directions to the building go to http://www.pp.wmich.edu/buildings/017.html. Students are encouraged to make appointments by visiting or calling the appropriate office directly.

Telephone Directory

The WMU Faculty/Staff/Student Telephone Directory is published annually by the Office of University Relations. It is distributed during early November, without charge, to all students in residence halls and family housing units, and is available at the University Computing Center.

Individual listings in the WMU Student Directory contain the following information:

1. Name
2. Curriculum
3. Local address and telephone number
4. Home address

Students wishing to exclude any or all of the above information from the WMU Student Directory (printed and electronic) must fill out a Directory Exclusion Form in Room 3210, Seibert Administration Building, during the first
five days of classes fall semester. During spring, summer I, and summer II terms, students may restrict this information to academic use by filling out the Directory Exclusion Form during the first five days of classes.

University Counseling and Testing Center

Many important decisions and situations will confront students while they are at Western Michigan University. They will need to make decisions regarding courses, curricula, and career exploration. They may become involved in social and personal situations that leave them feeling confused and upset. In addition, it may be likely that the inherent stresses of university life will, at some time, interfere with academic achievement and personal growth. The University Counseling and Testing Center, located on the main floor of the Faunce Student Services Building, exists to help students deal effectively with such concerns.

The Center is staffed with professionally licensed counselors and psychologists and is accredited by the International Association of Counseling Services.

Counseling and Testing Center services consist of the following:

Personal Counseling to assist individuals in better understanding themselves and the emotional conflicts that may interfere with their everyday lives as students, to help them become more aware of alternative means of coping with conflicts, and to aid them in developing more satisfying and fulfilling lifestyles.

Educational Counseling to help students deal with conflicts concerning vocational planning and educational goals.

Career Counseling and Testing to provide students with the resources, skills, and experiences necessary for reasonable educational and career choices. Individual and group activities are offered to (1) increase self-understanding, including insights into one's interests, values, abilities, and skills; (2) learn how to acquire information about careers; (3) review choices, make decisions, and establish plans of action; and (4) test the feasibility of individual plans by experiencing the reality of the working world.

The Career Exploration/Media Center contains a wide and varied selection of printed materials with an emphasis on self-understanding, career exploration and preparation, occupational information, and job trends. Included is a section of college and university catalogs, educational guides, and computer-aided guidance and information pertinent to career awareness.

Training and Internship Programs for graduate students from the Department of Counselor Education and Counseling Psychology, the Department of Psychology and pre-doctoral psychology interns from other accredited universities are available. Included in the training experience are case consultations, supervision of treatment sessions, didactic presentations and professional growth opportunities. The American Psychological Association has accredited the Center’s predoctoral internship program in professional psychology.

National Standardized Testing is conducted by the University Counseling and Testing Center. The following tests are regularly offered: ACT, LSAT, GRE (subject exam), TOEFL, and CHES. Standardized testing information is available at the Center.

Test Scanning Services (optical scanning using NCS Pearson equipment) for classroom exams and research data analysis is provided to the University community and greater Kalamazoo area. Information about scanning services including fees is available; call 387-1850.

The Counseling and Testing Center is committed to the need for confidentiality in client/counselor communications. Therefore, confidentiality of client information is maintained in a manner consistent with professional standards of ethical practice and conduct and legislative requirements in the state of Michigan. Copies of the Counseling and Testing Center Policy on Confidentiality may be obtained at the Center's reception desk.
Appointments may be requested by telephone (387-1850) or by stopping at the Counseling and Testing Center (2513 Faunce Student Services Building) reception desk between 8 a.m. and 5 p.m., Monday through Friday.
Website:  www.utcct.mich.edu

The Center attempts to service as many students as possible within staffing limitations.

University Libraries

Waldo Library, the main library at Western Michigan University, was built in 1958, expanded in 1967, and then extensively renovated and expanded in 1991. The Library is named after Dwight B. Waldo, the University's first president. In addition to Waldo Library, the University Libraries includes four branch libraries. The Education Library, in Sangren Hall, has over 733,400 items and receives more than 600 periodical titles. The Music and Dance Library, in the Dalton Center, houses over 50,200 books, musical scores, and periodicals, as well as over 20,000 audio and video recordings. The Archives and Regional History Collections Library, in East Hall on the East Campus, collects unique materials about the history of Southwest Michigan and the official records of the University. The Visual Resources Library, located in Sangren Hall, houses a collection of over 105,900 slides, most of which relate to the fine arts.

Each of these libraries supports teaching and research in disciplines related to the materials collected. Thus Waldo Library has resources and services supporting the University's undergraduate and graduate programs in the arts, fine arts, business, health and human services, social sciences, science, and engineering. University Libraries as a whole holds more than 4,456,200 volumes. Electronic books and journals number more than 80,000.

The major purpose of the University Libraries is to take an active role in the educational process at the University, and to provide facilities, materials, and an environment which will not only support the students' educational progress but also will encourage them to develop the habit of self-education.

Visit the Libraries' web page (http://www.wmich.edu/library) for more information about services and a listing of available databases and electronic resources.

University Recreation

Student Recreation Center
(269) 387-3760

The Student Recreation Center (SRC) is a student-oriented, multi-use facility programmed, staffed, and financed by Western Michigan University students. Recreational, educational, and health promotion programs are provided for the benefit of all WMU students, faculty, staff, spouses, emeriti and alumni facility members. The facility includes an 8,000 square foot fitness/weight room, a recreational pool with attached swirl pool and saunas, a 45’ climbing wall, indoor jogging track, basketball courts, volleyball and badminton courts, indoor tennis courts, 9 racquetball courts, aerobics room, 2 multipurpose gyms, and cycling room.

The SRC is equipped with a state-of-the-art electronic security system to help protect our student-funded facility from vandalism and to ensure that all users are properly authorized. Only ID cards belonging to individuals who have paid the facility fee may gain access and take advantage of programs and services.

Informal Recreation

Informal recreation permits individual choice of activity. Various facilities are available on a drop-in or reservation basis including basketball courts, volleyball courts, racquetball courts, tennis courts, squash court, indoor and outdoor tracks, fitness/weight room, and swimming pool. Other open recreation opportunities include badminton, table tennis, climbing wall, and wallyball. Equipment for various activities may be checked out with a valid ID card from the SRC service desk.
Outdoor Recreation
University Recreation also provides a lighted, competition-style outdoor track, tennis courts, soccer fields, intramural fields and a sand volleyball court. Selected outdoor equipment may be available for checkout with a valid ID card from the SRC service desk.

Intramural Sports
Intramural Sports are available for students, faculty, staff, alumni, and members of the SRC who are interested in competitive activities. The program offers both team and individual sports, including basketball, volleyball, soccer, softball, ice hockey, flag football, tennis, racquetball, in-line hockey, and much more. Intramurals provide opportunities for individuals to participate in sports experiences that will help them to develop team building and leadership skills. Opportunities for leadership are available for students who wish to officiate contests.

Fitness Programs
University Recreation offers a variety of aerobic classes to meet fitness needs of participants. Motivating, enthusiastic, and energy packed instructors will lead participants in classes that consist of a variety of cardiovascular activity, strengthening, flexibility, and relaxation exercises designed to meet the needs of all fitness levels. Passes are necessary for admission to all classes. Additionally, completion of the Physical Activity Readiness Questionnaire (PAR-Q) is required prior to initial participation.

Fitness Weight Room
Located in the SRC, the 8,000 square foot fitness/weight room contains a full line of variable resistance weight machines, treadmills, and free weights, computerized exercise bicycles, stair climbers, rowers, and elliptical machines. Personal Trainers are available to instruct on proper use of the equipment and to provide exercise training guidelines to meet personal goals. Located by the indoor track are 45 cardio machines where participants can exercise.

Climbing Wall
The WMU Climbing Wall is designed to challenge and teach participants about the unique sport of indoor climbing. The wall is a top-rope system where climbers are harnessed in for safety. SRC members can come feel the excitement of scaling a 45-foot wall. Participants may also complete a climbing clinic to learn proper harnessing and belaying techniques.

Sport Clubs
Students who wish to compete or learn a new sport can join sports clubs. These student run organizations, hold practices and compete against other schools. WMU offers everything from sailing, lacrosse, equestrian to ice hockey.

For more information on services and specific days and times of programs, pick up a SRC Program guide or call (269) 387-4REC. Current information may also be found on the web at www.src.wmu.edu.

Veterans’ Assistance
The Office of the Registrar, on the third floor of the Administration Building certifies students under the G.I. Bill and its extensions. The Veterans’ Certification Officer will assist any person who seeks certification, or application, to the Veterans Administration under applicable programs.

Students who wish to receive V.A. benefits must annually file a "V.A. Certification Information Card" outlining plans for enrollment for the coming year. Students are certified on the basis of attendance and academic progress toward a declared degree. Address changes are also to be reported to the Veterans’ Certification Officer as soon as possible.

In addition to normal scholarship standards, students receiving benefits from the Veterans Administration are advised of their additional rights and responsibilities.
Returning Veterans Tuition Assistance (RVTA)

Veterans leaving active military service and beginning or returning to school often have a difficult time paying their tuition in the first semester. Financial aid eligibility is reduced by the amount of VA benefits the students will receive, and the payment of benefits can often be delayed for a few months. This creates a cash flow problem for the students, and covering living expenses as well as tuition is a significant burden.

With this difficulty in mind, Western Michigan University will support veterans by providing tuition assistance in their first semester after release from active duty. The program, Returning Veterans Tuition Assistance (RVTA), will cover all charges not covered by other tuition-specific programs such as ROTC, SERP, ACES, Chapter 31 benefits, or any other tuition benefit. Students discharged from active duty for purposes other than training within six months of the beginning of class will be eligible to apply for this benefit in their first semester after entering or returning to Western Michigan University. The student must be eligible for VA benefits, and may only receive RVTA one time.

Returning veterans who meet the eligibility criteria for RVTA will be classified as Michigan residents for tuition purposes after their first semester.

In-State Tuition for Active Duty Military Personnel and their Dependents

Western Michigan University will grant in-state tuition to active duty military members of the armed forces of the United States and their spouses and dependents, if the member of the armed forces is a Michigan resident (and has not established residency in another state) or is stationed in Michigan. In addition, once an active duty member of the armed forces or his or her spouse or dependent qualifies for in-state tuition, the in-state tuition will continue to be recognized as long as there is no change to their military or dependent status and the military member or their dependent is continually enrolled in a current degree program at the University.

The Veterans' Certification Officer may be reached in the Office of the Registrar at (269) 387-4115.

Writing Center

The Writing Center, which is located at 1060 Moore Hall, helps graduate and undergraduate students improve their writing abilities. Our writing consultants, trained undergraduate, graduate student, and adjunct instructors, help students with any aspect of writing, including assignments from any class, employment search communications (resumes, cover letters, thank-you notes), scholarship essays, graduate school personal statements, dissertation chapters, PowerPoint presentations, etc.

Typically, a consultant will meet with a student one-on-one so that the student may ask questions and get feedback on his/her individual work. Consultants also work with groups collaborating on projects, such as senior engineering, business class, or communication class teams. Some students also seek help getting started on a writing assignment or task; and some work with us to improve their essay test writing skills, lessen their writing phobia, develop proofreading skills, or improve their understanding of a particular documentation style (APA, MLA, Chicago Manual, etc.)

Each semester and summer session, students may register for 50-minute appointments, and they may request same time online tutoring, which involves Instant Messaging and e-mail. Students may also use drop-in sessions, available in Waldo Library Sunday evenings from 5:00 to 8:00 p.m. during the fall and spring semesters. Our online registration and a short video explaining it are available on our Web site www.wmich.edu/casp.writingcenter. Once registered with us, students can arrange their appointments with us at www.rich17.com/wmich/index.php. If students prefer, they can also call us at (269) 387-4615 to arrange an appointment or get directions.
The Writing Center also provides workshops about writing, as requested by class instructors or organizations, and we train some consultants to work with instructors and their students in classes.

The Writing Center is part of the Center for Academic Support Programs; we are always eager to help students learn more about writing.
Extended University Programs

Craig Kaml
Interim Associate Provost

Betty Dennis
Associate Dean

Main Office: 1260 Ellsworth Hall
Telephone: (269) 387-4200
Fax: (269) 387-4204
URL: http://eup.wmich.edu

Extended University Programs extends the University's educational resources throughout Michigan and beyond by partnering with academic departments to deliver undergraduate and graduate degree and certificate programs and non-credit conferences and workshops. These programs are delivered through regional sites and e-learning in a time, place, and format oriented toward the needs of the adult, part-time learner. Six regional sites (Battle Creek, Grand Rapids, Lansing, Muskegon, Southwest, and Traverse City), e-learning through Academic Technology and Instructional Services, and the Office of Lifelong Learning and Education comprise the University's extension organization.

The mission of Extended University Programs (EUP) is to provide access to higher education for a greater constituency than could otherwise attend a central campus. In doing so we:

- facilitate student learning in multiple settings
- provide a strong link between regional sites and students
- deliver high quality graduate, undergraduate and noncredit programs
- develop and maintain community partnerships, serving as an effective entrepreneur on behalf of the University
- collaborate with and support faculty in course development, program delivery, outreach and scholarship

Regional Sites
Extended University Programs' administrative offers undergraduate and graduate programs and certificates, delivering the same high-quality education available on the Kalamazoo campus, only closer to where you work and live. In addition, regional sites have environments that are tailored to the busy, working adult, including comfortable seating, computer labs, wireless internet access, and courses scheduled on evenings and weekends, Regional site program offerings fall into the following disciplines:

- Education
- Management
- Wellness
- Engineering

Please visit eup.wmich.edu/programs for a complete list of offerings.

In addition to academic programming, regional sites also offer financial aid information, advising, library access, and other University services.

Extended University Programs’ administrative offices are located in 1260 Ellsworth Hall on Western’s main campus in Kalamazoo. Telephone: (269) 387-4200. Regional sites follow:

Battle Creek
Ms. Sharon Russell, Director
Kendall Center
50 W. Jackson
Battle Creek, MI 49017-3505
Academic Technology and Instructional Services

In order to meet the varying needs of today’s learners, Academic Technology and Instructional Services (ATIS) offers a broad spectrum of courses and programs via multiple e-learning technologies. Through ATIS, Western Michigan University provides access to high-quality education for those unable to travel to campus, yet who want to
pursue and/or continue their academic goals. ATIS and WMU academic units partner to offer expanded access to educational opportunities. Courses are offered through ATIS in the following modalities:

- Compressed video-interactive television (CVIT)
- Online (which includes open learning)
- “Mixed mode” or “hybrid” solution in which some class meetings are face-to-face or CVIT and some class work is completed online.

Along with acting as a first line of student and faculty support for e-learning courses, Academic Technology and Instructional Services provides additional services such as instructional design assistance to faculty, technical support for students, on-campus testing, and coordination of test proctoring arrangements.

Dr. Craig Kaml  
Associate Dean, Academic Technology and Instructional Services  
1260 Ellsworth Hall  
Kalamazoo, MI 49008  
(269) 387-2847  
atis.wmich.edu

Office of Lifelong Learning and Education (OLLE)

A division of WMU-Extended University Programs, the Office of Lifelong Learning and Education (OLLE) is dedicated to providing an increased selection and availability of educational opportunities to individuals pursuing personal and professional goals. OLLE is committed to providing a level of service that reflects WMU’s high standard of educational quality and excellence. OLLE offers high-quality certificate programs, credit and non-credit workshops, professional seminars, and Continuing Education Units approved by the State of Michigan (SB CEUs) and is WMU’s official CEU provider. In addition, OLLE provides conference services, such as conference development, planning, and management.

Ms. Cheryl Lay, Director  
1276 Ellsworth Hall  
Kalamazoo, MI 49008  
(269) 387-4174  
eup.wmich.edu/olle
Glossary of Terms

Academic advisor
A faculty or professional staff member trained to help students select courses and plan programs of study for degree or program completion.

Academic dismissal
Dismissal from an academic unit or program for not maintaining the required grade point average. Dismissal indicates that a student is no longer admitted to the University and may not register.

Academic Forgiveness
Students who are readmitted into graduate study will not have grades and credit hours count in the computation of their grade point average that were earned more than seven years prior to their new entrance date. In such cases, the transcript will read, “Grades and credit hours earned more than seven years prior to current entrance date were not included in the computation of the grade point average.” The request for academic forgiveness must occur at the time of readmission.

Academic standing
The academic standing of a student is determined by the student's grade point average (GPA). All graduate students must have a 3.0 or better grade point average to maintain "good standing." A "warning" will be issued to a student whose GPA falls below a 3.0 in any semester or session even though the overall GPA is 3.0 or better. A student will be placed on "probation" if the overall GPA falls below 3.0, and will receive a "dismissal" notice if the overall GPA is not raised to or above 3.0 at the end of a semester or session on "probation," except when the academic unit housing the student’s program grants an “Extended Probation” for an additional enrollment period.

Assistantship
A University-administered stipend awarded by an academic or service unit to an appointed graduate student who is enrolled in a program leading to a graduate degree. Assistants are apprentices in the profession and assist in doing part of the work of the department, teaching or research or service.

Associateship
A specially designated assistantship awarded to an appointed doctoral student.

Audit
A registration category in which a student registers for and attends class(es) regularly without being held responsible for the work required for credit. A student who registers for a course in this way is not eligible to sit for examinations, earns no credit hours for the registration, and pays full tuition. The designation "AU" appears on the transcript if the auditor attends at least three-fourths of the class or laboratory sessions and gives evidence to the course instructor that the role as auditor has been satisfactory. See also Graduation audit below.

Bell & Howell
All doctoral dissertations written at Western Michigan University are required to be published and available to a public audience. The common method of publication is to have Bell & Howell [formerly named University Microfilms, Inc. (UMI)] microfilm the dissertation and have it available for dissemination to scholars and researchers around the world.

Capstone course or experience
A culminating holistic experience (e.g., thesis, dissertation, comprehensive examination) designed to review and more broadly understand the major issues, themes, theories, and research findings of the student's discipline, often to enable the student to examine the relationship of the discipline to other areas.
Center
An organizational unit formed for purposes of linkage and visibility, focused on a theme, issue, or set of skills. A Center will frequently be interdisciplinary in nature. A Center does not offer degree programs but may, on rare occasions, offer a course or courses.

CELCIS
The Career English Language Center for International Students (CELCIS) provides intensive English language instruction for those prospective students who need further training in English in order to qualify for regular admission to the University. Classes at various levels include: Speaking and Listening Comprehension, Grammar, Reading and Vocabulary, Writing, Research Paper Writing, and work in the Language Laboratory. For further information and application forms, contact the Center by telephone, (269) 387-4800, or by Fax, (269) 387-4806.

Certificate program
A graduate certificate is awarded for the satisfactory completion of a non-degree graduate program designed around a narrow, applied, and coordinated curriculum with a professional focus. A graduate certificate program may be either multidisciplinary or unidisciplinary in organization and may be taken separately or in conjunction with a graduate degree program. The graduate certificate is not an award of license, accreditation, or certification to render professional services; rather, it signifies that a student has satisfactorily completed an approved graduate certificate program curriculum.

Class or credit hour load
For all graduate students taking courses for a stated degree or certificate program, six hours constitutes full-time status, and three hours constitutes half-time status in Fall and Spring semesters. In the Summer I and Summer II sessions, three hours in either session constitutes full-time status for that session and two hours constitutes half-time status.

Students who have completed all the course work for their master’s or doctoral level program and who have only the thesis or dissertation to complete are required by Western Michigan University to enroll for a minimum of one-hour in thesis or dissertation credits. An enrollment of one-hour for thesis or dissertation will satisfy WMU’s continuous enrollment requirement.

However, students must be aware that FICA regulations and some federal loan deferment regulations require at least half-time enrollment, which at WMU is now at least three hours of enrollment. Graduate students, even those enrolled for thesis or dissertation hours, must be enrolled at least half-time (3 hours at WMU) in order to qualify for FICA tax exemption or to be eligible for loan deferments.

Since enrollment fees are determined by hours enrolled, and not by full- or part-time status, students (whether graduate or undergraduate) who enroll for four or fewer hours are charged a lesser enrollment fee than those who enroll for five or more hours, and consequently they will be required to pay an additional fee for unlimited use of the recreation center. Students enrolling for four or fewer hours will have access to the recreation center for 10 visits without extra fee charges.

Closed class
A term used during the registration process to indicate that a course has reached its maximum enrollment limit and is therefore "closed" to further registrations.

Cognate
A course, or courses, related in some way to the major area of study for the master's, specialist, or doctoral degree. Cognates may be, and often are, courses outside the department of the degree program.

Concentration
A concentration (or option or emphasis) is a thematically coherent block of courses that are more similar to one
another than to others in the degree program. A concentration has a title and constitutes a significant percentage (e.g., 10%) of courses in the degree program. Concentrations (or options or emphases) may be recorded on the student transcript.

Conditional admission
Conditional Admission is granted to the student who meets some of the admission requirements of the University. Continued enrollment in courses at WMU is conditional upon the applicant completing academic course work at a performance level specified at the time of “Conditional Admission” status is granted. Examples of specific performance could include, but are not restricted to: completion of a specified number of graduate credits with a “B” or better grade, completion of specific prerequisite courses with specified grades, or completion of the program’s core requirements with specified grades. The time period for any “Conditional Admission” status may not exceed two semesters and one summer session, with ineligibility for further enrollment after that period unless the specified conditions have been met and the applicant qualifies for “General Admission” status.

Continuing education courses and programs
Graduate courses and programs offered through Extended University Programs in the Regional Sites of Battle Creek, Benton Harbor/St. Joseph, Grand Rapids, Holland, Lansing, Muskegon, South Haven, Traverse City, or elsewhere away from the Kalamazoo campus.

Continuing education unit (CEU)
Documented acknowledgement of participation in a non-credit program or workshop.

Continuous enrollment
Following a student's first enrollment in 7000 (Master's Thesis) or 7200 (Specialist Project) or 7300 (Dissertation), the student must have continuous enrollment in 7000/7200/7300 until all thesis/project/dissertation requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the thesis/project/dissertation within the program-stipulated hours of registration will be required to continue to enroll in 7000/7200/7300; however, only the program-stipulated hours will count toward meeting the program requirements for the degree. For students not enrolled in the Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session.

Corequisite
A course that must be taken at the same time as another course. See also Prerequisite below.

Course numbering system
Undergraduate courses are numbered from 1000 through 4990. Courses numbered 5000 through 5990 are for upperclass and graduate students. (Graduate students register for graduate credit in 5000-level courses; undergraduate students register for undergraduate credit in 5000-level courses.) Courses for graduate students only are numbered 6000 through 7990.

Course syllabus
Each instructor is required to make available to students a course syllabus that shall contain a basic course description, course objectives, course requirements and policies, grading criteria, and instructor contact information. Instructors are encouraged to include a tentative schedule indicating when various topics will be addressed, and when quizzes, exams, and due dates for assignments shall occur. Instructors are further encouraged to include in their syllabi basic University policies regarding academic conduct, human rights, diversity, and students with disabilities.
Credit
Western Michigan University will consider graduate credit as that earned in an accredited, postsecondary educational institution in which the course was approved by that institution for graduate credit and was supervised by that institution. Western Michigan University will also consider graduate credit as that earned in an examination program recognized and approved by the Graduate Studies Council.

Credit toward a degree program will be granted only for graduate courses in which a grade of "C" or better is earned.

Graduate credit may not be earned in a 5000-level or 6000-level course by attendance in an undergraduate course in a related area.

Credit/No Credit
A method, separate from the letter grade system, used to evaluate performance in courses. "Credit" is earned for grades of "B" or better; grades of "CB" or below earn "No Credit." Credit/No Credit courses are not computed into the student's overall grade point average.

Credit hour
A unit of academic credit. One credit hour usually represents one hour of class time per week. See also semester hour and quarter hour below.

Credit load
See Class or credit hour load above.

Deadline
The date by which certain forms or information or payment must be received by an office or unit.

Degree student
A student formally admitted to a master's, specialist, or doctoral degree program and pursuing a planned program of study to earn that degree. See also Program of study below.

Dissertation committee
For each doctoral student a doctoral dissertation committee shall be appointed to review the dissertation proposal, procedures, and results; to make suggestions relative to these concerns to the student; and to decide whether to approve the dissertation and the oral defense as fulfilling these requirements for the doctoral degree. All members of this committee must approve the dissertation and its oral defense, and the dissertation must be in a form acceptable to the unit and to The Graduate College before the student may be awarded the doctoral degree.

Each doctoral dissertation committee shall consist of at least three members. The student's major dissertation advisor shall serve as chairperson of the committee. At least one member shall be from outside the student's department (this person may be from a related cognate discipline, from outside the student's college, or from outside WMU) who shall serve as a bona fide, fully participating member of the committee. The committee shall be approved and recommended by the unit, approved by the office of the appropriate academic dean, and approved and appointed by the graduate dean. Each member of the committee must be either a member or an associate member of the graduate faculty and the committee chairperson must be a full member of the graduate faculty.

Each unit offering a doctoral program shall approve and publish its policies concerning doctoral dissertation committees, including the qualifications for membership on doctoral dissertation committees, the procedures used to select who should serve on these committees, and the specific functions and responsibilities that the members of these committees have. The chairperson of each student's doctoral dissertation committee shall indicate in writing the specific responsibilities that individual members of that committee have.
Doctoral Candidacy
A candidate for a doctoral degree, prior to the session or semester in which the dissertation is defended, is required to have earned or completed satisfactory the following and to have received approval by the academic program unit to continue study toward a doctoral degree:

1. A degree program grade point average of 3.0 or better
2. Appointment of a doctoral dissertation committee and approval of the dissertation proposal by the committee
3. All courses (excluding dissertation credit) and program requirement
4. All research tool requirements
5. Comprehensive examinations

Drop
An official procedure for withdrawing from individual classes without removing registration from all classes. The deadline for the last day to drop a course without academic penalty (grade of “W” is on the transcript) is noted each semester or session in the Schedule of Course Offerings. Students who do not follow the official procedure when dropping a class will earn the grade of “X” for that course; the “X” grade carries no honor points and affects the grade point average in the same manner as an "E" or failing grade. See also Late drop below.

Dual enrollment
Dual enrollment admission (that is, admission to a master’s program while yet enrolled in a baccalaureate program) may be granted to any WMU senior who has an acceptable academic record (with a grade point average of 3.0 or better for the two years prior to admission date) and who has no more than 15 credit hours remaining for completion of the bachelor’s degree.

Once granted dual enrollment status, the student may enroll in a maximum of 12 credit hours of graduate course work that has been approved by the appropriate departmental advisor in addition to those undergraduate courses required to complete the bachelor’s degree.

Dual enrollment is permitted for the calendar year only, and no graduate credit earned in this way may be used to meet undergraduate requirements. If the bachelor’s degree is not completed in the period of one calendar year, the student may not continue on dual enrollment.

A student must request dual enrollment status on the application for admission to a master’s degree program and must have received an audit for graduation with the undergraduate degree in order to determine eligibility; however, official entry is not immediate. Graduate credits earned accumulate but the official entry date must follow the semesters or sessions of dual enrollment status and the completion of the bachelor’s degree.

Elective
A course which will count as credit toward a degree, if approved by the advisor, but is not specified in the program's course requirements.

Emphasis
See Concentration above.

Fellowship
A University-administered stipend awarded by an academic or service unit within the University or by another donor to an appointed graduate student who is enrolled in a program leading to a graduate degree. The fellowship stipend is a gift to help the Fellow achieve an educational goal, rather than a payment for services.

Field experience, practicum, work experience, co-op
Field experience: actual practice, often away from the college campus, in a practical or service situation. In a teacher education program, it is usually conducted in schools. Practicum: 1) a course of instruction aimed at closely relating the study of theory and practical experience, both usually carried on simultaneously; 2) an academic exercise
consisting of study and practical work; and 3) supervised experience in counseling or a similar activity through such procedures as role-playing, recorded interviews, abstraction analysis, and supervisory evaluation with interviewing techniques. **Work experience, co-op, or internship:** a sponsored learning experience in an occupational area for persons preparing for full-time employment, conducted in connection with a course of study, where the students spend a part of their time on an actual job in a school, business, or industry.

**Full-time student**
See **Class or credit hour load** above.

**GAPDAC**
The Grade and Program Dismissal Appeals Committee (GAPDAC) renders the final decision on student grade and program dismissal appeals. The complete policy is contained in this catalog in the section entitled Student Rights and Responsibilities.

**Gate course**
A course in fundamentals in which a student must achieve a specified grade or "Credit" in order to qualify for enrollment in more advanced courses.

**Good standing**
See **Academic standing** above.

**Grade Appeal**
See **GAPDAC** above.

**Grade point**
The numerical value given to letter grades. "A" is equivalent to 4 points; "BA" to 3.5 points; "B" to 3 points; "CB" to 2.5 points; "C" to 2.0 points; "DC" to 1.5 points; and "D" to 1.0 point. An "E" or "X" is equivalent to zero points.

**Grade point average (GPA)**
A scholastic average of letter grades computed by dividing total honor points by total credit hours attempted. See also **Honor points** below.

**Graduate certificate program**
See **Certificate program** above.

**Graduate credit**
See **Credit** above.

**Graduate faculty**
Faculty who are approved to perform the functions of graduate education, to include teaching graduate courses, advising graduate students, and serving on graduate student committees. Only members of the graduate faculty may serve on thesis, specialist project, and dissertation committees.

**Graduate Research and Creative Scholars Award**
The Graduate Studies Council and the Graduate College annually present recognition awards in two categories to graduate students: the Department Graduate Research and Creative Scholars Award and the All-University Graduate Research and Creative Scholars Award. These awards acknowledge graduate students' contributions to the scholarly and artistic productivity of Western Michigan University. Each department with a graduate program may nominate one graduate student for each level of degree offered by the department; by virtue of this nomination, the student will be designated as a Department Graduate Research and Creative Scholar. From among the Department awardees,
a faculty committee will select those students whose research or creative activity has exceptional merit to be designated as All-University Graduate Research and Creative Scholars.

**Graduate Student Advisory Committee**
The Graduate Student Advisory Committee (GSAC) is a standing committee of the Graduate Studies Council. It reviews services and needs of graduate students; makes recommendations to appropriate officials and offices; recommends graduate students for appointments to University councils and committees; and serves as liaison between departmental graduate student organizations, the Graduate Studies Council, and the dean of The Graduate College.

**Graduate Student Permanent Program of Study**
A Graduate Student Permanent Program of Study is a document composed by a graduate student's program advisor, listing all courses and other requirements necessary for completion of the degree program to which the student was admitted. The program of study is approved by the program advisor and the graduate dean, filed in the student's academic folder in the Records Office, and used to audit the student's eligibility for the degree at the time the student applies for graduation.

**Graduate Studies Council**
The Graduate Studies Council of the Faculty Senate reviews, develops, and recommends policy regarding graduate education at Western Michigan University.

**Graduate Teaching Effectiveness Award**
The Graduate Studies Council and the Graduate College annually present recognition awards in two categories to graduate students: the Department Graduate Student Teaching Effectiveness Award and the All-University Graduate Student Teaching Effectiveness Award. These awards acknowledge graduate student’s contributions to the teaching mission of Western Michigan University. Each department with a graduate program may nominate one graduate student for each level of degree offered by the department; by virtue of this nomination, the student will be designated as a Department recipient of the Graduate Teaching Effectiveness Award. From among the Department awardees, a faculty committee will select those students whose teaching activity has exceptional merit to be designated as All-University recipients of the Graduate Teaching Effectiveness Award.

**Graduation audit**
A formal, required evaluation of the student's academic record and program of study to determine the student's eligibility for graduation. The audit, initiated by a student's application for graduation, determines whether all University, degree, and program requirements have been met satisfactorily. See also Audit above. Deadlines for all degree recipients to apply for graduation are August 1 for December graduation, December 1 for April graduation, February 1 for June graduation, and February 1 for August graduation.

Students who change a graduation date need to complete a new application for graduation. No fee for the change is required. The Records Office will not change a student's graduation date unless the student submits this new application for graduation.

**Grant**
Financial assistance, usually based on need and not required to be repaid, awarded to a student.

**Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations**
The University's official formatting guide for master's theses, specialist projects, and doctoral dissertations, published by The Graduate College. This publication is available for purchase in Western's Campus Bookstore, or for free downloading at <http://www.wmich.edu/grad/guidelines.PM.pdf>.
Hold
A restraint placed on a student's ability to register for classes as a result of an unfulfilled monetary obligation or other action by the University.

Honor points
A numerical value of the letter grade and credit earned in a course, determined by multiplying the grade point earned in the course by the number of credit hours for the course. See also Grade point above.

Human Subjects Institutional Review Board of Western Michigan University (HSIRB)
All research involving contact with human research subjects requires prior approval by the Human Subjects Institutional Review Board of Western Michigan University. No research involving human subjects is exempt from review by this Board. For more information, telephone the Research Compliance Officer in the Office of the Vice President for Research, 387-8298.

Incomplete
A temporary course grade ("I") granted by an instructor when illness, necessary absence, or other reasons beyond the control of the student prevent completion of course requirements by the end of the semester or session. An "I" may not be given as a substitute for a failing or low grade. Incomplete grades for graduate students will convert to an "X" if not removed within one calendar year, or sooner if so stipulated by the instructor.

An instructor who assigns a grade of "I" will submit a Report of Incomplete Grade Form located on the faculty menu in GoWMU indicating the remaining requirement for removal of the incomplete grade and indicating the time allowed, if less than one year. An e-mail will be automatically generated to the student, the Registrar’s Office as well as an e-mail confirmation sent to the instructor.

Independent study
Enrollment in an appropriately designated, variable credit course for a specific plan of study, authorized and supervised by a designated, consenting faculty member. Normally, it is a project designed to allow students to investigate areas of interest not within the scope of a regular course or to obtain an educational experience outside that normally offered by a regular course. A contract is developed between a faculty member and a student to explain the means by which the student will complete the research on a specific topic.

A student is on his/her own in Independent Study in that it involves no class meetings or formal lectures, but the faculty member is the responsible custodian of the project, obliged to provide guidance, assistance, criticism, suggestion, and evaluation, and shall be the instructor of record who is responsible for turning a grade to the Registrar’s Office. See also Readings course below.

Institute
An organizational unit similar in nature to a Center, as defined above, but which may be degree-granting. Typically an Institute will be interdisciplinary. Course work for a degree offered through an Institute may include some offered by the Institute itself, but will be primarily comprised of courses in various disciplines/departments already in existence.

Institutional Animal Care and Use Committee of Western Michigan University (IACUC)
The use of any vertebrate animals in research, testing, or instructional projects requires prior approval by the Institutional Animal Care and Use Committee of Western Michigan University. For more information, telephone the Research Compliance Officer in the Office of the Vice President for Research, 387-8298.

Institutional Biosafety Committee of Western Michigan University (IBC)
Any activity involving the construction or handling of recombinant DNA molecules or organisms and viruses containing recombinant DNA molecules requires prior notification or approval from the Institutional Biosafety
Committee of Western Michigan University. For more information, telephone the Office of the Vice President for Research, 387-8298.

**Interdisciplinary**
Designating a combination of subject matter from two or more disciplines within a course or program.

**Internship**
Work in a firm or agency related to a student's degree program and/or career plans. Usually involves earning college credit and may involve receiving payment. See also Field experience, practicum, work experience, co-op above.

**Late drop**
An official procedure for withdrawing from individual classes without removing registration from all classes that takes place after the last day to drop a course without academic penalty.

**Leave of Absence**
WMU supports a leave of absence policy to assist graduate students who are temporarily unable to continue their programs. The leave of absence may extend consecutively for up to two semesters and two sessions. Students may request information about the application process from their advisor.

**Michigan Intercollegiate Graduate Studies (MIGS) Program**
An admissions category for guest graduate students from all Michigan institutions offering graduate degree programs to take advantage of unique educational opportunities on the campuses of other institutions. Western Michigan University participates in this program. No admission application or application fee is required. Contact the MIGS liaison in the Graduate College for further information.

**Michigan residence requirements**
The requirements for identifying or establishing permanent residence in Michigan for tuition assessment purposes. For more information, see the “Student Rights and Responsibilities” section in this catalog.

**Multiple topic or umbrella course**
A variable topic, variable credit course that focuses on a current or a special interest in a specific field or academic area. The course may be repeated for credit with different topics.

**Non-degree admission**
Non-degree Admission is granted to the student who is eligible for enrollment in courses with the understanding that course work taken with this status is specifically for (a) a graduate certificate program, (b) SCOPE registrations, (c) enrollment as a guest student. Such course work usually will not apply to a WMU degree program. If the non-degree admitted student subsequently decides to apply to a specific WMU degree program after his or her non-degree enrollment, the applicant will be expected to meet all University and program-specific admission requirements. The time period for any “Non-degree Admission” status may not exceed four years from the time such admission status is granted.

**Non-degree student**
A non-degree student is one who has been admitted to a non-degree category and is not otherwise seeking a master's, specialist, or doctoral degree.

**Part-time student**
See Class or credit hour load above.

**Permission to Elect**
A student who intends to register for Master's Thesis (7000), Specialist Project (7200), or Doctoral Dissertation
(7300) for the first time is required to file a completed Permission to Elect form with the Graduate College before registering to ensure that the student is informed about the regulations pertaining to the preparation and submission of the manuscript and to the requirements for research involving regulated subjects and hazardous materials.

**Portfolio**
A portfolio is a collection of work (e.g., paintings, writings, etc.) that may be used to demonstrate competency in an academic area.

**Practicum**
See Field experience, practicum, work experience, co-op above.

**Prerequisite**
A requirement, often the completion of a prescribed course or courses, which must be met before a student may register for another specific course. See also Corequisite above.

**Probation**
As a condition of academic standing: A student will be placed on probation if the student's overall grade point average falls below 3.0. See also Academic standing above.

**Program Dismissal Appeal**
See GAPDAC above.

**Program of study (Graduate Student Permanent Program)**
A program of study is a document listing the course and other requirements necessary to earn a graduate degree in a specific discipline. The program of study is composed by the advisor and the student, and approved by the graduate dean as meeting all University, program, and degree requirements. The program of study is used to conduct the graduation audit, and therefore must be filed well in advance of the student's application for graduation: Master’s and Specialist programs of study must be filed prior to the student’s completion of 12 hours; Doctoral programs of study must be filed prior to the student’s completion of 18 hours or by the end of the second semester of enrollment.

**Project committee**
A specialist project committee shall be appointed for each student undertaking a project as partial fulfillment of the requirements for a specialist degree. The purpose of the project committee is twofold: a) to provide the range of expertise necessary to advise a student in the conduct of the specialist project, and b) to ensure that evaluation of the project represents a consensus of professionals in the student's chosen discipline.

The specialist project committee is charged with the supervision and evaluation of the specialist project, a task that includes but is not limited to the following responsibilities: a) advise the student on selection and/or development of a specialist project topic; b) review and approve a proposal for the specialist project; c) provide consultation regarding progress on the project; d) evaluate the final document; and e) in those departments requiring an oral defense, evaluate the oral defense of the project.

In addition to the previously described responsibilities that are generic to all project committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those departments where this responsibility is not discharged through other mechanisms, advise the student regarding selection of project committee members; b) routinely monitor student progress on the project; c) call project committee meetings; d) evaluate the readiness of the project proposal and of the project for committee review and action; and e) inform the student of the need to adhere to the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations.

Each project committee shall consist of a minimum of three members or associate members of the graduate faculty of Western Michigan University; the committee chairperson must be a full member of the graduate faculty. Two of the committee members must be from the department or academic program in which the student is pursuing the
specialist degree. The appointment of a specialist committee is a three-stage process requiring, first, a mutual agreement between the specialist student and the prospective committee members; second, a formal appointment by the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the office of the dean of The Graduate College regarding this appointment.

Each unit offering a specialist degree in which the project is either required or optional may approve and disseminate additional guidelines concerning specialist project committees, including the qualifications for committee membership, the procedures used to select and appoint committee members, and the specific functions and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate an updated list of faculty who qualify to serve on specialist project committees and their respective areas of expertise.

**ProQuest**

All doctoral dissertations written at Western Michigan University are required to be published and available to a public audience. The common method of publication is to have ProQuest [formerly named University Microfilms, Inc. (UMI)] microfilm the dissertation and have it available for dissemination to scholars and researchers around the world.

**Provisional Admission**

Provisional Admission is granted to the student who meets many of the admission requirements to the University and is expected to be formally admissible. Enrollment status is provisional until additional documents or materials for acceptance in the “General Admission” category are provided. Examples of missing documentation could be a final transcript from another institution where a degree was recently completed or a completion record of a specific placement examination. The time period for any “Provisional Admission” may not exceed one year from the time of initial status with ineligibility for further enrollment after that year.

**Quarter or Term hour**

A unit of academic credit, usually representing one hour of class time per week for one quarter or term. A "quarter" or "term" is a unit of time, usually 10 to 12 weeks long, in the academic calendar of an institution. Western Michigan University uses the semester calendar. See also **Semester hour** below.

**Radiation Safety Committee (RSC)**

All uses of radioactive material, including research-related uses, must be approved by the Radiation Safety Committee prior to initiation. For more information, telephone the Radiation Safety Officer in the Office of the Vice President for Research, 387-8298.

**Readings course**

A form of independent study, designed to provide a graduate student with an opportunity to read intensively within an area in which further knowledge would be appropriate. Enrollment in the appropriately designated course (5980, in most departments) requires a specific plan of study, authorized and supervised by a consenting faculty member, which includes the amount of reading, a description of the student's reporting method(s), and the number of credit hours to be earned by the completion of the plan of study. The maximum number of credits able to be earned and applied to a degree program is four, whether the readings course credits are all taken in one department or more than one, and the grade earned will be a letter grade.

**Readmission**

An appeal procedure for a student who has been dismissed or who seeks to be continued on probation. Readmission must be sought from the academic program's admission body in order for the student to register. See also **Academic standing** above.

**Recombinant DNA Biosafety Committee (RDBC)**

All research that involves recombinant DNA molecules must be reviewed and approved by the Recombinant DNA
Biosafety Committee *prior* to initiation. For more information, telephone the Research Compliance Officer in the Office of the Vice President for Research, 387-8298.

**Re-entry**
An enrollment procedure administered by the Office of Admissions that is followed by a student who was previously enrolled in good standing at Western Michigan University but whose active admission status had lapsed.

**Registration**
The process of enrolling in and paying tuition and fees for courses each semester or session. For a full explanation of the registration procedures and regulations, consult the *Schedule of Course Offerings* available in the Registrar's Office.

**Repeated course**
With the exception of courses that are approved by the University Curriculum Review Policy as repeatable for credit (e.g., multi-topic or umbrella courses), no more than two courses may be retaken and no course may be repeated more than once during the student’s graduate career (inclusive of both master’s and doctoral programs) at WMU. This number may be further limited by individual departments. Permission to retake a course must be obtained from the program advisor and graduate dean before registration for the course to be repeated takes place. The original grade for the course will remain on the student’s transcript, and both the original and repeated course grade will be computed into the degree program grade point average.

**Research tool**
An acquired ability that serves in the manner of a tool that assists in one’s research. Doctoral students are expected to acquire the ability to use two research tools, at minimum. Normally, the research tools are selected from among foreign language, statistics, research methodology, and computer programming, although other tools are acceptable in some doctoral programs. Consult the program advisor for a full explanation.

**Residency requirement**
*Specialist program:* Unless otherwise approved by the University for an individual academic unit, the general residency requirement for specialist students is one academic semester of full-time study on campus or enrollment in two sessions in consecutive years and the intervening semesters. Consult the program advisor for complete information.

*Doctoral program:* The general residency requirement for doctoral students is one academic year (two consecutive semesters) of full-time study on campus. Each doctoral program may, however, with approval of the University through the curriculum review process establish its own residency requirement. Students must meet the residency requirement prior to approval for candidacy. Students should consult with their advisor regarding the residency requirement for the specific program of interest.

**School**
A single-discipline organizational unit which is identified in the public mind as an organizational unit beyond that of a department in its complexity of parts. Schools may have significant subdivisions such that students will apply for admission and take degrees through the subdivision rather than through the central unit as a whole.

**Semester**
A unit of time, 15 weeks long, in the academic calendar of Western Michigan University. The semesters occur in the Fall and the Spring. See also *Session* below.

**Semester hour**
A unit of academic credit, usually representing one hour of class time per week for one semester (15 weeks) or two hours of class time per week for one session (7 ½). See also *Quarter or Term hour* above.
**Senior citizen, SCOPE admission status**
A special non-degree admission status for persons sixty-two years of age or older that provides senior citizens with opportunities for non-degree study at Western Michigan University.

**Session**
A unit of time, 7 ½ weeks long, in the academic calendar of Western Michigan University. The sessions occur in Summer I and Summer II. See also **Semester** above.

**Thesis committee**
A master's thesis committee shall be appointed for each student undertaking a thesis as partial fulfillment of the requirements for a master's degree. The purpose of the thesis committee is twofold: a) to provide the range of expertise necessary to advise a student in the conduct of the master's thesis, and b) to ensure that evaluation of the thesis represents a consensus of professionals in the student's chosen discipline.

The master's thesis committee is charged with the supervision and evaluation of the master's thesis, a task that includes but is not limited to the following responsibilities: a) advise the student on selection and/or development of a master's thesis topic; b) review and approve a proposal for the master's thesis; c) provide consultation regarding progress on the thesis; d) evaluate the final document; and e) in those departments requiring an oral defense, evaluate the oral defense of the thesis.

In addition to the previously described responsibilities that are generic to all thesis committee members, the chairperson of the committee assumes the following additional responsibilities: a) in those department where this responsibility is not discharged through other mechanisms, advise the student regarding selection of thesis committee members; b) routinely monitor student progress on the thesis; c) call thesis committee meetings; d) evaluate the readiness of the thesis proposal and of the thesis for committee review and action; and e) inform the student of the need to adhere to the Guidelines for the Preparation of Theses, Specialist Projects, and Dissertations.

Each thesis committee shall consist of a minimum of three members or associate members of the graduate faculty of Western Michigan University; the committee chairperson must be a full member of the graduate faculty. At least two of the committee members must be from the department or academic program in which the student is pursuing the master's degree. The appointment of a master's thesis committee is a three-stage process requiring, first, a mutual agreement between the master's student and the prospective committee members; second, a formal appointment by the chairperson of the department (or the chairperson's designee); and third, notification of and approval by the office of the dean of The Graduate College regarding this appointment.

Each unit offering a master's degree in which the thesis is either required or optional may approve and disseminate additional guidelines concerning master's thesis committees, including the qualifications for committee membership, the procedures used to select and appoint committee members, and the specific functions and responsibilities that the members of these committees have. Additionally, each unit is encouraged to disseminate an updated list of faculty who qualify to serve on master's thesis committees and their respective areas of expertise.

**Time limit for completion of a degree**
Master's students must elect and complete all work for the degree, including transfer work, within six years preceding the date on which the master’s degree is conferred; specialist students entering with a master’s degree, within five years preceding the date on which the specialist degree is conferred; specialist students entering with a bachelor’s degree, within six years preceding the date on which the specialist degree is conferred; doctoral students, within seven years preceding the date on which the doctoral degree is conferred. Students whose degrees are taken primarily through part-time study have the option of requesting an extension from the graduate dean; extensions may also be granted for other students by the graduate dean for such legitimate reasons as illness, injury, or hardship.
Transcript
A transcript is a printed copy of a student's permanent academic record at a particular institution. The transcript, at minimum, lists all courses taken and credit hours and grades earned, and degrees received.

Transfer credit (graduate)
Credit (graduate) that is earned at another accredited institution and accepted toward a Western Michigan University graduate degree, if approved by the program advisor and if the earned grade in the course is "B" or better. The credit, moreover, must be earned within a six-year period prior to graduation from Western Michigan University. No grades nor honor points earned at another institution transfer to WMU and hence do not affect the WMU grade point average (with the exception of the MIGS program; see MIGS above).

Transfer credit evaluation form
An official form which indicates approval of a request to transfer credit and which states the number and type of transfer credit awarded. Credit is not transferred nor applied to a program of study unless the transfer credit evaluation form is completed and approved by the program advisor and the credit evaluator in the Registrar's Office.

Tuition
The amount of money paid for courses based on the number of credits for which the student registers.

Umbrella course
See Multiple topic course above.

University Microfilms, Inc. (UMI)
See ProQuest above.

Variable credit course
Some courses list a range of credit hours (e.g., 1-4 hrs.) for which the course may be elected, and as such are called "variable credit" courses. Students will determine, in prior consultation with the course instructor or the program advisor, the specific number of course credit hours to elect during the registration period.

Withdrawal
An official procedure for withdrawing from the University for at least the remainder of the current semester or longer. The deadline for the last day to withdraw from all courses without academic penalty (grade of “W” is on the transcript) is noted each semester or session in the Schedule of Course Offerings. Students who do not follow the official procedure when withdrawing from the University will earn the grade of “X” for all courses; the “X” grade carries no honor points and affects the grade point average in the same manner as an "E" or failing grade.

"X" grade
The symbol "X" on a student's transcript indicates that the student has never attended the class or has discontinued attendance and does not qualify for any other grade, including an "I" grade. The "X" will be computed into the student's grade point average as hours attempted with zero honor points.
Colleges and Programs
The College of Arts and Sciences seeks to create a challenging and intellectually vital learning community. Such a community engages students and faculty alike in a continuing discourse, providing focus for being active, informed, productive, creative, open-minded, and ethically responsible citizens in a complex, multicultural, and rapidly changing world.

The College of Arts and Sciences is committed to the support and enhancement of graduate education, undergraduate education, research, and public/professional service; informed in all dimensions by commitment to diversity, to collaboration, to social responsibility and to civility; and sustained by continuous development and recognition of the efforts of faculty, advising personnel, support staff, emeriti and alumni.

Mission
The College of Arts and Sciences, as a key component in a student-centered research university, integrates research, teaching, and service in a manner that supports the College’s vision by fostering the discovery, extension, dissemination, preservation, and application of knowledge.

The College:
- Supports the personal and professional growth of students and faculty.
- Provides high quality teaching for the full range of the College’s educational responsibilities.
- Pursues basic and applied research in and across disciplines.
- Develops critical thinking, communication, research, aesthetic and creative abilities, problem solving, and multiple learning skills.
- Fosters the development of disciplinary, core knowledge.
- Provides students with the skills to communicate effectively across disciplines and cultures.
- Raises awareness about the social, cultural, environmental, and international contexts of knowledge to help students develop the skills to address the most pressing social, scientific, and moral problems of our society.
- Promotes high levels of professional integrity and general civility among faculty, staff, and students.
- Commits to diversity in the recruitment and retention of students and faculty.
- Serves as a resource to the university and local, state, national and global communities.
- Generates enthusiasm for lifelong learning.

Programs
Africana Studies

Onaiwo W. Ogbomo, Director
Main Office: 3070 Moore Hall
Telephone: (269) 387-2668

Amos Beyan
William F. Santiago-Valles
Anthropology

Ann Miles, Interim Chair
Main Office: 1006 Moore Hall
Telephone: (269) 387-3969
Fax: (269) 387-3970

Robert Anemone
Sarah Hill
Jon Holtzman
Vincent Lyon-Calvo
Ann Miles
Michael Nassaney
Timothy Ready
Laura Spielvogel
Bilinda Straight
Kristina Wirtz
Allen Zagarell

Master of Arts in Anthropology
Advisor: Vincent Lyon-Calvo
Room 1022, Moore Hall

The Master of Arts in Anthropology is designed to provide the students with a critical understanding of the major theories and methods of the discipline as a whole. Students have the opportunity to specialize in one of four subdisciplines of anthropology: archaeology, cultural anthropology, linguistic anthropology, or biological anthropology. Graduate seminars are available on such specialized topics as Nationalism, Gender, Ethnicity, Medical Anthropology, Archaeological Theory and Method (Processual and Post-Processual), Great Lakes, Eastern U. S., Central Asia, Human Biology, Paleoanthropology, and Research Methods. In addition to course work, students are encouraged to pursue original and independent research. Several research opportunities are available through organized field schools in the U.S. and abroad. The M.A. program in anthropology prepares graduates for Ph.D. programs in anthropology or other related disciplines, as well as establishing the foundation for careers in cultural resources management, education, industry, government, or non-profit organizations.

Admission Requirements
1. Students should have completed a major or minor in Anthropology. Other students will be considered but may be required to enroll in undergraduate prerequisite course work or to complete reading lists in subfields in which they have no background.
2. Accumulation of a grade point average of at least 3.0 during the final two years of undergraduate work.
3. Three letters of recommendation are required from persons able to assess the applicant's academic record, potential for success in a Master of Arts program in Anthropology, and suitability for an assistantship in this discipline. These letters should be submitted directly to the graduate advisor.
Each applicant must submit to the graduate advisor a one-page statement outlining his or her career goals and interests in anthropology.

Program Requirements
Students have the option of either a Thesis or an Internship Track

Thesis Track
1. Complete at least thirty-six hours in anthropology. Cognate courses may be substituted with approval from the graduate advisor.
2. The following are required
ANTH 6010 - Seminar in Cultural Anthropology Credits: 3-4 hrs.
ANTH 6020 - Seminar in Archaeology Credits: 3-4 hrs.
ANTH 6030 - Seminar in Biological Anthropology Credits: 3-4 hrs.
ANTH 6040 - Integrating Anthropology Credits: 3 hrs.

3. Either are required
ANTH 5300 - Research Methods Credits: 3 hrs. or
ANTH 5400 - Ethnographic Research Methods Credits: 3 hrs.

4. Complete an acceptable master’s thesis
ANTH 7000 - Master's Thesis Credits: 6 hrs.

Internship Track
1. Complete at least thirty-six hours in anthropology Cognate courses may be substituted with approval from the graduate advisor. Thirty-six hours: 10 classes and 6 hours of Internship.

2. The following are required
ANTH 6010 - Seminar in Cultural Anthropology Credits: 3-4 hrs.
ANTH 6020 - Seminar in Archaeology Credits: 3-4 hrs.
ANTH 6030 - Seminar in Biological Anthropology Credits: 3-4 hrs.
ANTH 6040 - Integrating Anthropology Credits: 3 hrs.

3. Six hours of Internship or Practicum is required
ANTH 6990 - Independent Research in Anthropology Credits: 1-3 hrs.

Certificate Program in Ethnohistory
Ethnohistory is the study of cultures, combining research techniques and theoretical approaches from the fields of history and anthropology. The core of ethnohistory lies in the realization shared by practitioners of the benefits obtained through the use of multiple lines of evidence to study history and culture. Ethnohistorians recognize that documents, archaeological findings, oral histories, and ethnographies can be profitably compared, contrasted, and integrated to elucidate the histories and cultural contexts of groups that have been ignored in conventional historical accounts. By juxtaposing multiple lines of evidence in an interdisciplinary manner, ethnohistorians can at once examine the distant and the local, the general and the particular, bringing human experience into better focus.

Western Michigan University is a center for ethnohistorical research on a global level, including the United States, Canada, Mexico, the Caribbean, Central and South America, East Africa, South Asia, and Europe. Particular areas of expertise include culture contact, colonialism, material analysis, historiography, oral history, gender, historical archaeology, ethnography, tribalization, globalization, and modernization. These topics are not restricted to any particular geographic area nor any particular societal structure.

Admission Requirements
This certificate program is open to any student admitted to a graduate degree program at Western Michigan University.

Program Requirements
Each student will complete satisfactorily five courses (fifteen credit hours). Students will be required to take three courses from the list of recommended courses below, at least one of which will be outside of their home department; and take the Ethnohistory Seminar (HIST/ANTH 6090) two times, which will be alternately taught each year by faculty from History and Anthropology.

Recommended Courses
The courses below count for the Ethnohistory program only when taught by an affiliate faculty of the Ethnohistory program. Please see an advisor for more complete information.
ANTH 5000 - Topics in Archaeology Credits: 3 hrs.
ANTH 5050 - Social Archaeology Credits: 3 hrs.
ANTH 5060 - The Archaeology of Gender Credits: 3 hrs.
ANTH 5200 - Anthropological Theory Credits: 3 hrs.
ANTH 5830 - Anthropology and History Credits: 3 hrs.
ANTH 6020 - Seminar in Archaeology Credits: 3-4 hrs.
ANTH 6900 - Archaeological Field School Credits: 3-6 hrs.
HIST 6000 - Historical Method Credits: 3 hrs.
HIST 6010 - Historiography Credits: 3 hrs.
HIST 6250 - Problems in Cultural Resource Management Credits: 1-3 hrs.
HIST 6420 - Oral History Credits: 3 hrs.
HIST 6440 - Material Culture and the Built Environment Credits: 3 hrs.
HIST 6460 - Historical Archaeology Credits: 3 hrs.
HIST 6890 - Seminar in Public History Credits: 3 hrs.
Biological Sciences

David Cowan, Chair
Main Office: 3425 Wood Hall
Telephone: (269) 387-5600
Fax: (269) 387-5609

Todd Barkman
Bruce Bejcek
Christine Byrd-Jacobs
William Cobern
Alexander J. Enyedi
Karim Essani
Robert Eversole
John R. Geiser
Leonard C. Ginsberg
Pamela Hoppe
Charles Ide
John A. Jellies
Donald A. Kane
David Karowe
Steve Kohler
Cindy L. Linn
Stephen B. Malcolm
Wendy Ransom-Hodgkins
David Reinhold
Silvia Rossbach
David W. Rudge
Renée Schwartz
Maria Scott
John Spitsbergen
Susan Stapleton
Brian Tripp
Maarten Vonhof

Master of Science in Biological Sciences
Advisor: John Spitsbergen,
Room 3052, Haenicke Hall

The Master of Science in Biological Sciences enhances students' ability to plan, conduct, analyze, and report original research. Course work increases students' scientific preparation and supports their research. Through the advice of the students' major advisor, efforts are made to choose courses to meet individual needs and interests. The degree may serve as preparation for continued graduate or professional study or for positions in the private or public sector. Thesis and non-thesis options are offered.

Admission Requirements
To be admitted in the master’s program, both departmental and University requirements must be met. Application materials must be obtained from both the Department of Biological Sciences at (269) 387-5600 and the Office of Admissions at (269) 387-2000 for domestic students or Office of International Services and Student Affairs (269) 387-5865 for international students. To be considered, an application must contain:
1. Completed University and Departmental application forms;
2. Official transcripts from all colleges and universities previously attended, indicating that the applicant has earned a Bachelor’s degree from an accredited institution with an overall grade point average of at least 3.0, and taken appropriate courses in biology, chemistry, physics, and mathematics;
3. Official scores for the verbal, quantitative, and analytical sections of the Graduate Record Exam (these must be submitted to the Office of Admissions and Orientation);
4. Three letters of recommendation; and a cover letter highlighting the student’s most important accomplishments to date and indicating how graduate work at Western Michigan University will further the applicant’s career goals. Although not required for admission, applicants are encouraged to contact individual faculty to discuss their research interests. Students with academic deficiencies may be provisionally admitted and required to address their deficiencies during the first year in the graduate program.

Program Requirements
The Master of Science in Biological Sciences (Thesis Option) requires 33 hours of course work, including preparing and defending a thesis in an oral examination and presenting research results at a departmental seminar.

The Master of Science in Biological Sciences (Non-Thesis Option) requires 33 hours of course work, including presentation of research results at a departmental seminar, defense of research results in an oral examination, and preparation of a manuscript suitable for publication in a refereed journal (in consultation with the student’s thesis committee).

1. Required Courses (8 hrs.)
Choose two courses of the following courses, one from at least two of the three pairs listed below:
BIOS 6110 - Eukaryotic Cell Biology Credits: 3 hours
or
BIOS 6120 - Prokaryotic Cell Biology Credits: 3 hours
BIOS 6130 - Animal Physiology Credits: 3 hours
or
BIOS 6140 - Plant Physiology Credits: 3 hours
BIOS 6150 - Ecology Credits: 3 hours
or
BIOS 6160 - Evolution Credits: 3 hours
In addition, each student is required to take 2 hours of:
BIOS 6050 - Biological Sciences Colloquium Credits: 1 hour

2. Elective Courses (19 hrs.)
Elective courses are selected with the advice and approval of the student's advisory committee. Electives are selected from Biological Sciences or approved cognate courses.

3. Research Requirement (6 hrs.)

Thesis Option:
BIOS 7000 - Master's Thesis Credits: 6 hours

Non-Thesis Option:
BIOS 7100 - Independent Research Credits: 6 hours

Doctor of Philosophy in Biological Sciences
Advisor: John Spitsbergen,
Room 3052, Haenicke Hall

The Doctor of Philosophy in Biological Sciences at Western Michigan University offers a unique combination of traditional research experience, breadth of course work, and training in effective communication of scientific concepts. This program is specifically designed for students who wish to pursue careers in the biological sciences that require excellence in both teaching and research. In addition, the pedagogy requirements also provide excellent training for careers in government and industry. Additional information may be obtained from the Departmental Graduate Secretary or Graduate Advisor.
**Admission Requirements**

To be admitted in the master’s program, both departmental and University requirements must be met. Application materials must be obtained from both the Department of Biological Sciences at (269) 387-5600 and the Office of Admissions at (269) 387-2000 for domestic students or Office of International Services and Student Affairs (269) 387-5865 for international students.

Conditions stated under 1 or 2 below must be met for regular admission to the Biological Sciences Ph.D. program.

For persons possessing a bachelor's degree from an accredited college or university:
1. Grade point average of 3.2 or higher.
2. Scores on the verbal, analytical, and quantitative sections of the Graduate Record Examination.
3. College courses as follows:
   a. Appropriate courses in the biological sciences as determined by the Graduate Advisor.
   b. Organic chemistry
   c. Two courses in physics with laboratory
   d. Two mathematics courses, including calculus.
4. Three letters of recommendation.
5. Availability of a potential dissertation advisor in an area of planned specialization.

For persons possessing a master's degree in one of the biological sciences from an accredited university:
1. Grade point average of 3.25 or higher in graduate level courses.
2. Scores on the verbal, analytical, and quantitative sections of the Graduate Record Examination.
3. Three letters of recommendation.
5. Cognate course work as given in 3 a-d above.

Note: Some course deficiencies in admission requirements may be completed after “admission with reservations.” These deficiencies must be completed in addition to the minimum credit hours required for the Ph.D. All reservations, including course deficiencies, must be removed before advancement to candidacy.

**Applicancy**

Applicancy requirements are those of the Graduate College.

Committee Structure: By the end of the first year, or before taking the first independent research hours (BIOS 7350), a Dissertation Committee should be constituted. The Dissertation Committee will be composed of at least four members, including the major professor, two or more members of the Department of Biological Sciences, and one or more outside examiners.

**Candidacy**

No later than the end of the third calendar year after enrollment in the Ph.D. program, doctoral students must seek candidacy. By this time the student should have completed the research tools requirement. To be admitted to candidacy, the student must submit and defend, in an oral examination administered by the proposed Dissertation Committee, his/her dissertation research proposal. This proposal will be in the format of an NIH or NSF grant application. Student will be given a grade of pass or fail by the Dissertation Committee. In the event of failure, the proposal may be revised and re-defended once, and this must be done within one calendar year of failure.

Candidacy will be approved or denied by the Graduate Advisor based upon submission of an acceptable dissertation proposal, successful completion of the defense of that proposal, positive recommendations from a majority of the student’s Dissertation Committee, satisfactory performance in course work, and successful performance in all other professional activities, including teaching assignments.

**General Plan and Sequence of the Program**

1. Students will satisfy any curricular deficiencies beginning with the first semester in residence.
2. Core courses should be taken, after consultation with the Dissertation Committee, early in the program to assist in preparation of the research proposal.
3. Course work pertaining to teaching and Teaching Experiences should be initiated no later than the second year of graduate study.

Financial Assistance
The Department of Biological Sciences offers opportunities for financial support of doctoral students through Graduate Assistantships and Fellowships. Individuals desiring further information about such opportunities, or about the graduate program, should contact the Graduate Advisor and The Graduate College.

Program Requirements

1. A minimum of 61 graduate semester hours. These hours shall consist of the following:
   a. A minimum of six hours of distribution credits from two of the following three pairs of courses (a total of at least 2 courses). As approved by the Dissertation Committee.
      BIOS 6110 - Eukaryotic Cell Biology Credits: 3 hours
      or
      BIOS 6120 - Prokaryotic Cell Biology Credits: 3 hours
      BIOS 6130 - Animal Physiology Credits: 3 hours
      or
      BIOS 6140 - Plant Physiology Credits: 3 hours
      BIOS 6150 - Ecology Credits: 3 hours
      or
      BIOS 6160 - Evolution Credits: 3 hours
   b. Three hours of:
      BIOS 6050 - Biological Sciences Colloquium Credits: 1 hour
   c. Three hours of the following:
      SCI 6180 – Teaching and Learning in the College Science Classroom Credits: 3 hours
   d. At least 19 hours of electives chosen from:
      The graduate offerings of Biological Sciences or other departments appropriate to the student's career and research interests as agreed upon by the student and the Dissertation Committee.
   e. Doctoral Research composed of:
      BIOS 7350 - Graduate Research (at least 15 hours)
      AND
      BIOS 7300 - Doctoral Dissertation (at least 15 hours)

2. Satisfaction of the research tools requirement.

3. Successful completion and defense of the research proposal.

4. Successful oral defense of dissertation and approval of:
   The dissertation by the Dissertation Committee.

5. Any other requirements as specified by The Graduate College.
Chemistry

Ekkehard Sinn, Chair
Main Office: 3446 McCracken Hall
Telephone: (269) 387-2845
Fax: (269) 387-2909

Michael Barcelona
Steven B. Bertman
Brian Buffin
John E. Chateauneuf
Herb Fynewever
David L. Huffman
James Kiddle
Dongil Lee
Gellert Mezei
John B. Miller
Yirong Mo
Sherine Obare
David S. Reinhold
Elke Schoffers
Donald R. Schreiber
Susan R. Stapleton
Brian Tripp

Financial Assistance
The Department of Chemistry offers opportunities for financial support of graduate students through several
departmental, University, and grant-funded fellowships and teaching or research assistantships. Information and
applications are available from the Department of Chemistry.

Master of Science in Chemistry

Advisors: John B. Miller,
Room 3156, Wood Hall

Steven Bertman,
Room 3440, Wood Hall

The Master of Science in Chemistry is a research degree planned to provide a broad background in the various fields
of chemistry with concentration in one.

Admission Requirements
Entrance requirements are those of the Graduate College. Students may be asked to take a test of spoken English
proficiency based upon application materials and references. Application must be made both to the Office of
Admissions, Graduate Admissions, and to the department. Prospective students are required to take the Graduate
Record Examination General Test. Three letters of recommendation from academic or professional sources should
accompany the application. Application material, including grade point average, transcripts, performance on GRE,
and letters of recommendation will all be used in the determination of admission and financial support.

Program Requirements
After admission students will be required to take placement examinations covering any three of the fields of
Analytical, Inorganic, Organic, Physical Chemistry, and Biochemistry before they start classes. The entrance
examinations are scheduled during the week preceding each semester. Students who fail an examination are required
to attend the corresponding undergraduate course, if available, or make specific arrangements with the appropriate
division. Enrollment in a 6000-level Chemistry course is not permitted unless the appropriate entrance requirement has been satisfied.

The student is required to elect twenty hours in the field of Chemistry, including the Master's Thesis. The Chemistry hours may total more than twenty depending on the student's background. The remaining hours up to at least thirty hours may be in a related field or fields. The course sequence will include (if not previously elected):

1. CHEM 5070 - Ethical Chemical Practice Credits: 3 hrs
2. CHEM 5200 - Instrumental Methods in Chemistry Credits: 3 hrs
3. One of the following:
   CHEM 5150 - Inorganic Chemistry Credits: 3 hrs
   CHEM 5500 - Biochemistry I Credits: 3 hrs
   CHEM 5510 - Biochemistry I Laboratory Credits: 4 hrs
4. CHEM 6010 - Graduate Seminar Credits: 1 hr
5. Two 6000-level courses from three different divisions (Analytical, Biochemistry, Inorganic, Organic, and Physical), including one course in the division of the Master's Thesis.
6. At least 3 credit hours of CHEM 6900 – Special Investigations in Chemistry.
7. CHEM 7000 - Master's Thesis Credits: 6 hrs

Additional Requirements
The requirement for any of the above 5000-level courses may be waived if the student has taken a corresponding course as an undergraduate.

The student is required to pass a final oral defense of his or her thesis administered by the student's graduate committee. The student is also required, as part of the graduate training in chemistry, to attend departmental seminars, colloquia, and symposia, and to participate in research within the department.

Doctor of Philosophy in Chemistry
The Doctor of Philosophy in Chemistry, with emphasis in environmental chemistry, is a research degree designed for persons intending to take a leadership role in teaching or research in applied areas of environmental chemistry. The program takes an innovative approach, using the skills and expertise provided by the traditional areas of chemical study as the foundation for addressing chemical processes occurring in the atmosphere, biosphere, hydrosphere, and lithosphere. The program is designed to offer flexibility so that a full-time student may complete the degree in four years and a nontraditional student may be accommodated around full-time employment. The educational goals of the program stress a well-rounded expertise in chemistry, as well as a literate acquaintance with another environmentally related discipline such as biological science, hydrogeology, or paper science. These educational goals provide scientific breadth not often found in traditional chemistry degrees. Combining formal education with a research endeavor encompassing a chemical discipline will provide students with the high quality education necessary to contribute to the resolution of the expected and unexpected environmental issues of the future.

Admission Requirements
Applicants to the program will be expected to meet the entrance requirements of The Graduate College and hold a bachelor's degree in chemistry or an equivalent amount of experience or training. Application must be made both to the Office of Admissions and Orientation—Graduate Admissions and to the department. Prospective students are required to take the Graduate Record Examination General Test and the Chemistry or Biochemistry Subject Test. Three letters of recommendation from academic or professional sources should accompany the application. Application material, including grade point average, transcripts, performance on GRE’s, and letters of recommendation will all be used in the determination of admission and financial support.
Program Requirements
1. After admission, the student will be required to take standardized placement examinations covering any four of the fields of Analytical, Inorganic, Organic, Physical, or Biochemistry. The entrance examinations are scheduled during the week preceding each semester. Identified deficiencies, if any, will be remedied with appropriate course work determined by an academic advisor. Enrollment in a 6000-level Chemistry course is not permitted unless the appropriate entrance requirement has been satisfied.

2. Within the first academic year, students will select a research advisor and a major area of study. Selection of the research advisor will be by mutual consent of the faculty member and student. Selection of the student’s major area of study will be determined in conjunction with the research advisor. Major areas of study currently include analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. Shortly after selecting a research advisor, a dissertation committee should be established. The committee should be comprised of the advisor serving as chair and at least two other faculty from the department and one member from outside the department. No more than two of the departmental committee members should be from the student’s major area of study. Emeritus faculty may serve on the committee. Removal of a committee member will require mutual consent of the student and the dissertation committee or a majority vote of the department faculty.

3. The student will complete at least sixty (60) semester hours of credit for the degree, with no more than half the credits as course work. A minimum of nine (9) formal courses, plus Graduate Seminar, must be completed satisfactorily. Fifteen (15) hours of doctoral dissertation research are required. The remaining hours will be completed through a combination of coop/internship experiences and/or special research problems and investigations in chemistry. The coop/internship option should be especially attractive to individuals who are considering an industrial career or who are already employed by industry and wish to set up a new scientific initiative. The student must maintain an overall grade point average of 3.00/4.00 to meet graduation requirements. The following describes the distribution of credit hours for the degree.

a. Seven (7) graduate-level Chemistry courses (21 hrs)
   - at least two (2) must have environmental, biotechnology, or nanotechnology or other applied focus
   - at least two (2) must emphasize the student’s major field
   - appropriate courses from departments other than Chemistry may be substituted with approval of the student’s committee
b. One (1) cognate course, from outside the department (3 hrs)
c. Other
   - CHEM 6010 – Graduate Seminar (1 hr)
   - CHEM 5070 – Ethical Chemical Practice (3 hrs)
d. Special research problems or coop/internships (17 hrs)
e. Doctoral dissertation (15 hrs)

4. Beginning in the first year and concurrent with course work, the student will be required to take cumulative examinations (CUME) that cover all of the major areas of study in chemistry. The purpose of the cumulative examination is to ensure that the student has, and can demonstrate and apply, knowledge of current, advanced chemical principles. The following describes the cumulative examination process.

a. Eight (8) cumulative examinations (CUME)s will be given in each academic year. On each examination, there will be offered a question from three of the five major areas of study: analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. The student will choose any two (2) questions to answer.

b. The student must pass twelve (12) CUME questions by the time the student has completed the chemistry courses (generally within the first three years of the program). At least three (3) of the twelve (12) questions passed must be from an area outside the student’s concentration. The student must pass at least two (2) CUME questions by the end of the first year. The student must pass a least four (4) CUME questions before standing for the research proposal defense.
5. Within the first two years, the student will be required to present a critique seminar on a paper or papers from the current literature. Upon successful completion of the seminar, a passing grade will be received for CHEM 6010 – Graduate Seminar. Regular attendance at departmental seminars and participation in graduate seminar training is expected while the student is in residence.

6. The student, after successful completion of no less than four (4) CUME questions, will be required to defend a written proposal for a unique research topic. The proposal topic must be unrelated to the student’s current dissertation research project and must be approved by the student’s dissertation committee.

7. To be considered a candidate for the degree and to ensure a timely completion of the program, a full-time student should have completed the following by the end of the third year:
   a. Any deficiencies identified by the entrance examinations.
   b. At least five (5) of the seven (7) required chemistry courses with a minimum course grade point average of 3.0.
   c. Twelve (12) cumulative examination questions.
   d. The proposal defense.

8. The program is designed to allow the flexibility of tailoring the curriculum to the needs of the student. Thus, the research tools requirement includes professional tools that facilitate successful academic, government, or industrial careers. Where necessary, satisfaction of the research tools requirement, including approval of appropriate courses, shall be determined by the dissertation committee. The committee can be petitioned regarding significant experience or expertise in these areas, which generally implies the use of a research tool in the context of current or prior employment or internships. The research tools component shall be met when a student satisfactorily accomplishes two of the following tasks:
   a. Demonstrates competence in computer programming and use by receiving a grade of “B” or better in an approved elective computer science course, or by sufficient previous course work, or by applying programming to a research problem. Such application could be through design and use of a program subroutine to analyze data acquired from a scientific instrument, computer modeling and simulation, design and analysis of algorithms or database management.
   b. Achieves a working knowledge of statistics by receiving a grade of “B” or better in an approved elective statistics course or by showing the ability to apply advanced statistical analysis such as multivariate analysis to a scientific research problem.
   c. Shows proficiency in the design or manufacture of electronic circuits and devices by construction of an instrument used in a research project or by receiving a grade of “B” or better in an appropriate course.
   d. Masters the design, repair, and development of chemical instrumentation used as part of an upper-level course or in a research project.
   e. Demonstrates a reading knowledge of one of the foreign languages important in the chemical literature or chemical industry (French, German, Russian, Japanese) by receiving a grade of “B” or better in a 4010 course in one of the languages, by passing a standardized examination, or by successfully translating a technical article assigned by the department.

9. The Ph.D. candidate must complete and successfully defend a dissertation on a research topic approved by the dissertation committee.
Communication, School of

Dr. Steven Rhodes, Director
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Telephone: (269) 387-3130
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URL: http://www.wmich.edu/communication

Heather Addison
Julie Apker
Sandra Borden
Sue Ellen Christian
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Chad Edwards
Rebekah Farrugia
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Richard Gershon
James Gilchrist
Keith Hearit
Richard Junger
Joseph Kayany
Marilyn Kritzman
Steven Lipkin
Jennifer Machiorlatti
Peter Northouse
Paul Nwulu
Mark Orbe
Kathleen Propp
Jocelyn Steinke
Kathleen Wong

Master of Arts in Communication

Advisor and Director, Graduate Program: TBA,
Room 318, Sprau Tower

The Master of Arts in Communication provides a foundation in communication theory and research and emphasizes intra/interdisciplinary connections in applied contexts. Thirty semester hours of graduate credit and completion of a capstone experience are required for graduation.

Admission Requirements
Students must complete the University application and must satisfy the general admission requirements of the Graduate College. Students applying to the Communication master’s degree program must have completed undergraduate work in communication, speech, or allied disciplines and have achieved at least a 3.0 grade point average in their last two years of course work. Additional course work may be required at the time of admission into the program, as deemed necessary by the Director of Graduate Studies. Undergraduate transcripts, graduate transcripts where applicable, three letters of recommendation (including WMU Graduate Reference Forms), and evidence of academic interest (on School of Communication Graduate Information Form) and a writing sample (academic or professional) are required.

Program Requirements

Communication Foundations (6 hrs.)
Select two of the following:
COM 6450 - Mass Communication Credits: 3 hrs

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COM 6740 - Interpersonal Communication Credits: 3 hrs
COM 6820 - Organizational Communication Credits: 3 hrs

Research Foundations (6 hrs.)
COM 6010 - Introduction to Communication Theory and Research Credits: 3 hrs

Select one of the following:
COM 6020 - Quantitative Communication Research Credits: 3 hrs
COM 6050 - Qualitative Communication Research Credits: 3 hrs

Communication Electives (18 hrs.)
Students will develop an individualized program of study reflecting a focused area of concentration, in consultation with a faculty advisor. A program of study may incorporate up to 6 hours of course work outside the department with the written approval of the graduate director.

Capstone Experience
Master’s degree students must complete a capstone experience in partial fulfillment of their requirements for graduation. The capstone experience shall consist of completion of a Master’s thesis or completion of comprehensive examinations.

Thesis Option
The thesis project consists of completion of a research paper in which the student proposes and tests new ideas, replicates an existing study, or advances theoretical understanding of an issue. The thesis must demonstrate scholarly abilities, including solid conceptualization, analysis, and writing. The thesis must clearly define the problem to be investigated, demonstrate mastery of relevant academic literature, and show competence in the relevant methodology and analysis techniques. The thesis shall consist of six credit hours and shall be considered part of the communication electives.

Comprehensive Examination Option
The comprehensive examination option requires the student to demonstrate knowledge of a substantive area within communication and to demonstrate a capacity to integrate theory, research, and practice in response to comprehensive questions developed by the faculty of the School of Communication.

Professional Project
The professional project option requires the student to demonstrate his/her knowledge of the theory and methods of communication through an applied communication project. The professional project may involve workshops, case studies, training, creation of websites, communication assessments and completion of other projects within the context of the student’s chosen area of study. The professional project shall consist of three credit hours and shall be considered part of the communications electives.
Comparative Religion

Brian C. Wilson, Chair
Main Office: 2011 Moore Hall
Telephone: (269) 387-4367
Fax: (269) 387-4914
Stephen G. Covell
Mustafa Mirzeler
Rudolf Siebert
Kevin Wanner

Master of Arts in Comparative Religion
Advisor: David Ede
Room 2005, Moore Hall

The Master of Arts in Comparative Religion is designed to provide students with a strong foundation of knowledge of at least two religious traditions, the principal classical works in the field of Comparative Religion, and the central issues of theory and method that underlie the discipline of the study of religion.

Admission Requirements
1. The completion of a baccalaureate degree from an accredited institution.
2. The submission of a letter of intent stating specific areas of interest and academic and professional goals.
3. Two letters of recommendation from persons able to evaluate the applicant's potential for graduate study.
4. Submission of Graduate Record Examination scores.

Program Requirements
The Department of Comparative Religion offers course work leading to a Master of Arts in Comparative Religion, with two options:

Option I
Required Courses (12 hours)
REL 6000 - Classics in Comparative Religion Credits: 3 hrs.
REL 6100 - Theory and Method I Credits: 3 hrs.
REL 6150 - Survey of Religions of the World Credits: 3 hrs.
REL 6200 - Advanced Seminar in Comparative Religion Credits: 3 hrs.

Electives (15 hours)
15 hours of electives chosen from approved courses.

Master's Thesis (6 hours)
Prepare and defend, in oral examination, a master's thesis under the direction of a thesis advisor.
REL 7000 - Master's Thesis Credits: 6 hrs.

Foreign Language Proficiency
Demonstrate reading proficiency in one foreign language relevant to the research area.

Option II
This option does not require the preparation of a thesis.
Required Courses (12 hours)
REL 6000 - Classics in Comparative Religion Credits: 3 hrs.
REL 6100 - Theory and Method I Credits: 3 hrs.
REL 6150 - Survey of Religions of the World Credits: 3 hrs.
REL 6200 - Advanced Seminar in Comparative Religion Credits: 3 hrs.

Electives (21 hours)
21 hours of electives chosen from approved courses.

Comprehensive Examination
Satisfactorily complete a comprehensive examination in the area or areas of concentration.

Foreign Language Proficiency
Demonstrate reading proficiency in one foreign language relevant to the research area.
Economics

William S. Kern, Chair
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Donald L. Alexander
Eskander Alvi
Sisay Asefa
Bassam E. Harik
Matthew L. Higgins
Emily P. Hoffman
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Wei-Chiao Huang
James Hueng
Jean Kimmel
Donald J. Meyer
Christine Moser
Debasri Mukherjee
Jon R. Neill
Susan Pozo
Michael Ryan
Edward Van Wesep
Mark V. Wheeler
Huizhong Zhou

Master of Arts in Applied Economics
Advisor: Mark Wheeler,
Room 5453, Friedmann Hall

The M.A. in Applied Economics is designed for those who expect to pursue a career in business or government and prefer a course of study leading to a terminal degree that emphasizes the applications of economics to the problems of these areas. The degree is awarded on the basis of the satisfactory completion of thirty hours in a planned program prepared in consultation with the graduate advisor. Some graduates continue their formal training in economics, pursuing the Ph.D. degree at WMU or at another university.

Admission Requirements
Satisfactory completion of a minimum of twelve undergraduate hours in economics or in equivalents approved by the graduate advisor.
Satisfactory completion of intermediate level courses in microeconomic and macroeconomic theory. Students not meeting this requirement will be admitted with reservations and will be required to complete satisfactorily ECON 4030 and 4060.
Satisfactory completion of at least one course in calculus.

Program Requirements
1. The satisfactory completion of either twenty-four hours of courses plus a master’s thesis or thirty hours, if additional courses are submitted lieu of the thesis, in a planned program prepared in consultation with the graduate advisor.
2. At least an overall “B” average in the graduate courses that the student takes in an advisor-approved program of study.
3. ECON 5030 - Economic Computing Credits: 3 hrs.
ECON 5040 - Mathematics for Economists Credits: 3 hrs.
Doctor of Philosophy in Applied Economics

Advisors: Mark Wheeler, Room 5453, Friedmann Hall

The Doctor of Philosophy in Applied Economics is designed to meet the needs of future high-level practicing economists in both academic and non-academic settings.

The Applied Economics Ph.D. program offers a core curriculum as is required by traditional Ph.D. programs in economics, but also requires that students participate in a series of applied economics workshops. Students may complete a one-year internship in a non-academic organization. Doctoral students intern with organizations such as city, county, or state government agencies; consulting or research firms and institutes; financial institutions; businesses; and hospitals. This internship is conducted under the aegis of an employee of the organization as well as a Department of Economics faculty member. The purpose of this internship is to give students the incentive and opportunity to apply their knowledge of economic theory and empirical methods to actual problems faced by organizations. The internship is also intended to provide the subject of the student's dissertation and therefore send the Department's graduates into the job market with a somewhat different orientation than that of graduates from traditional economics Ph.D. programs. Students not electing the internship option are required to add a field of specialization in economics or a related field by completing a two-course sequence approved by the Graduate Programs Committee.

The Applied Economics Ph.D. program is designed to be completed within four years by a student entering with good undergraduate economics and quantitative methods (mathematics and statistics) training or a Master of Arts in Economics.

Admission Requirements
Admission to the Ph.D. program in Applied Economics requires:
1. GRE scores (verbal, quantitative, analytical).
2. Satisfactory completion of high-level undergraduate or M.A.-level microeconomic and macroeconomic theory courses.
3. Satisfactory completion of undergraduate calculus and statistics courses.
4. A personal statement discussing your career plans
5. Three letters of reference from persons in a position to assess your qualifications for doctoral-level study and likelihood of successful completion of the Ph.D. degree.

Financial Assistance
A number of doctoral assistantships are awarded each year. Recipients are selected by the Department’s Graduate Programs Committee on a competitive basis. Financial assistance is limited to four years. Graduate minority financial assistance is available to eligible students.

Program Requirements
A minimum of 75 credit hours at the 6000-level or higher is required in this program. This includes up to eighteen hours of workshops, up to twelve hours of internship, and twelve hours of doctoral dissertation.

Required Core Courses:
ECON 6040 - Introduction to Mathematical Economics Credits: 3 hrs.
ECON 6190 - Introduction to Econometrics Credits: 3 hrs.
ECON 6220 - Economic Statistics Credits: 3 hrs.
ECON 6650 - Microeconomic Theory I Credits: 3 hrs.
ECON 6660 - Microeconomic Theory II Credits: 3 hrs.
ECON 6700 - Advanced Econometrics I Credits: 3 hrs.
ECON 6710 - Advanced Econometrics II Credits: 3 hrs.
ECON 6750 - Macroeconomic Theory I Credits: 3 hrs.
ECON 6760 - Macroeconomic Theory II Credits: 3 hrs.

Additional Program Information
At or near the beginning of the fall semester of the second year, students are administered a qualifying examinations in economic theory. Upon passing these examinations, the student is considered a candidate for the Ph.D. degree.

Each student is required to specialize in econometrics and in two of the following fields: Economic Development, Human Resource Economics, Business/Industrial Organization, Monetary Economics, and International Economics. (Not all of these five fields will be offered in any particular year.) To specialize in a field, students take a sequence of two courses. Students are also required to pass a field qualifying examination in econometrics and in the two fields they have selected.

In the third year, candidates may intern (ECON 7120) at a non-academic organization or acquire an additional field of specialization. The internship provides students who seek non-academic careers the opportunity to put what they have learned into practice and to gain practical experience. However, the internship is normally within commuting distance of the University. Interns are typically unpaid and are expected to work approximately twenty hours per week on the internship project. Advisors and students are matched on the basis of mutual interest in the internship project.

Students who intend to seek academic careers are required to acquire an additional field of specialization either in economics or a related discipline in their third year as an alternative to the internship. To specialize in this field the student must take at least two courses in the field approved by the Department’s Graduate Programs Committee. No qualifying examination is required.

Beginning in the third year, doctoral candidates are required to participate in workshops designed to deepen their understanding of theoretical and empirical economics by giving them the opportunity to discuss the research being conducted by the Department's faculty, economists at other institutions, and fellow graduate students. An Applied Economics Workshop (ECON 6990) is offered each semester and during the Summer I session.

The fourth year is devoted to the writing of the doctoral dissertation and continued participation in economics workshops. The dissertation is the culminating experience for each student. A satisfactory oral defense of the dissertation completes all the requirements of the Ph.D. degree.
English

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Elizabeth Amidon
Thomas Bailey
Patricia Bills
Elizabeth Bradburn
Ellen Brinkley
Jonathan E. Bush
JD Dolan
Margaret Dupuis
Philip Egan
Nancy Eimers
Anthony Ellis
Eileen Evans
Steve Feffer
Jaimy Gordon
Paul Johnston
Katherine Joslin
Richard Katrovas
Thomas Kent
Cynthia Klekar
Todd Kuchta
Jil Larson
Casey McKittrick
Lisa Minnick
Christopher C. Nagle
Ilana Nash
William Olsen
Gwen Raaberg
Judith Rypma
John Saillant
Eve Salisbury
Jana Schulman
Scott Slawinski
Gwen Tarbox
Charlotte Thralls
Grace Tiffany
Karen Vocke
Joyce Walker
Daneen Wardrop
Allen Webb
Nicolas Witschi

Master of Arts in English
Advisor: Jana Schulman
Room 620, Sprau Tower
The Master of Arts in English provides advanced study of literature, literary history, literary theory, and other literary concerns. A student desiring to enter the program should present a thirty-hour undergraduate major with a grade-point average of at least 3.0 and a sample of critical writing about literature. Applicants must take the Graduate Record Examination General Test and forward their scores to the Department of English. Applicants must fill out an application form at www.wmich.edu/english.grad.html.

For more detailed information and for an application form, write to the graduate director or see the department's pages on the World Wide Web at the following URL: http://www.wmich.edu/english.grad.html.

Program Requirements

At least twenty hours of the undergraduate major must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore level. Applicants lacking an undergraduate major but who have at least 20 hours of work in English with a substantial number of courses in literature and who are otherwise judged eligible may be granted admission to the program on condition that they remedy perceived deficiencies in preparation by taking some undergraduate courses as prerequisites.

Required courses in the program are the following:
ENGL 6150 - Literary Criticism Credits: 3 hrs.
ENGL 6300 - Introduction to Graduate Studies Credits: 3 hrs.
ENGL 6400 - The Nature of Poetry Credits: 3 hrs.
ENGL 6900 - Scholarship and Writing in the Profession Credits: 3 hrs.

Additional Courses
The additional courses needed to complete a coherent thirty-three hour program are selected in consultation with the graduate director. On admission, students should consult with the advisor at the earliest opportunity concerning their program of study.

Master of Arts in English with an Emphasis on Professional Writing

The Master of Arts in English with an Emphasis on Professional Writing is a thirty-eight hour degree program designed to meet the increasing demand for people with liberal arts education and with a particular skill in writing non-fiction prose.

On admission, students should consult with the advisor at the earliest opportunity concerning their program of study.

For more detailed information and for an application form, write to the department's graduate director or see the department's pages on the World Wide Web at the following URL: http://www.wmich.edu/english.

Program Requirements

A student desiring to enter the program should present a thirty-hour undergraduate major with a grade-point average of at least 3.0 and samples both of critical writing about literature and of other expository writing. At least twenty hours of the major must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore level. Applicants lacking an undergraduate major but who have at least 20 hours of work in English with a substantial number of courses in literature and who are otherwise judged eligible may be granted admission to the program on condition that they remedy deficiencies in preparation by taking some undergraduate courses as prerequisites. Applicants must take the Graduate Record Examinations and forward their scores to the Department of English.

Required courses in the program are:
(a) three writing courses:
ENGL 6310 - Essay Writing Credits: 3 hrs.
ENGL 6320 - Article Writing Credits: 3 hrs.
ENGL 6330 - Professional Writing: Form and Technique Credits: 3 hrs.
(b) several courses in a field other than English (8-12 hours).
Additional Courses
The additional courses needed to complete a coherent thirty-eight hour program are selected in consultation with the graduate director.

Master of Arts in English with an Emphasis on Teaching
The Master of Arts in English with an Emphasis on Teaching is designed to meet the needs of English teachers, most especially those teaching in secondary schools, but also those teaching English and the language arts in middle and elementary schools. (Note: The degree does not provide teacher certification.)

For more detailed information and for an application form, write to the department's graduate director or see the department's pages on the World Wide Web at the following URL: http://www.wmich.edu/english/grad.html.

Program Requirements
A student desiring to enter the program should present a thirty-hour undergraduate major with a grade-point average of at least 3.0 and a sample of critical writing about literature. At least twenty hours of the major must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore level. Applicants lacking an undergraduate major but who have at least 20 hours of work in English with a substantial number of courses in literature and who are otherwise judged eligible may be granted admission to the program on condition that they remedy perceived deficiencies in preparation by taking some undergraduate courses as prerequisites. Applicants must take the Graduate Record Examinations, both the General Test and the Subject Test in Literature in English, and forward their scores to the Department of English.

Required courses in the program are:
(a) ENGL 6800 – Advanced Methods in Teaching Literature Credits: 3 hours
(b) ENGL 6910 - Research and Scholarship in English Education Credits: 3 hrs.
(c) two courses in English pedagogy, including the pedagogy of writing chosen from:

ENGL 5740 – Grammar and the Teaching of Writing Credits: 4 hours
ENGL 6690 – Methods of Teaching College Writing Credits: 3 hours
ENGL 6790 – Advanced Composition Theory Credits: 3 hours
ENGL 6810 – Advanced Methods of Teaching Language and Composition Credits: 3 hours

(d) one course in multicultural literature;
(e) one course in children’s or adolescent literature;
(f) ENGL 6900 – Capstone Seminar Credits: 3 hours
(g) Additional graduate level courses to complete 33 hours.

Master of Fine Arts in Creative Writing
The Master of Fine Arts in Creative Writing is a 48-hour degree program for students who wish to become professional writers of poetry, fiction, non-fiction, or drama. It is the minimal academic qualification appropriate for those who wish to teach the craft of writing at the college or university level.

A student desiring to enter the program should present a 30-hour undergraduate major with a grade-point average of at least 3.0 and samples both of writing in the genre in which he or she expects to specialize (fiction, creative non-fiction, and drama from 15 to 30 pages, poetry from 10 to 15 pages) and of critical writing about literature. Applicants must take the General Test on the Graduate Record Examinations and forward their score to the Department of English. At least twenty hours of the major must be in courses in literature; no more than fifteen of the thirty should be at the freshman-sophomore level. Applicants must fill out an application form at www.wmich.edu/english/grad.html.

Applicants lacking an undergraduate major but who have at least 20 hours of work in English with a substantial number of courses in literature and who are otherwise judged eligible may be granted admission to the program on condition that they remedy deficiencies in preparation by taking some undergraduate courses as prerequisites.

On admission, students should consult with the advisor at the earliest opportunity concerning their program of study.
For more detailed information and for an application form, see the department's pages on the World Wide Web at the following URL: [http://www.wmich.edu/english/grad.html](http://www.wmich.edu/english/grad.html).

Required courses in the program are:

(a) 12 hours of creative writing workshops
In the area of specialization and 3-6 hours of creative writing workshops in a genre or genres outside the area of specialization;
(b) one section of:
   - ENGL 6110 - Literary Forms Credits: 3 hrs.
(c) one of the following:
   - a section of ENGL 6110 - Literary Forms Credits: 3 hrs. in another genre
   - ENGL 6400 - The Nature of Poetry Credits: 3 hrs.
   - ENGL 6420 - Studies in Drama Credits: 3 hrs.
   - ENGL 6440 - Studies in the Novel Credits: 3 hrs.
(d) 6-8 hours in literature from among 5000- and 6000-level courses;
(e) ENGL 6990 - M.F.A. Project Credits: 3-6 hrs.

Additional Course
The additional courses needed to complete a coherent 48 hour program are selected in consultation with the graduate advisor.

**Doctor of Philosophy in English**

The Doctor of Philosophy in English is designed to meet the needs of future scholars and writers. The program requires all candidates to have broad knowledge of English and American literature, acquaintance with non-traditional literature, practical and/or theoretical background in the teaching of English, and a specialization in one or more of the discipline's fields—literature, English language, creative writing, and pedagogy.

Applicants must take the Graduate Record Examinations, both the General Test and the Subject Test in Literature in English, and forward their scores to the Department of English.

On admission, students should consult with the advisor at the earliest opportunity concerning their program of study.

For more detailed information and for an application form, see the department's pages on the World Wide Web at the following URL: [http://www.wmich.edu/englishgrad.html](http://www.wmich.edu/englishgrad.html).

**Financial Assistance**
Competitive doctoral fellowships are awarded each year, together with a number of doctoral teaching assistantships.

**Program Requirements**
Candidates entering with an MA or an MFA are credited with 30 hours (or more if their transcripts warrant it). Those entering directly from a baccalaureate program will be expected to complete the courses designated as “prerequisites” as early as possible in their studies.

1. Prerequisites (equivalent courses from other institutions are accepted) - Hours: 12
   a. For candidates in literature, language, or pedagogy:
      - Literary Criticism; Introduction to Graduate Studies; The Nature of Poetry; and an approved English language course.
   b. For candidates in creative writing:
      - Literary Criticism; an approved course in modern literary forms; a genre-specific course; an approved English language course.

2. Distribution requirement - Hours: 18
Six graduate level courses from the following list of areas, selected so that no two contiguous periods are skipped. Candidates in creative writing must choose Contemporary Literature as one area.

- American literature before 1865
- American literature 1865-1945
- British literature to 1500
- Renaissance British literature (through Milton)
- Restoration and 18th-century British literature
- Nineteenth-century British literature
- Modern British literature
- Contemporary literature

3. Non-traditional literature - Hours: 3
At least one course in literature in English by an ethnic minority group, by post-colonial writers, or by other groups not traditionally included in the canon.

4. Teaching component - Hours: 6
Six hours of credit elected from courses or practica in the teaching of composition, literature, English language, or creative writing.

5. Area of specialization - Hours: 12
At least 12 credit hours in an area (or for creative writing students, a genre) chosen in preparation for the dissertation. The areas include the periods listed in the Distribution Requirement as well as English Language, and the Theory and Practice of Teaching English at the college level.

6. Cognate or support area - Hours: 6 to 9
An optional area to complement the specialization. May include courses from other departments.

7. Candidacy Examination
After satisfying the distribution requirement, students will take four three-hour written examinations over their chosen areas, including an exercise in practical criticism. These examinations should be completed within three years of admission. May be repeated once.

8. Foreign Language Requirement
Students must demonstrate by examination or by completion of two 4000-level courses basic reading competence in at least one foreign language.

9. Doctoral Readings and Oral Examination - Hours: 3 to 6
Near the completion of course work and before beginning the dissertation, students will take the following course, a course of readings designed by the candidate in conjunction with a faculty supervisor.

An oral examination over the chosen books will follow.
ENGL 7110 - Readings in Doctoral Specialization Credits: 3-6 hrs.

10. Dissertation - Hours: 15
The dissertation is to be a book-length manuscript of scholarship, criticism, research, or creative writing comprised of either a single piece of work or a coherent collection of shorter pieces that are methodologically, structurally, or thematically related.
Environmental Studies

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Michael Chiarappa  
Harold Glasser  
Johnson Haas  
Lynne Heasley  
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Carla Koretsky  
Maarten Vonhof
Foreign Language

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Peter Blickle
Vincent Desroches
Olivia Gabor
Rand H. Johnson
Peter W. Krawutschke
David Kutzko
Mustafa Mughazy
Dasha Nisula
Molly Recchia
Viviane Ruellot
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Geography

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Elen M. C. Cutrim
Lisa M. DeChano-Cook
David G. Dickason,
Charles Emerson
Chansheng He, Graduate Advisor
David S. Lemberg
Joseph P. Stoltman
Gregory Veeck
Li Yang
Jordan Yin

Master of Arts in Geography
Advisor: Chansheng He
Room 3234, Wood Hall

The goals of the Master of Arts in Geography are: 1) to assist students in acquiring the skills needed for independent geographic research, including organizational and communication skills; and 2) to enable the student to develop a concentration in a particular aspect of the field.

At the same time, each program is individually designed to suit career or personal objectives. Students may prepare for a geographic career in government, business and industry, or for pursuit of a higher degree. A minimum of 30 graduate hours is required.

Admission Requirements
Experience indicates that geography majors/minors, or social/biological/physical science majors with some geography normally can meet program requirements. Prior to the successful completion of ten graduate hours, the following admission requirements must be met or the student will not be admitted to further 6000- or 7000- level courses.

1. The attainment of passing scores on the comprehensive qualifying examinations in physical and human geography, and map, chart, and air photo reading. If unsuccessful the student may retake an examination. If a passing score is still not obtained, the student must receive a "B" or better in a course with comparable subject matter (GEOG 1050, 2050, 2650).
2. Successful completion ("C" grade or better) of (GEOG 5010) Introduction to Geographic Information Systems or approved equivalent.

Program Requirements
1. Completion of a minimum of three courses in one of the three following areas of concentration:
   Community Development and Planning
   Environmental and Resource Analysis
   Geographic Techniques

2. Completion of 30 hours of approved graduate credits in all concentrations
   Except Community Development and Planning, where 36 hours are required; at least 20 hours to be completed in the Geography Department.

3. Completion of the following:
GEOG 5560 - Studies in Urban and Regional Planning Credits: 3 hrs.
  Topic: Urban Planning and Zoning
Required for the Community Development and Planning concentration.
GEOG 5670 - Spatial Analysis Credits: 4 hrs.
GEOG 6610 - Geographic Research Credits: 4 hrs.
GEOG 6660 - Professional Development Seminar Credits: 1 hr. (with re-enrollment once for 2 credit hours total)

4. Completion of 6 hours of:
GEOG 7000 - Master's Thesis Credits: 6 hrs.
Or two to six hours of:
GEOG 7100 - Independent Research Credits: 2-6 hrs.

Additional Courses
In addition, students may enroll in the following course, and students with the Community Development and Planning concentration must complete a six-hour internship (enrolling in GEOG 7120).
GEOG 7120 - Professional Field Experience Credits: 2-12 hrs.

Certificate Program in Geographic Information Science (19 hours)

This graduate certificate program provides a strong framework for developing competencies in geographic information systems (GIS), remote sensing, and spatial analysis. The program is designed for post-baccalaureate students in public administration, social and physical sciences, information technology, engineering, and business. Many professionals in these areas need skills in handling and analyzing geographically distributed data using the capabilities provided by GIS software, satellite remote sensing, and the global positioning system.

Admission Requirements
In addition to meeting the requirements of the Graduate College, all applicants must have basic facility in desktop computer operations and must have a basic knowledge of descriptive and inferential statistics equivalent to the requirements of STA 3660.

Program Requirements

1. Required Courses (16 hours)
GEOG 5010 – Introduction to GIS Credits: 4 hours
GEOG 5670 – Spatial Analysis Credits: 4 hours
GEOG 5690 – Intermediate GIS Credits: 4 hours
GEOG 5820 – Remote Sensing of the Environment Credits: 4 hours

2. Electives (3 hours)
GEOG 5630 – Surveying Techniques Credits: 3 hours
GEOG 6690 – Advanced GIS Seminar Credits: 3 hours
GEOG 6820 – Advanced Remote Sensing Credits: 3 hours
Geosciences

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Carla M. Koretsky
R. V. Krishnamurthy
Heather Petcovic
William A. Sauck
Christopher J. Schmidt

The Department of Geosciences offers the Master of Science in Geosciences, the Master of Arts in Earth Science, and the Doctor of Philosophy in Geosciences.

Master of Science in Geosciences
Advisor: Carla Koretsky,
Room 1121, Rood Hall

The Master of Science in Geosciences is designed to prepare the student for professional work in geology and for further graduate study. Departmental areas of specialization include: Hydrogeology, Geochemistry and Petrology, Geophysics and Tectonics, Stratigraphy and Sedimentary Geology.

Please note: Under exceptional circumstances, a student may request that their advisor petition the faculty for approval of modifications to the timelines stated below.

Admission Requirements
1. Undergraduate major in geology or related field. Students must have completed, or will be required to complete as soon as possible upon enrollment in the program, GEOS 1300, 1310, 3010, or 3350 and a field experience such as 4390 or equivalent. Any remedial course work completed upon enrollment in the graduate program must be completed with grade of “B” or better to satisfy this requirement. For students who enter the program with course work deficiencies, program requirement timelines (see below) will begin once remedial work has been satisfactorily completed, rather than upon matriculation in the program.
2. Grade point average of at least 3.0 (of 4.0) for the previous two years of undergraduate work is strongly recommended and is required for full consideration for financial support via teaching assistantships.
3. Three letters of recommendation are required of all applicants from persons well situated to evaluate his/her qualifications for graduate study. Applicants should have the original recommendation sent to WMU directly by the recommender and if they are coming from a faculty member at a college or university, the letter should be on that school’s letterhead. Letters sent directly (i.e., not in sealed/signed envelope) by the applicant or not issued on appropriate letterhead are not considered official and will not be accepted.
4. Applicants must submit the results of the Verbal, Analytical and Quantitative portions of the Graduate Record Examination (GRE).

Program Requirements
1. Choose a graduate advisor by the end of the first semester after matriculation.
2. Qualifying Requirement.
This requirement must be completed no later than the end of the second full year in residence. Students must achieve a grade of “BA” in two of four core graduate courses. One graduate course in each of the four areas (Hydrology, Geochemistry and Petrology, Geophysics and Tectonics, Stratigraphy and Sedimentary Geology) will be designated as a “core” course (see graduate advisor for details). In some cases, students may enter the program with a strong background in one or more of the core areas. Such students may be excused from enrolling in one or more core courses by achieving a grade of “B” or better on the final examination for the course(s) provided these result in an average of “BA” for two of the core courses. Students who do not achieve a “B” in a core area, or an average of “BA” for two core courses, on their first attempt will be given one additional opportunity to either pass each course or the final examination of the course with a grade of “B” or the grade necessary to achieve an average of “BA” for two of the core courses.

3. Proposal Examination.
By the end of the second academic semester in residence, students must develop a written proposal describing their planned research. This proposal will be presented in a public 15-20 minute talk and will be followed by a closed-door oral examination covering both the proposal and related aspects of Geosciences, to be conducted by the student’s chosen committee. Students who do not pass the proposal exam may be given one additional opportunity to repeat the examination. A second attempt must be made within a timeframe to be determined by the student’s M.S. committee, and must occur no later than the end of the next academic semester.

4. Complete at least thirty (30) total graduate credit hours in Geosciences and related areas (mathematics, physical sciences); at least fifteen (15) credit hours must be at the 6000-level or above, and at least twenty-one (21) of the total credits must be completed in Geosciences. At least fifteen (15) credits of Geosciences coursework must be completed, exclusive of GEOS 6340, GEOS 7100, GEOS 7120, GEOS 7000, and GEOS 7350.

5. Attend weekly departmental seminars.
In the second and each subsequent year in residence, the student must give a 12-minute seminar presentation. The thesis defense presentation, if completed during the academic year, will fulfill this requirement in the final year of study. Formal enrollment in GEOS 6600 during one semester is recommended.

6. Satisfactory completion of the following:
GEOS 7000 - Master's Thesis Credits: 6 hrs.

7. At least one first-authored paper must be submitted for publication in an approved refereed journal prior to graduation or at least one scientific presentation must be given in an approved external venue prior to graduation. Journals and venues must be approved by the student’s M.S. committee. See the graduate advisor for examples of approved journals and presentation venues.

The student will give a 30-45 minute public presentation describing the results of his/her research. This will be followed by a closed-door defense to be conducted by the members of the student’s M.S. committee. See the appropriate section of the Graduate Catalog for policies and procedures in the event of an unsuccessful defense. The final written thesis must conform to the requirements explained in the University’s Guidelines for the Preparation of Theses, Projects, and Dissertations and may be written according to one of the following options:

a. Option 1:
The student will present a traditional comprehensive thesis based on the master’s research. The thesis must include an introduction, review of relevant literature, description of methodology used in the thesis research, presentation of the results (including appendices of data where appropriate), and discussion of the significance of the research.
b. Option 2: The student will present at least one first-authored journal paper based on the thesis research that has been submitted for publication and is deemed to be publishable by the student’s M.S. committee. A separately written introduction including a brief literature review, summary of the significance of the work, and appendices of data (where appropriate) must also be submitted.

**Master of Arts in Earth Science**

The Master of Arts in Earth Science is a non-thesis program that permits students to design programs of study, in consultation with the program advisor, that are compatible with the individual's goals. The program is intentionally flexible; course work may be drawn from geosciences, biological sciences, chemistry, anthropology, economics, political science, communication, and physics, among others.

**Admission Requirements**

1. Grade-point average of at least 3.0 (of 4.0) for previous two years of undergraduate work is strongly recommended and is required for full consideration for financial support via teaching assistantships. However, teaching assistantships will be awarded preferentially to students enrolled in the M.S. in Geosciences program.
2. Students must have successfully completed GEOS 1300, 1310, 3010 or 3350, and a field experience such as 4380 or 4390, or equivalent, or must complete these courses prior to finishing the degree.

**Program Requirements**

1. Complete a minimum of thirty-five hours of graduate course work
   With at least eighteen hours at the 6000-level or above.
2. A core of eighteen semester hours in Geosciences is required.
3. May include satisfactory completion of up to four hours of:
   GEOS 7100 - Independent Research Credits: 2-6 hrs.
   Or up to three hours of:
   GEOS 7120 - Professional Field Experience Credits: 2-12 hrs. or both.
4. Students are strongly encouraged to attend weekly departmental seminars.
   Enrollment for credit in GEOS 6600 for one semester is encouraged, but not required

**Doctor of Philosophy in Geosciences**

Advisor: Carla Koretsky,
Room 1121, Rood Hall

The Doctor of Philosophy in Geosciences is a research degree designed for persons intending to take leadership roles in teaching and research in one of four core areas of the Geosciences: Hydrogeology; Geochemistry and Petrology; Geophysics and Tectonics; Stratigraphy and Sedimentary Geology. Applicants will be expected to meet the minimum entrance requirements of the Graduate College and must demonstrate an interest in, and aptitude for, conducting high quality research.

Within one year following matriculation, the student must choose a primary graduate advisor. Within one and a half years following matriculation, the student must choose a doctoral committee. This committee will be chaired by the student’s primary advisor, and must include two other faculty from within the Geosciences Department, as well as a fourth committee member from outside the Geosciences Department. It is strongly recommended that the fourth committee member be chosen from an outside research facility or university, although members may also be chosen from other programs at WMU, if appropriate. The committee should be chosen to reflect the doctoral student’s expressed research interests. The committee will facilitate and guide the student’s development within the academic and research programs of the department and University.
Please note: Under exceptional circumstances, a student may request that the primary advisor petition the faculty for approval of modifications to the timelines stated below.

Admission Requirements
1. Bachelor’s or master's degree in geology or related field is required; an M.S. degree is strongly recommended. Students must have completed, or must complete as soon as possible upon enrollment, GEOS 1300, 1310, 3010 or 3350, and a field experience such as 4390 or its equivalent. Any remedial course work completed upon enrollment in the graduate program must be completed with grade of “B” or better to satisfy this requirement. For students who enter the program with course work deficiencies, program requirement timelines (see below) will begin once remedial work has been satisfactorily completed, rather than upon matriculation in the program.
2. Grade-point average of 3.25 (of 4.0) for prior graduate work. To be admitted without an M.S. degree, a GPA of at least 3.25 (of 4.0) during the previous two years of undergraduate work is required.
3. Three letters of recommendation are required of all applicants from persons well situated to evaluate his/her qualifications for graduate study. Applicants should have the original recommendation sent to WMU directly by the recommender and if they are coming from a faculty member at a college or university, the letter should be on that school’s letterhead. Letters sent directly (i.e., not in sealed/signed envelope) by the applicant or not issued on appropriate letterhead are not considered official and will not be accepted.
4. Applicants must submit the results of the Verbal, Analytical, and Quantitative portions of the Graduate Record Examination (GRE).

Financial Assistance
Several departmental, University and grant-funded fellowships, teaching assistantships, and research assistantships are available. Application forms and additional information are available from the Department of Geology and from The Graduate College.

Program Requirements
1. Complete at least sixty (60) total credit hours of which thirty (30) credit hours must be at the 6000-level or above. At least eighteen (18) credits of Geosciences coursework must be completed, exclusive of GEOS 6340, GEOS 7100, GEOS 7120, GEOS 7300, and GEOS 7350.
2. Attend weekly departmental seminars. In the second and each subsequent year in residence, the student must give a 12-minute seminar presentation. The proposal presentation, if completed during the academic year, will fulfill this requirement in that year of study. The dissertation defense presentation, if completed during the academic year, will fulfill this requirement in the final year of study.
3. Students must enroll in the following course for at least one semester.
GEOS 6600 - Seminar in Geology and Earth Science Credits: 1 hr.
4. Demonstrate proficiency in two appropriate research tools. At least one of the research tools must be completed outside of the student’s declared core area of study. Students are strongly encouraged to complete at least one tool via course work or other training outside of the Geosciences Department. For details regarding acceptable research skills, consult with the graduate advisor. Research tools may include:
   a. Achieving a working knowledge of statistics by receiving a grade of “B” or better in an approved course or by showing the ability to apply advanced statistical analysis to the doctoral research.
   b. Demonstrating competence in computer science or programming by receiving a grade of “B” or better in an approved course or by applying computer programming to the doctoral research.
   c. Demonstrating proficiency in areas relevant to the doctoral research, including mathematics, biological sciences, chemistry, geography, remote sensing, physics, or engineering. Proficiency will be demonstrated by achieving a grade of “B” or better in an approved graduate course.
   d. Mastering the design, repair or development of instrumentation used as part of an approved Geosciences course or in the doctoral research.
   e. Acquiring appropriate research skill(s) in the Geosciences. This will be demonstrated by achieving a grade of “B” or better in an approved Geosciences graduate course.
f. Demonstrating development, while enrolled in the doctoral program, of reading competency in a foreign language relevant (as deemed by the student’s primary advisor) to the student’s dissertation research. This skill will be demonstrated by receiving a grade of “B” or better in a 4010 course in the language, by passing a standardized examination, or by successfully translating one or more technical articles assigned by the student’s primary advisor.

5. Complete at least three research credit hours
With primary graduate advisor by the end of the first full year of residence.
GEOS 6340 - Research in Geology and Earth Science Credits: 1-4 hrs.

6. Qualifying Requirement.
This requirement must be completed no later than the end of the second full year in residence. Students must achieve a grade of “BA” in three of four core graduate courses. One graduate course in each of the four areas (Hydrology, Geochemistry and Petrology, Geophysics and Tectonics, Stratigraphy and Sedimentary Geology) will be designated as a “core” course (see graduate advisor for details). In some cases, students may enter the program with a strong background in one or more of the core areas. Such students may be excused from enrolling in one or more core courses by achieving a grade of “B” or better on the final examination for the course(s). Students who do not achieve a “B” or better in a core area on their first attempt (or an overall average of “BA” for the three courses) will be given one additional opportunity to either pass each core course or the final examination with a grade sufficient to achieve an average of “BA” for the three courses.

7. Proposal Examination:
By the end of the second year, students must develop a written proposal describing their planned doctoral research. This proposal will be presented in a public 20-minute talk. The talk will be followed by a closed-door oral examination, to be conducted by the student’s doctoral committee. Students who do not pass the proposal exam will be given one additional opportunity to repeat the examination. A second attempt must be made within a timeframe to be determined by the student’s doctoral committee, and must occur within one year of the first attempt. If the external committee member cannot be present on campus for the proposal examination, they may submit written comments or questions.

8. At least one first-authored paper must be accepted for publication in a peer-reviewed journal.

Prior to graduation

9. Students must give at least one scientific presentation
In an approved (by the student’s doctoral committee) external venue prior to graduation.

10. Complete 15 hours of the following:
GEOS 7300 - Doctoral Dissertation Credits: 15 hrs.

The student will give a 50-minute public presentation. This will be followed by a closed-door defense to be conducted by the members of the student’s doctoral committee. See the Graduate Catalog for policies and procedures in the event of an unsuccessful defense. The final written dissertation must conform to the requirements explained in the University’s Guidelines for the Preparation of Theses, Projects, and Dissertations and may be written according to one of the following two options:

a. Option 1:
The student will write a traditional comprehensive dissertation based on the doctoral research. The dissertation should include an introduction, review of the relevant literature, description of methodology used in the dissertation research, presentation of the results (including appendices of data where appropriate), and discussion of the significance of the research.

b. Option 2:
The student will present at least two first-authored journal papers, which may include the paper written to fulfill program requirement #8, that have been accepted for publication in appropriate peer-reviewed journals. A separately written introduction including a brief literature review, summary of the relevance/conclusions of the studies and an appendix of data (where appropriate) must also be submitted.
History

Marion Gray, Chair
Main Office: 4301 Friedmann Hall
Telephone: (269) 387-4650
Fax: (269) 387-4651

Robert F. Berkhofer, III
Luigi Andrea Berto
Amos Beyan
Linda Borish
José Brandão
Andrew Carlson
Michael Chiarappa
Janet Coryell
Frederick J. Dobney
Howard Dooley
E. Rozanne Elder
Nora Faires
Ralph Gordon
Bruce Haight
Barbara Havira
Lynne Heasley
Catherine Julien
Mitch A. Kachun
Cheryl H. Lyon-Jenness
Paul Maier
Edwin Martini
James Murray
John Norman
R. Patrick Norris
Onaiwu Ogbomo
James Palmitessa
Lewis R. Pyenson
Eli Rubin
John Salliant
Larry Simon
Kristin Szylvian
Luis Toledo Pereyra
Wilson Warren
Victor Xiong
Takashi Yoshida

Director of Graduate Studies
The Director of Graduate Studies is the central application, admissions, and advising source in the department. Upon arrival, all students must meet with the Director to register for classes, to be advised regarding a supervising professor, and to plan an overall course of study. Upon completion of 12 hours of course work, all M.A. students must meet with their supervising professor to complete their permanent plan of study to file with the Graduate College.

Annual Review of All Master’s and Doctoral Students
The Graduate Studies Committee (GSC) reviews all student files once a year. The review process, conducted by the GSC and the supervising professor, has two aims: 1) to advise students regarding the construction and development of their program of study, and 2) to address problems of incompletes, failing grades or difficulties completing course
work or theses. The GSC can shift students from one master’s option to another, will warn students if they are in jeopardy of being dismissed, and can set conditions for students to meet to avoid dismissal.

Waiver of a Requirement
Any waiver from a requirement must be requested in writing to the Director of Graduate Studies and the Graduate Studies Committee for decision. Requests must be supported in writing by the student’s supervising professor.

Master of Arts in History
Advisor: Mitch Kachun,
Room 4311, Friedmann Hall

The Master of Arts in History serves both as preparation for doctoral study and as a professional degree in many fields of research, teaching, and public history.

Admission Requirements
1. Substantial undergraduate course work in history and related social sciences and humanities. (Students with strong academic records but deficient in undergraduate course work in history may be admitted with a stipulation to complete appropriate undergraduate courses.)
2. Graduate Record Examination (GRE) general aptitude test scores.
3. Three letters of recommendation from individuals familiar with the applicant’s academic work.
4. A brief essay concerning applicant’s academic and professional objectives, and a writing sample.
Students whose native language is other than English must achieve a TOEFL score of 600 or above, or otherwise demonstrate a command of English judged adequate by the department to pursue graduate study in the discipline.

Program Requirements
Three options for completing the degree are available.

Thesis Option (30 hrs.)
1. HIST 6010 - Historiography Credits: 3 hrs.
2. A broad field of specialization built around readings courses and research seminars.
At least two readings courses (HIST 6050-6200) are required and additional course work in this area is strongly recommended. At least one research seminar (HIST 6700, 6750-6880) is required. Specific research emphases are developed in consultation with the supervising professor and department faculty. Consult the department's Graduate Handbook for further information.

3. Students must take at least two courses (one at the 6000-level) which focus as a major part of the course work on the tools that historians use, such as cartography, paleography, oral history, anthropology, ethnography, material culture, art, architecture, archeology, etc. These courses are designated by the Graduate Studies Committee and a list of courses which meet this requirement each semester will be available from the Director of Graduate Studies at registration.

4. The department requires at least one course covering theory and/or research practices in an allied social science or humanities discipline. (Up to 6 hrs. of appropriate course work may be chosen outside the department, and up to 6 hrs. of appropriate course work in history at the 4000-level, exclusive of 4960-4990, may be elected with the approval of the supervising professor and the Director of Graduate Studies.

5. Proficiency in a foreign language demonstrated by satisfactory completion of a 2010-level or 4010-level foreign language course, or by a translation examination.

6. Thesis: a major research investigation in the field of specialization. Candidates with an advanced record of research and/or publication may substitute a second research seminar (HIST 6700, 6750-6880) with the prior approval of the supervising professor.

7. Students who fail to produce a satisfactory thesis may count course work taken (except thesis hours) toward a general option degree. If they are students in the doctoral program, they will be dismissed from that program, but
will be allowed to continue course work until they have completed enough hours for a general option master’s
degree. See the department graduate handbook for additional information regarding the thesis.

*General Option (33 hrs.)*
1. HIST 6010 - Historiography  Credits: 3 hrs.

2. At least one research seminar
Research seminars have prerequisite readings courses.
HIST 6700 - Seminar in History  Credits: 3 hrs.
HIST 6750 - Seminar in Early United States History  Credits: 3 hrs.
HIST 6760 - Seminar in African American History  Credits: 3 hrs.
HIST 6780 - Seminar in Recent United States History  Credits: 3 hrs.
HIST 6810 - Byzantium and the West, 900—1400: Research Seminar  Credits: 3 hrs.
HIST 6820 - Seminar in Medieval History  Credits: 3 hrs.
HIST 6840 - Readings in Atlantic History  Credits: 3 hrs.
HIST 6850 - Seminar in Atlantic History  Credits: 3 hrs.
HIST 6860 - Seminar in Modern European History  Credits: 3 hrs.
HIST 6880 - Seminar in Global and Contemporary History  Credits: 3 hrs.

3. Students must take at least one course which focuses a major part of the course work on the tools that historians
use, such as cartography, paleography, oral history, anthropology, ethnohistory, ethnography, material culture, art,
architecture, archeology, etc. These courses are designated by the Graduate Studies Committee and a list of courses
which meet this requirement each semester will be available from the Director of Graduate Studies at registration.

4. Up to 12 hrs. of course work may be taken outside the department in an advisor-approved program of study, and
up to 6 hrs. of appropriate course work in history at the 4000-level, exclusive of 4960-4990, may be elected with the
approval of the supervising professor and the Director of Graduate Studies.

5. Comprehensive examination:  A course-based written examination following completion of at least 24 hrs. of
course work including required core courses and a research seminar. An oral examination may also be required by
the student’s exam committee.

*Public History Option (39 hrs.)*
1. HIST 6010 - Historiography  Credits: 3 hrs.

2. At least one research seminar
Research seminars have prerequisite readings courses.
HIST 6700 - Seminar in History  Credits: 3 hrs.
HIST 6750 - Seminar in Early United States History  Credits: 3 hrs.
HIST 6760 - Seminar in African American History  Credits: 3 hrs.
HIST 6780 - Seminar in Recent United States History  Credits: 3 hrs.
HIST 6810 - Byzantium and the West, 900—1400: Research Seminar  Credits: 3 hrs.
HIST 6820 - Seminar in Medieval History  Credits: 3 hrs.
HIST 6840 - Readings in Atlantic History  Credits: 3 hrs.
HIST 6850 - Seminar in Atlantic History  Credits: 3 hrs.
HIST 6860 - Seminar in Modern European History  Credits: 3 hrs.
HIST 6880 - Seminar in Global and Contemporary History  Credits: 3 hrs.

3. Students must take at least three courses (two at the 6000-level) which focus as a major part of the course work on
the tools of particular importance to public historians. These courses are designated by the Graduate Studies
Committee, and a list of courses which meet this requirement each semester will be available from the Director of
Graduate Studies at registration.

4. Up to 12 hours of course work may be taken outside the department in a program of study approved by the
supervising professor, and up to 6 hours of appropriate course work in history at the 4000-level, exclusive of 4960-
4990, may be elected with the approval of the supervising professor, the Director of Graduate Studies, and the Dean of the Graduate College.

5. An internship/field experience
HIST 6400 - Museums Practicum  Credits: 3-6 hrs.
OR
HIST 7120 - Professional Field Experience  Credits: 2-12 hrs.

6. Comprehensive examination:  A course-based written examination following completion of at least 24 hrs. of course work including required core courses and a research seminar. An oral examination may also be required by the student’s exam committee.

Certificate Program in Ethnohistory

Ethnohistory is the study of cultures, combining research techniques and theoretical approaches from the fields of history and anthropology. The core of ethnohistory lies in the realization shared by practitioners of the benefits obtained through the use of multiple lines of evidence to study history and culture. Ethnohistorians recognize that documents, archaeological findings, oral histories, and ethnographies can be profitably compared, contrasted, and integrated to elucidate the histories and cultural contexts of groups that have been ignored in conventional historical accounts. By juxtaposing multiple lines of evidence in an interdisciplinary manner, ethnohistorians can at once examine the distant and the local, the general and the particular, bringing human experience into better focus.

Western Michigan University is a center for ethnohistorical research on a global level, including the United States, Canada, Mexico, the Caribbean, Central and South America, West Africa, South Asia, and Europe. Particular areas of expertise include culture contact, colonialism, material analysis, historiography, oral history, gender, historical archaeology, ethnography, tribalization, globalization, and modernization. These topics are not restricted to any particular geographic area nor to any particular societal structure.

Admission Requirements
This certificate program is open to any student admitted to a graduate degree program at Western Michigan University.

Program Requirements
Each student will complete satisfactorily five courses (fifteen credit hours). Students will be required to take three courses from the recommended courses, at least one of which will be outside of their home department; and take the ethnohistory seminar (HIST/ANTH 6090) two times, which will be alternately taught each year by faculty from History and Anthropology.

Doctor of Philosophy in History
The Doctor of Philosophy in History is designed to prepare students for careers in higher education, public and applied history, and historical administration. Preparation extends beyond archival research techniques to include oral history and oral tradition, ethnohistory, archaeology, material culture, museum studies, historic preservation, gender studies and documentary editing. Students are provided with opportunities to teach in the undergraduate program under the direction of senior colleagues and receive training in additional professional skills.

Faculty research and instruction emphasize the social and cultural aspects of historical change. Resources include the Medieval Institute, the Institute of Cistercian Studies, the Rawlinson Centre for Anglo-Saxon and Manuscript Studies, the Kercher Center for Social Research, the Diether Haenicke Center for International Study, the Archives and Regional History Collection, and the holdings of the French Michilimackinac Research Project.

Admission Requirements
1. Admission normally requires a master's degree in history or a closely related discipline, or substantial prior course work in history. Students holding baccalaureate degrees may be admitted directly to the program but must complete Master of Arts comprehensive examinations after approximately 18 hours of course work with a recommendation by the examining committee to continue doctoral studies.
2. Graduate Record Examination (GRE) general aptitude test scores.
3. Three letters of recommendation from individuals familiar with the applicant’s academic work.
4. A brief essay concerning applicant's academic and professional objectives, and a writing sample.
5. Reading proficiency in foreign languages appropriate to the proposed program of study is strongly recommended; studies to meet deficiencies in this area must be begun during the first year of doctoral study.
6. Students whose native language is other than English must achieve a TOEFL score of 600 or above, or otherwise demonstrate a command of English judged adequate by the department to pursue graduate study in the discipline.

Program Requirements
Award of the Doctor of Philosophy in History is based upon successful completion of qualifying examinations in several fields, and demonstration in seminars and the dissertation of the ability to conduct original research. Programs of study are developed in consultation with the supervising professor and appropriate faculty. The program requires a minimum of 75 hours of credit beyond the baccalaureate degree or 45 hours beyond the master's degree. The Master of Arts thesis option and the Doctor of Philosophy program share many common structures and requirements, and may be planned as a single program of study. Candidates admitted with a master's degree from another institution or discipline may need more than the minimum of 45 hours of course work to complete the field requirements.

All students must complete two core courses in their first year of study: HIST 6010 and HIST 6980. These courses serve several roles: They provide students with the historical and theoretical underpinnings of the profession of historian in all its myriad forms and applications; they train students in the various skills needed to succeed as professional historians in various venues; and they help students become part of the graduate student community in the department. Core courses must be completed by the end of the first year of graduate course work. Each student must also complete course work in theory and research techniques in an allied social science or humanities discipline appropriate to the student’s research agenda.

Major Field
The major field designates an area of study in which the student seeks to establish professional competence.

Minor Field
A minor field designates an area of study that is related to, or provides skills necessary to, the major field.

Outside Field
The outside field may comprise work in a series of courses within a discipline outside of, but bearing upon, the major field and dissertation topic.

Foreign Language Requirement
Students must demonstrate reading proficiency in at least one foreign language appropriate for their programs of study prior to qualifying examinations. Proficiency is demonstrated by satisfactory completion of a 2010-level or 5010-level foreign language course, or by a translation examination. Many major fields have additional foreign language requirements. All required course work to achieve necessary proficiencies must be completed prior to qualifying examinations.

Theory, Research, and Applications Course Work
Each student must complete approved course work in theory and research techniques in an allied social science or humanities discipline appropriate to the candidate’s research agenda. Course work is selected in consultation with the student’s examination committee and must be approved by the Director of Graduate Studies.

Research Tools
Three research tools are required. Competence in one foreign language is a research tool requirement for all doctoral students in the history program. In addition, competence in quantitative, statistical, or qualitative methodology must be exhibited to meet the second and third tool requirements. Competence in a tool is normally shown by a grade of “B” or better in approved course work, or by an advanced degree in an allied social science or humanities discipline. In some instances, a student may substitute a second foreign language for one of the tools in quantitative, statistical, or qualitative methodology. Course work is selected in consultation with the student’s examination committee and must be approved by the Director of Graduate Studies.
Qualifying Examinations
Written and oral qualifying examinations are taken after the satisfactory completion of all course work and foreign language requirements. Examinations cover the major and minor fields and in some cases the outside field.

Dissertation
The dissertation comprises from 12 to 18 hours of graduate course work depending upon other characteristics of the program of study.
International and Area Studies

Donald McCloud, Director
Room B 200, Ellsworth Hall
Telephone: (269) 387-3985
Graduate programs in science education are offered through The Mallinson Institute for Science Education, an interdisciplinary unit in the College of Arts and Sciences.

**Master of Arts in Science Education**

Advisor: William W. Cobern,
Room 3245, Wood Hall

The Master of Arts in Science Education is designed for school science teachers who wish to expand their teaching skills, as well as for students beginning their work toward a Doctor of Philosophy in Science Education.

**Admission Requirements**

The minimum admission requirements to this degree program are: (1) an undergraduate major in science or science education and (2) teacher certification. Students lacking the above may be admitted conditionally; however, satisfactory completion of necessary undergraduate science and/or education courses will be needed before enrollment in the required graduate courses. These requirements are in addition to the general admission requirements of The Graduate College.

**Program Requirements**

The program consists of a minimum of thirty semester hours of graduate work. Each student's program is planned in consultation with the advisor and consists of the following:

1. Twelve semester hours of graduate level science. By advisor permission, a student may substitute up to six hours of science at the 3000/4000 levels.

2. Twelve semester hours of science education, to include:

   - SCI 6140 - Science: Historical and Philosophical Perspectives  Credits: 3 hrs.
   - SCI 6150 - Science Education: Historical and Philosophical Foundations Credits: 3 hrs.
   - SCI 6160 - Science Education: Models of Learning and Teaching Credits: 3 hrs.
   - SCI 6260 – Curriculum Studies in Science Education  Credits: 3 hrs.

3. Six semester hours of thesis (SCI 7000 - Master's Thesis Credits: 6 hrs.)
OR
Six semester hours of project (SCI 7100 - Independent Research Credits: 2-6 hrs.)
OR
Six semester hours of science content with permission of advisor.
Thesis or Project
The thesis or project is completed under the direction of a major advisor and a thesis or project committee. The major advisor and committee members are chosen by the Institute director in consultation with the student and the Institute faculty. It is anticipated that teachers working in the program will choose to do a project involving their classrooms. Students planning on further graduate study may pursue a thesis; the thesis might be preliminary work on a doctoral dissertation. The thesis or project topics must be approved by the committee. The committees and topics are subject to the approval of the deans of the College of Arts and Sciences and The Graduate College.

Doctor of Philosophy in Science Education
Advisor: William W. Cobern,
Room 3245, Wood Hall

The Doctor of Philosophy in Science Education is designed for students who wish to obtain a strong background in science and to pursue research in science education.

Admission Requirements
The minimum admission requirements to this degree program are a master's degree or concurrent enrollment in a master’s degree program in science, science education, or education with a science concentration.

Program Requirements
The program consists of forty eight semester hours of graduate work beyond coursework counted toward a master’s degree. Each student's program is planned in consultation with the advisor and consists of the following:

1. A science education core of twenty-one semester hours consisting of:
   (a) SCI 6140 – Science: Historical and Philosophical Perspectives Credits: 3 hrs.
       SCI 6150 - Science Education: Historical and Philosophical Foundations Credits: 3 hrs.
       SCI 6160 - Science Education: Models of Learning and Teaching Credits: 3 hrs.
       SCI 6170 - Science Education: Research Traditions Credits: 3 hrs.
       SCI 6180 – Teaching and Learning in a College Science Classroom Credits: 3 hrs
   (b) A choice of either:
       SCI 6170 – Science Education: Research Traditions Credits: 3 hrs (taken for a second time)
       OR
       SCI 6180 – Teaching and Learning in a College Science Classroom Credits: 3 hrs (taken for a second time)
       OR
       SCI 6260 – Curriculum Studies in Science Education Credits: 3 hrs.

2. Twelve semester hours of research tools and design to include a semester each in quantitative and qualitative research methods.


Additional Program Requirements
All candidates for the Doctor of Philosophy in Science Education must have satisfactorily passed a comprehensive examination. The examination should be taken after the student has completed the required course work and will include material from the graduate science education "core" of courses and material from the appropriate science area selected by the student and Institute director. The science area material will be prepared and evaluated by faculty in the science area after consultation with the science education faculty. The Institute faculty may require, in addition to the written exam, an oral exam.
Candidates also must have completed a master’s degree in science, science education, or education with a science concentration. They may have completed the master’s degree prior to beginning the doctoral program or while simultaneously enrolled in the doctoral program.

The research and dissertation are completed under the direction of a major advisor and a Doctoral Advisory Committee. The major advisor and dissertation committee members are chosen by the Institute director in consultation with the student and Institute faculty. The research problem is formulated by the student and must be approved by the Committee. Dissertation Committees and topics are subject to the approval of the deans of the College of Arts and Sciences and The Graduate College.

The residency requirement for this degree program is an academic year of two consecutive semesters of full-time study on the campus.

To be admitted to candidacy for the doctoral degree the student must have satisfactorily completed the course work, the research tools, the comprehensive examination, and a teaching experience in addition to the other candidacy requirements of doctoral programs in The Graduate College.
The Department of Mathematics offers graduate programs leading to the Master of Arts in Mathematics, the Master of Arts in Mathematics Education, the Master of Science in Applied and Computational Mathematics, the Doctor of Philosophy in Mathematics, the Doctor of Philosophy in Mathematics with a concentration in Collegiate Mathematics Education, and the Doctor of Philosophy in Mathematics Education.

Financial Assistance

The Department of Mathematics offers opportunities for financial support of graduate students through Graduate Assistantships and Fellowships. Individuals desiring further information about such opportunities, or about the graduate program as a whole, should contact:

Maryann Bovo
Mathematics Graduate Office
3325 Everett Tower
Telephone: (269) 387-4512
e-mail: maryann.bovo@wmich.edu
Master of Arts in Mathematics
Advisor: See Mathematics Office,
Room 3319, Everett Tower

The Master of Arts in Mathematics extends the student’s knowledge in the areas of algebra, real and complex analysis, applied mathematics, combinatorics, geometry, number theory, and topology. The program permits specialization in preparing for advanced study, and provides additional training for teachers of mathematics and students seeking employment in industry.

Admission Requirements
To gain admission to this program the student must have completed, with satisfactory grades, an undergraduate major in mathematics. This major must ordinarily include a course in modern algebra and a course in advanced calculus or real analysis. If the student’s undergraduate program in mathematics does not meet approved standards, the student may be required to elect additional courses or otherwise satisfy the requirements of the department.

Program Requirements
1. Complete a minimum of thirty hours of approved course work with at least twenty-four hours in mathematics, including:
   a. MATH 5220 - Introduction to Topology Credits: 3 hrs. Or have had the equivalent prior to entering the program.
   b. MATH 5300 - Linear Algebra Credits: 3 hrs. or have had the equivalent prior to entering the program.
   c. MATH 5710 - Advanced Calculus II Credits: 3 hrs. or have had the equivalent prior to entering the program.
   d. MATH 6300 - Abstract Algebra I Credits: 3 hrs.
   e. Either:
      MATH 6700 - Real Analysis I Credits: 3 hrs. or
      MATH 6760 - Complex Analysis Credits: 3 hrs.
   f. An approved graduate level sequence.
2. A student must get a “B” or better in the following:
   MATH 5220 - Introduction to Topology Credits: 3 hrs.
   MATH 5300 - Linear Algebra Credits: 3 hrs.
   MATH 5710 - Advanced Calculus II Credits: 3 hrs.

Master of Arts in Mathematics Education
Advisor: See Mathematics Office,
Room 3319, Everett Tower

This program deepens and extends secondary school mathematics teachers’ understanding of mathematics and its learning and teaching. Through a focus on both theory and practice, this program enables teachers to strengthen their classroom effectiveness, to assume leadership roles in curriculum and instruction, and, if so desired, continue with doctoral study in mathematics education.

Admission Requirements
In addition to the general admission requirements of The Graduate College, admission to this curriculum requires a bachelor’s degree with at least a secondary teaching minor in mathematics, equivalent to that offered at Western, and fifteen hours of undergraduate work in professional education or its equivalent.

Program Requirements
In meeting these program requirements an effort is made to select courses that deal with concepts and skills related to central themes in secondary school mathematics programs. These themes are given substance in courses that deal with topics enabling students to review and build on their previous course work, to explore new areas, to develop thorough understandings of concepts that are initiated in secondary school mathematics courses, and to achieve a high level of mastery of skills associated with these concepts.
1. Complete at least 15 credit hours of approved graduate mathematics courses usually selected from:

- MATH 5100 - Applied Matrix Algebra Credits: 3 hrs.
- MATH 5300 - Linear Algebra Credits: 3 hrs.
- MATH 5800 - Number Theory Credits: 3 hrs.
- MATH 6110 - Mathematical Applications Credits: 3 hrs.
- MATH 6150 - Intermediate Analysis Credits: 3 hrs.
- MATH 6160 - Survey of Algebra Credits: 3 hrs.
- MATH 6170 - Discrete Dynamical Systems Credits: 3 hrs.
- MATH 6490 - Studies in Geometry Credits: 3 hrs.
- STAT 6120 - Data Analysis Credits: 3 hrs.

2. Complete 12 credit hours of approved graduate mathematics education courses selected from:

- MATH 6520 - Studies in Teaching Middle School Mathematics Credits: 3 hrs.
- MATH 6540 - Secondary School Mathematics Curriculum Studies Credits: 3 hrs.
- MATH 6950 - Seminar in Mathematics Education Credits: 1-4 hrs.

3. Complete an approved three-credit hour 6000-level elective, selected from mathematics, mathematics education, or professional education.

**Master of Science in Applied and Computational Mathematics**

Advisor: See Mathematics Office, Room 3319, Everett Tower

Students completing a Master of Science in Applied and Computational Mathematics will have obtained a broad background in the mathematical sciences, including statistics, differential equations, mathematical programming, and computational mathematics. The use of mathematical models to study practical problems is emphasized throughout the program. This program prepares students for professional employment in industry or government. By carefully selecting electives, a student can also be prepared for further studies in mathematics or to teach mathematics.

**Admission Requirements**

Entering students are expected to have taken courses in calculus (including multivariate calculus and differential equations), linear algebra, advanced calculus, (calculus-based) probability or statistics, and have a working knowledge of computer programming. The courses at WMU which satisfy the admission requirements are: MATH (1220 or 1700), (1230 or 1710), 2720, 3740, 2300, 5700, STAT (3620, 5600, or 3640), and CS (1070, 1110, 1120, or a CS course approved by an advisor). A promising student may be admitted with some deficiencies in these admission requirements. The missing work then becomes an extra program requirement.

**Program Requirements**

1. Complete the following 22 or 23 semester hours of specified courses:

- MATH 5070 - Numerical Analysis I Credits: 3 hrs.
- MATH 5740 - Advanced Differential Equations Credits: 3 hrs.
- MATH 6020 - Mathematical Modeling I Credits: 3 hrs.
- MATH 6070 - Numerical Analysis II Credits: 3 hrs.
- MATH 6370 - Numerical Linear Algebra Credits: 3 hrs.
- MATH 6900 - Seminar in Applied Mathematics Credits: 1-3 hrs. This course may be repeated for credit.

Select Either:

- IME 6100 - Linear Programming for Engineers Credits: 3 hrs. or
- MATH 6080 - Linear Programming Credits: 3 hrs.

And Either:

- STAT 5620 - Statistical Theory Credits: 4 hrs. or
- STAT 6620 - Applied Linear Models Credits: 3 hrs.
With the approval of the advisor, a student may substitute approved electives for any of the specified courses which were previously taken.

2. Complete at least 9 semester hours of approved electives which are different from the above courses.

**Mathematics**
- MATH 5100 - Applied Matrix Algebra Credits: 3 hrs.
- MATH 5270 - Differential Geometry of Curves and Surfaces Credits: 3 hrs.
- MATH 5710 - Advanced Calculus II Credits: 3 hrs.
- MATH 5720 - Vector Calculus and Complex Variables Credits: 4 hrs.
- MATH 6050 - Optimization Credits: 3 hrs.
- *MATH 6090 - Studies in Applied Math Credits: 3 hrs. This course may be repeated for credit.
- MATH 6760 - Complex Analysis Credits: 3 hrs.
- *MATH 6900 - Seminar in Applied Mathematics Credits: 1-3 hrs. This course may be repeated for credit.
- *MATH 6990 - Reading and Research Credits: 1-6 hrs. This course may be repeated for credit.
- *MATH 7120 - Professional Field Experience Credits: 2-12 hrs. This course may be repeated for credit.
- * These courses may be repeated for credit.

**Computer Science**
- CS 5800 - Theory of Computation II: Formal Languages Credits: 3 hrs.
- CS 6310 - Advanced Data Structures Credits: 3 hrs.
- CS 6320 – Analysis of Computer Algorithms Credits: 3 hrs.
- CS 6800 - Theory of Formal Computation III: Computability and Complexity Credits: 3 hrs.

**Industrial Engineering**
- IME 6110 - Deterministic Methods in Operations Research Credits: 3 hrs.

**Statistics**
- STAT 5620 - Statistical Theory Credits: 4 hrs.
- STAT 5660 - Nonparametric Statistical Methods Credits: 3 hrs.
- STAT 6600 - Statistical Inference I Credits: 4 hrs.
- STAT 6620 – Applied Linear Models Credits: 3 hrs.
- STAT 6640 - Design of Experiments I Credits: 3 hrs.
- STAT 6670 - Introduction to Random Processes Credits: 3 hrs.
- STAT 6800 - SAS Programming Credits: 3 hrs.

**Doctor of Philosophy in Mathematics**
Advisor: See Mathematics Office,
Room 3319, Everett Tower

**Admission Requirements**
A student may enter this program with a master’s degree or directly upon completion of a bachelor’s program. In addition to satisfying the general admission requirements of The Graduate College, the student must have acquired a sufficient level of mathematical background as determined by the Mathematics Faculty of the Department.

A student entering the program in Collegiate Mathematics Education must have sufficient background in mathematics and education as determined by the Collegiate Mathematics Education Committee, a joint committee of the Mathematics and Mathematics Education faculty.

**Program Requirements**

**Mathematics**
A student must complete the following requirements:
1. Take at least 60 hours beyond the bachelor’s degree - 45 hours, excluding MATH 7300. 
   There must be 30 hours of mathematics courses numbered 6000 or above, excluding MATH 7300. It is required by 
   the University that the dissertation hours and 30 hours of course work be completed after admission to the doctoral 
   program. The 60 hours will include the following courses.

   A two-semester graduate sequence in Algebra (MATH 6300-6310) 
   A two-semester graduate sequence in Analysis (MATH 6700-6710) 
   A two-semester graduate sequence in Topology (MATH 6210-6240) 
   A course in Complex Analysis (MATH 6760) 
   An approved course in applied mathematics or probability/statistics

2. Take three comprehensive examinations.
   A student in Algebra, Analysis, or Topology must take comprehensive examinations in each of these areas.

   A student planning to do a dissertation in any other area of mathematics may, with approval of the advisor and the 
   Mathematics Graduate Committee, replace either the Algebra or Topology examination with one in the student’s 
   specialty.

3. Demonstrate competency in two research tools, including at least one foreign language.
   The foreign language research tool may be satisfied by completing courses numbered 4000 in foreign languages 
   with a “B” or better or by demonstrating the ability to read mathematics in foreign languages as certified by the 
   Mathematics Graduate Committee. Competence in computer usage as a research tool is usually demonstrated by 
   completing 3 hours of MATH 6880 with a “B” or better.

4. Teach an undergraduate mathematics class at the 2000-level or higher.

5. Complete a dissertation that is a significant new contribution to mathematics and defend the dissertation before 
   the student’s doctoral committee. This requires at least 15 hours of the following course: 
   MATH 7300 - Doctoral Dissertation Credits: 15 hrs.

6. The following courses may not be included in the required 60 hours.
   MATH 6110 - Mathematical Applications Credits: 3 hrs. 
   MATH 6120 - Data Analysis Credits: 3 hrs. 
   MATH 6150 - Intermediate Analysis Credits: 3 hrs. 
   MATH 6160 - Survey of Algebra Credits: 3 hrs. 
   MATH 6170 - Discrete Dynamical Systems Credits: 3 hrs. 

Collegiate Mathematics Education

This degree program requires a minimum of 80 hours beyond the bachelor’s degree — 65 hours, excluding MATH 
7300. The basic requirements of the program are as follows.

1. Complete required course work, including:
   Introduction to Topology (MATH 5220), Linear Algebra (MATH 5300), and Advanced Calculus I & II (MATH 
   5700 and 5710)

   A two-semester graduate sequence in Algebra (MATH 6300-6310)

   A two-semester graduate sequence in another approved area of mathematics in which a comprehensive examination 
   is offered

   A semester course in Complex Analysis (MATH 6760)

   Five additional courses, including at least one in Applied Mathematics and at least two in Probability or Statistics 
   (usually STAT 5620 and 6620)
Fifteen credit hours in approved mathematics education courses

2. Pass three comprehensive examinations:
   Algebra
   Mathematics Education
   One other approved area in Mathematics

3. Demonstrate competence in two research tools.
   This may be satisfied by demonstrating competence in computer usage, usually through 3 credit hours of MATH 6880, and in educational research methods, usually through completion of STAT 6620 and EMR 6480.

4. Complete a Teaching Practicum (GRAD 7130) involving an undergraduate course in mathematics at the 2000-level or above.

5. Complete and successfully defend a dissertation in collegiate mathematics education requiring 15 hours of:
   MATH 7300 - Doctoral Dissertation Credits: 15 hours

Procedures
Upon admission every student will be assigned an advisor. The advisor and student will, within the student’s first calendar year, design a tentative program for completing a Ph.D. This plan must be approved by the committee supervising the Ph.D. program in Mathematics (or Collegiate Mathematics Education for students in that program). Any changes in the student’s program must be approved by the supervising committee.

A student must take the comprehensive examinations as soon as possible. After completing a course sequence leading to a comprehensive examination, a student must take the corresponding comprehensive examination the next time it is offered. Each exam will be offered twice a year as demand requires. If a student fails a comprehensive examination, the student must retake the examination the next time it is offered. A student who fails a comprehensive examination twice will be dismissed from the program at the end of the semester when the exam was taken.

A full-time student must take all the comprehensive examinations by the beginning of the student’s fourth year and must pass the examinations by the end of the fourth year. Part-time students must follow a similar schedule adapted to the number of classes they can take each year.
A full-time student will start taking reading courses from potential dissertation advisors as soon as the student has passed one comprehensive examination. As soon as a student finds a dissertation advisor, the dissertation advisor becomes the student’s advisor.

As soon as a student passes the comprehensive examinations and completes the research tools, the student will, in consultation with the advisor, form a dissertation committee and apply for candidate status. The dissertation committee will consist of the dissertation advisor, a second reader, at least one other faculty member, and a member from outside the department. This committee must be approved by the committee supervising the Ph.D. program. A student will not be allowed to take MATH 7300 hours until these requirements are completed.

At least one year before the final oral defense of the dissertation, each student will give an open oral presentation of their proposed dissertation and answer questions on the proposal. The dissertation committee will consider the merits of the proposal and either allow the student to continue with the proposed problem, require the student to expand the scope of the research, or require the student to find a new topic.

After completing a dissertation and all other requirements for the Ph.D., a student will present an oral defense of the dissertation. This will be an open presentation with an open question period. The committee will then decide to accept or reject the dissertation and defense. All committee members must agree on acceptance for the student to pass.
Doctor of Philosophy in Mathematics Education

Advisor: See Mathematics Office, Room 3319, Everett Tower

The Doctor of Philosophy in Mathematics Education focuses on school mathematics curricula, teaching and learning mathematics, and research and evaluation in mathematics education. Programs may focus on preparation for mathematics education faculty positions in colleges and universities, supervision and curriculum development positions in school systems, or evaluation positions in education-related institutions.

Admission Requirements

Although a student may enter the program with a bachelor’s degree, most candidates for admission will have completed a master’s degree in mathematics or mathematics education and have classroom teaching experience at a pre-college level. Candidates must have a mathematics and methods background at least equivalent to that provided by the secondary mathematics teaching major at Western Michigan University. Those admitted to the program without prior K-12 teaching experience or without course work in teaching and learning will be required to obtain such experiences during their program of study. Admission will be determined by review of the following: a) academic background and transcripts, b) professional experience, c) three letters of recommendation, d) resume, e) written statement of at least 500 words indicating professional goals and purpose for seeking a doctoral degree, f) an interview with the Mathematics Education Faculty (when requested), and g) satisfactory completion of the general admission requirements of The Graduate College.

Program Requirements

This degree program requires a minimum of 90 credit hours beyond the bachelor’s degree. Most students work half-time as research or teaching assistants and spend at least two years on campus. Assistantship experience is a significant part of the doctoral program. In addition to assistantships in mathematics education, other opportunities are available in mathematics and on faculty research grants and projects. Students are expected to satisfy the following program requirements.

1. Complete required course work:
   At least 30 approved graduate credit hours in mathematics and statistics, including general topology (MATH 5220), linear algebra MATH 5300), analysis (MATH 5700 or 6150), abstract algebra (MATH 6300 or 6160), graph theory (MATH 6400), geometry (MATH 6490), and statistics (STAT 6120 or STAT 6620). The remaining courses are to be selected, in consultation with program advisors, from the 5000- and 6000-level offerings in applied mathematics, pure mathematics, and statistics.
   At least six approved graduate credit hours in research methods including a course in quantitative methods (STAT 6620, PSY 6340, or EMR 6450) and a course in qualitative methods (EMR 6480).
   At least 21 approved graduate credit hours in mathematics education including issues and trends in mathematics education (MATH 6570), psychology of learning mathematics (MATH 6580), research in mathematics education (MATH 6590), and two advanced methods courses (selected from MATH 6510, 6520, and 6530).
   Additional approved graduate credit hours selected from mathematics, statistics, mathematics education, psychology, and professional education sufficient to meet the minimum program requirements.

2. Pass three comprehensive examinations:
   K-12 mathematics curriculum and instruction
   Psychological foundations and mathematical learning
   Research in mathematics education

3. Acquire competence in two research tools.
   This may be satisfied by demonstrating competence in computer usage, usually through 3 credit hours of MATH 6880, and in educational research methods, usually through completion of EMR 6480 and one of STAT 6620, PSY 6340, or EMR 6450.
4. Complete a Teaching Practicum (GRAD 7130) involving an undergraduate course in mathematics or mathematics education at the 2000-level or above.
MATH 7120 - Professional Field Experience Credits: 2-12 hours

5. Complete and successfully defend a dissertation in mathematics education requiring 15 credit hours of:
MATH 7300 - Doctoral Dissertation Credits: 15 hours

**Procedures**

Upon admission a student will, within the first year of enrollment, work with a two-member advisory committee to design a Plan of Study for completing the Ph.D. At this time, any course requirements already satisfied through prior master’s level work will be determined by the advisory committee. After a tentative Plan of Study has been designed, one of the advisory committee members will be assigned to serve as the student’s advisor for program matters leading up to the formulation of a dissertation proposal. The Plan of Study will be reviewed and adjusted as necessary throughout the program.

A student will schedule comprehensive examinations in consultation with the program advisor. The examinations in curriculum and in psychology will each be three-hour written examinations. The examination in research and design will be a take-home examination written over a period of one week followed within two weeks of submission by a one-hour oral defense conducted with at least two graduate faculty in mathematics education. If a student fails a comprehensive examination, the student must retake the examination within a year of the first attempt. A student who fails a comprehensive examination twice will be dismissed from the program at the end of the semester when the exam was taken.

By the time a student has passed comprehensive examinations in curriculum and instruction and in psychological foundations, the student will take reading courses from a potential dissertation advisor with the goal of developing a proposal for dissertation research. Depending upon the nature of the proposed research, the student may be required to conduct a pilot study.

As soon as a student has passed all three comprehensive exams and shown competency in the two research tools, the student will, in consultation with a chosen dissertation advisor, form a dissertation committee. The chosen dissertation advisor will become the student’s program advisor. The dissertation committee shall consist of the dissertation advisor, a second reader, at least one other faculty member, and a member from outside the department. This committee must be approved by the doctoral committee of the Mathematics Education Area Group. At a time mutually convenient to the student and the dissertation committee, the student will give an open public presentation of the proposed dissertation research and answer questions on the proposal. A student will be allowed to take MATH 7300 credits only after a dissertation committee has been formed and the dissertation proposal is accepted by all its members.

After completing a dissertation and all other requirements for the Ph.D., a student will present an open public defense of the dissertation followed by an open question period. The dissertation committee will then meet in private to decide acceptance or rejection of the dissertation and defense. All committee members must agree on acceptance.
Master of Arts in Medieval Studies
Advisor: James Murray,
The Medieval Institute, Walwood Hall

The Medieval Institute of Western Michigan University offers an interdisciplinary program leading to the Master of Arts in Medieval Studies. Students may choose either Option I (Thesis) or Option II (Non-thesis), depending on their career plans, personal interests, and intellectual orientation. Either option provides a broad background in medieval history, languages, literatures, palaeography, philosophy, religion, the arts, and in research methodology.

Western Michigan University offers an academic environment appropriate for the study of the Middle Ages. The University library houses extensive holdings of books and periodicals in all areas of Medieval Studies, and the Institute of Cistercian Studies library contains unique collections of early manuscripts and rare books in the field of monastic and Renaissance history and thought. Western Michigan University is the host institution for the annual International Congress on Medieval Studies, and Medieval Institute Publications publishes various series of books.
and several journals in the field of Medieval Studies. The Richard Rawlinson Center for Anglo-Saxon Studies and Manuscript Research offers further opportunities for research and study.

**Admission Requirements**

In addition to meeting the general admission requirements of The Graduate College, an applicant must submit scores from the Graduate Record Examination General Test, two letters of recommendation, and a statement of intent.

**Program Requirements**

**Option I, Thesis, 37 hrs.**

1. A total of at least 31 hours of course work, including 13 hours of required core courses and 18 hours of electives, the latter to be chosen from the list of approved courses in the Departments of Art, Comparative Religion, English, Foreign Languages, History, Music, Philosophy, and Spanish.

   ENGL 5300 - Medieval Literature Credits: 3 hrs.
   HIST 6350 - Research Techniques in Medieval History Credits: 3 hrs.
   LAT 5600 - Medieval Latin Credits: 4 hrs. (grade of B or better required)
   REL 5000 - Historical Studies in Religion Credits: 2-4 hrs. Christian Theology to 1500

2. Demonstrated reading proficiency in Latin and in either French, German, Italian, or Spanish.

3. Preparation of an acceptable Master's Thesis (6 hours) under the direction of a thesis advisory committee.


**Option II, Non-Thesis, 37 hrs.**

1. A total of at least 37 hours of course work, including 13 hours of required core courses and 24 hours of electives, the latter to be chosen from the list of approved courses in the Departments of Art, Comparative Religion, English, Foreign Languages, History, Music, Philosophy, and Spanish.

   ENGL 5300 - Medieval Literature Credits: 3 hrs.
   HIST 6350 - Research Techniques in Medieval History Credits: 3 hrs.
   LAT 5600 - Medieval Latin Credits: 4 hrs. (grade of B or better required)
   REL 5000 - Historical Studies in Religion Credits: 2-4 hrs. Christian Theology to 1500

2. Demonstrated reading proficiency in Latin. (Note: Option II has no modern language requirement.)

3. Option II has no thesis requirement.
Philosophy

Timothy McGrew, Chair
Main Office: 3004 Moore Hall
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URL: http://www.wmich.edu/philosophy

Fritz Allhoff
Marc Alspector-Kelly
Kent Baldner
Zvi Biener
John Dilworth
Michael Pritchard
Quentin Smith

Master of Arts in Philosophy
Advisor: Marc Alspector-Kelly, Director of Graduate Studies
Room 3020, Moore Hall
marc.alspector-kelly@wmich.edu

The Master of Arts in Philosophy offers advanced study in the main subject areas and historical periods of philosophy.

Admission Requirements
In addition to satisfying the admission requirements of The Graduate College, applicants are expected to have completed a minimum of twelve semester hours of undergraduate work in philosophy, including a course in the history of modern philosophy, and a course in symbolic logic, and to have achieved a 3.0 or above overall grade point average in the applicant's undergraduate philosophy courses. The GRE is required. The application deadline for Fall is February 15.

Program Requirements

Non-Thesis Option
To complete the Non-Thesis Option for a Master of Arts in Philosophy, students must complete:
1. at least 1 course (no less than 3 credit hours) in each of the three Concentration areas (the “breadth requirement”),
2. at least 3 courses (no less than 9 credit hours) in one of the Concentration areas (the “depth requirement”),
3. a grade of B of better in all courses,
4. a minimum of 24 credit hours of 5000- or 6000-level courses in the Department of Philosophy, and
5. a minimum of 32 graduate credit hours. (With the authorization of the Department Graduate Advisor, students may count up to 8 credit hours of courses from other departments.)

Thesis Option
To complete the Thesis Option for a Master of Arts in Philosophy, students must complete
1. at least 1 course (no less than 3 credit hours) in each of the three Concentration areas (the “breadth requirement”),
2. at least 3 courses (no less than 9 credit hours) in one of the Concentration areas (the “depth requirement”), a minimum of 24 credit hours of 5000- or 6000-level courses in the Department of Philosophy,
3. a grade of B of better in all courses,
4. a minimum of 32 graduate credit hours. (With the authorization of the Department Graduate Advisor, students may count up to 8 credit hours of courses from other departments), and
5. 6 credit hours of PHIL 7000. Please see Graduate Advisor for details.
Concentration Areas
The department offers graduate courses in philosophy in three Concentration Areas - Metaphysics and Philosophy of Mind, Epistemology and Philosophy of Science, and Theoretical and Practical Ethics. Students must declare a concentration by the end of their first semester, but may, with departmental approval, change this at a later date. Students fulfilling their depth requirement in Metaphysics and Philosophy of Mind must take PHIL 6330 Metaphysics. Students with a Concentration in Epistemology and Philosophy of Science must take PHIL 6320 Theory of Knowledge. Students with a Concentration in Theoretical and Practical Ethics must take PHIL 6310 Ethical Theory.

a. Metaphysics and Philosophy of Mind:
Courses that may, given the Proviso below, count for credit in Metaphysics and Philosophy of Mind are:
PHIL 5070 - The Continental Tradition in Philosophy Credits: 2-4 hrs.
PHIL 5120 - Aesthetics Credits: 3 hrs.
PHIL 5200 - Philosophical Applications of Symbolic Logic Credits: 3 hrs.
PHIL 5400 - Philosophy of Mind Credits: 2-4 hrs.
PHIL 5600 - Philosophy at Pre-College Levels Credits: 2-4 hrs.
PHIL 5700 - Philosophical Topics Credits: 1-4 hrs.
PHIL 6000 - Colloquium Credits: 2-4 hrs.
PHIL 6100 - Seminar in the History of Philosophy Credits: 2-4 hrs.
PHIL 6200 - Philosophy of Language and Logic Credits: 2-4 hrs.
PHIL 6330 - Metaphysics Credits: 2-4 hrs.
PHIL 6500 - Philosophy of Religion Credits: 2-4 hrs.

b. Epistemology and Philosophy of Science
Courses that may, given the Proviso below, count for credit in Epistemology and Philosophy of Science are:
PHIL 5070 - The Continental Tradition in Philosophy Credits: 2-4 hrs.
PHIL 5120 - Aesthetics Credits: 3 hrs.
PHIL 5200 - Philosophical Applications of Symbolic Logic Credits: 3 hrs.
PHIL 5250 - Decision Theory Credits: 4 hrs.
PHIL 5550 - Advanced Philosophy of Science Credits: 2-4 hrs.
PHIL 5600 - Philosophy at Pre-College Levels Credits: 2-4 hrs.
PHIL 5700 - Philosophical Topics Credits: 1-4 hrs.
PHIL 6000 - Colloquium Credits: 2-4 hrs.
PHIL 6100 - Seminar in the History of Philosophy Credits: 2-4 hrs.
PHIL 6200 - Philosophy of Language and Logic Credits: 2-4 hrs.
PHIL 6320 - Theory of Knowledge Credits: 2-4 hrs.
PHIL 6500 - Philosophy of Religion Credits: 2-4 hrs.

c. Theoretical and Practical Ethics
Courses that may, given the Proviso below, count for credit in Theoretical and Practical Ethics are:
PHIL 5070 - The Continental Tradition in Philosophy Credits: 2-4 hrs.
PHIL 5120 - Aesthetics Credits: 3 hrs.
PHIL 5340 - Moral and Philosophical Foundations of Health Care Credits: 3 hrs.
PHIL 5440 - Practical Ethics Credits: 3 hrs.
PHIL 5600 - Philosophy at Pre-College Levels Credits: 2-4 hrs.
PHIL 5700 - Philosophical Topics Credits: 1-4 hrs.
PHIL 6000 - Colloquium Credits: 2-4 hrs.
PHIL 6100 - Seminar in the History of Philosophy Credits: 2-4 hrs.
PHIL 6310 - Ethical Theory Credits: 2-4 hrs.

Proviso:
For courses listed under more than one Concentration, the faculty member and student will come to an agreement concerning which concentration a given course will fall under, determined by the course topic and content. Students may count a single, given offering of a course under only one Concentration. The following courses do not count for credit under any Concentration:
PHIL 5980 - Readings in Philosophy Credits: 1-4 hrs.
PHIL 7000 - Master's Thesis Credits: 1-6 hrs.
PHIL 7100 - Independent Research Credits: 2-6 hrs.
Master of Arts in Physics
Advisor: Dean Halderson,
Room 1135, Everett Tower

The Department of Physics offers a graduate program leading to the Master of Arts in Physics. The objective of the program is to enable students to acquire the knowledge and technical skills needed in physics-related occupations and in graduate study at the doctoral level. Thirty semester hours of graduate credit are required. An additional requirement is either to pass the Doctoral Qualifying Examination at the master's degree level or to complete a Master's Thesis. Participation in research may occur in one of three areas:

1. Theoretical physics—astrophysics, atomic physics, nuclear structure, nuclear reactions, or condensed matter.
2. Experimental physics—astronomy, atomic physics, nuclear physics, condensed matter physics, or materials analysis with accelerated ions. Campus facilities available for experimental research include a Van de Graaff accelerator and laboratory, and a low-temperature physics laboratory. Experimental research may also be conducted at facilities off campus.
3. Computer and instrumentation physics—software and hardware development for computer data acquisition and analysis, or instrumentation development for physics research. Or any combination of these, or some interdisciplinary areas.

Admission Requirements
Students entering this program are expected to have acquired a bachelor's degree in physics or at least an equivalent amount of experience and training (including training in mathematics at the appropriate level). Prospective students are recommended to take the GRE General Test and Physics Subject Test. The departmental graduate advisor will provide assistance to students seeking admission to this program and will recommend ways of eliminating any deficiencies in course work.

Program Requirements
The 30 semester hours of graduate credit must include the following:

1. Fifteen hours of required courses in physics, namely: (Substitutions for these courses may be made only with the approval of the graduate advisor.)
PHYS 6100 - Research Seminar Credits: 1 hr.
PHYS 6220 - Quantum Mechanics I Credits: 3 hrs.
PHYS 6240 - Statistical Mechanics Credits: 3 hrs.
PHYS 6300 - Classical Mechanics Credits: 4 hrs.
PHYS 6620 - Electricity and Magnetism I Credits: 4 hrs.

2. Doctoral Qualifying Examination
Either successful completion of the Doctoral Qualifying Examination at the master's degree level or satisfactory completion of:
PHYS 7000 - Master's Thesis Credits: 6 hrs.

3. Additional Hours
Additional hours from Physics, Computer Science, Electrical Engineering, or other departments to be chosen with the consent of the graduate advisor.

The thesis may be either theoretical or experimental in nature and is accomplished under the guidance of a committee of the graduate faculty in Physics. The topic of the thesis may be based on one of the research areas noted above, or it may be based on some other area of physics chosen by the student and approved by the thesis committee. The committee may require an oral defense of the thesis before approving it for submission to The Graduate College.

Graduate students are required to attend the Physics Colloquium, which constitutes a program for graduate students and Physics faculty, presented by members of the WMU Physics faculty and visitors from other institutions on topics related to their research specialties. Graduate students are also expected to attend the Physics Public Lectures, a series of talks on topics of general interest in physics and related fields.

**Doctor of Philosophy in Physics**
Advisor: Dean Halderson,
Room 1135, Everett Tower

The Department of Physics offers a program leading to the Doctor of Philosophy in Physics. The main objective of this program is to prepare students for careers in teaching and/or research in colleges and universities, or for research in industry. Research is an integral part of the program and may be performed in either experimental physics or theoretical physics. The area of specialization may be astrophysics, atomic physics, condensed matter physics, or nuclear physics. Special facilities available for research include a 6 MV model EN tandem Van De Graaff accelerator. The graduate advisor in the Department of Physics will counsel the student until a research advisor is selected. Afterwards the student will plan his/her doctoral program in consultation with the graduate advisor and his/her research advisor.

**Admission Requirements**
Students entering this program are expected to have acquired a bachelor's degree in physics or at least an equivalent amount of experience and training (including training in mathematics at the appropriate level). Prospective students are required to take the Graduate Record Examination General Test. Performance on this examination will be used as one measure in the determination of admission and financial support. It is also recommended that students take the Physics Subject Test part of the Graduate Record Examination. The departmental graduate advisor will provide assistance to students seeking admission to this program and will recommend ways of eliminating any deficiencies in course work.

**Program Requirements**
The Doctor of Philosophy in Physics includes a minimum of 60 hours of graduate credit. These credits are composed of course work, supervised reading, seminars, and research. The research will be performed under the guidance of the student's research advisor and must culminate in a dissertation suitable for publication. The required, minimum 60 hours of graduate credit shall consist of the following:

1. A core of basic courses listed below (28 credit hours).
2. Physics Dissertation (15 credit hours).
PHYS 7300 - Doctoral Dissertation Credits: 15 hrs.

3. Additional courses chosen from:
   a. Research courses
   PHYS 6800 - Research in Atomic Physics Credits: 1-6 hrs.
   PHYS 6810 - Research in Nuclear Physics Credits: 1-6 hrs. or
   PHYS 6820 - Research in Condensed Matter Physics Credits: 1-6 hrs.
   b. Courses mutually agreed upon by the student and the graduate advisor or the research advisor.

4. An overall grade point average of 3.25 in all graduate work.

**Basic Core Courses:**
PHYS 6100 - Research Seminar Credits: 1 hr.
PHYS 6150 - Mathematical Physics Credits: 3 hrs.
PHYS 6220 - Quantum Mechanics I Credits: 3 hrs.
PHYS 6230 - Quantum Mechanics II Credits: 3 hrs.
PHYS 6240 - Statistical Mechanics Credits: 3 hrs.
PHYS 6300 - Classical Mechanics Credits: 4 hrs.
PHYS 6620 - Electricity and Magnetism I Credits: 4 hrs.
PHYS 6630 - Electricity and Magnetism II Credits: 4 hrs.

And one (1) of the following:
PHYS 6700 - Atomic Physics Credits: 3 hrs.
PHYS 6710 - Nuclear Physics Credits: 3 hrs.
PHYS 6720 - Condensed Matter Physics Credits: 3 hrs.

**Additional Requirements**
The research tool requirements must be met by demonstrated competency in two of the following: (1) Programming at the level of MATH 5070 (e.g., the acquisition, analysis, modeling, or simulation of data); (2) a non-native foreign language at the level of FREN 4010, GER 4010, etc.; (3) differential equations at the level of MATH 5740; (4) or the use of physics research equipment at a level equivalent to PHYS 4660. PHYS 4660 is strongly recommended for those students who have not had an advanced laboratory course.

The courses PHYS 6150, 6220, 6300, and 6620 normally are taken during the student's first year. Upon completion of these courses the student is required to take the Qualifying Examination. The Qualifying Examination consists of four testing sessions and will cover the contents of the four courses. This examination is a written examination; however, if deemed necessary for a more precise judgment, the student may be required to take an additional oral examination. The examination must be passed before any hours of PHYS 7300 Doctoral Dissertation or PHYS 7350 Graduate Research are taken. A student is allowed to take the Qualifying Examination only twice. It is recommended that the Qualifying Examination be taken at the end of the first year. This examination must be taken for the first time no later than the beginning of the student's third year and must be passed before the beginning of the student’s fourth year.

The grade awarded on the Qualifying Examination is based not only on the student's performance on the written examination, but also on his or her performance in courses. The grade represents the faculty's judgment, based on all available evidence, on whether or not a student should become a doctoral candidate.

After successful completion of the Qualifying Examination, the student will, upon counsel with the graduate advisor and with the consent of the faculty member involved, select a research advisor. The advisor must be a member of the graduate faculty. With agreement from the research advisor, the student will select a dissertation committee. This committee will consist of the research advisor and three additional graduate faculty members, at least one of whom is from outside the Physics Department.
As soon as possible after completion of all the core courses, the student must take the Comprehensive Examination. The Doctoral Program of Study form must be approved before this examination is taken. This examination consists of questions on the doctoral dissertation proposal and, possibly, on the core courses. A student will be given a grade of pass or fail. If a student fails the Comprehensive Examination, it may be repeated only once. At the completion of the dissertation, the student will take a Final Oral Examination. During this examination, the dissertation committee will ask questions concerning the dissertation and concerning the student's research area. Members of the committee should be provided with copies of the dissertation at least one month in advance of the examination. The dissertation and the student's knowledge of the subject areas must be deemed acceptable by the committee.

The requirements and procedures for submission of a dissertation to the Graduate College can be obtained from that College.
Political Science

J. Kevin Corder, Chair
Main Office: 3302 Friedmann Hall
Telephone: (269) 387-5680
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James M. Butterfield
John A. Clark
Paul Clements
Suhashni Datta-Sandhu
Emily Hauptmann
Gunther M. Hega
Susan Hoffmann
David G. Houghton
Mark Hurwitz
Ashlyn Kuersten
Priscilla Lambert
Mahendra Lawoti
Sybil D. Rhodes
Jacinda Swanson
Peter Wielhouwer

Master of Arts in Political Science

Director of Graduate Studies: Jim Butterfield,
Room 3352, Friedmann Hall

The Master of Arts in Political Science offers the student a variety of options to prepare him/her for various career goals: (1) positions in the public service and quasi-public agencies; (2) further professional training in political science and related professions, such as law; (3) teaching positions in community colleges; and (4) general positions in the business world.

Admission Requirements

In addition to meeting the general admission requirements of the Graduate College, a student must have completed at least 24 hours of work in the social sciences or other relevant fields and have achieved a 3.0 grade point average. Graduate Record Exam scores for the quantitative, verbal, and analytical parts are required for all students. Additional materials to be submitted include a brief essay about the student's academic and professional objectives, a curriculum vita, and three recommendations (on WMU Graduate Reference Forms). The department may require the student to make up deficiencies in undergraduate preparation.

Program Requirements

The program is 30 credit hours and allows students to choose between the thesis and non-thesis options. Requirements in the two options may not be interchanged. Students should meet with the Director of Graduate Studies before registering for classes their first semester.

Thesis Option

1. Thirty hours of graduate credit in Political Science.
   With the written approval of the Graduate Director, a student may substitute up to two courses with a maximum of eight hours of cognate work appropriate to his/her program.

2. Each student is required to take the following core courses (15 hours) or their equivalent:
   PSCI 6010 - Foundations of American Politics Credits: 3 hrs.
   PSCI 6410 - Foundations of Comparative Politics Credits: 3 hrs.
PSCI 6640 - The Nature of Political Inquiry and Analysis Credits: 3 hrs.
PSCI 6940 - Teaching Political Science Credits: 1 hr.
PSCI 6960 - Research and Professional Skills Credits: 2 hrs.

And one of:
PSCI 6620 - Political Philosophy I Credits: 3 hrs.
PSCI 6630 - Political Philosophy II Credits: 3 hrs.
PSCI 6650 - Modern Democratic Theory Credits: 3 hrs.

3. Master's Thesis
PSCI 7000 - Master's Thesis Credits: 6 hrs.

4. Pass an oral examination on the thesis and on the student's political science program.

Non-Thesis Option
1. Thirty hours of graduate credit in Political Science.
With written approval of the Graduate Director, a student may substitute up to two courses with a maximum of eight hours of cognate work appropriate to his/her program.

2. Each student is required to take the following core courses (15 hours) or their equivalent:
PSCI 6010 - Foundations of American Politics Credits: 3 hrs.
PSCI 6410 - Foundations of Comparative Politics Credits: 3 hrs.
PSCI 6640 - The Nature of Political Inquiry and Analysis Credits: 3 hrs.
PSCI 6940 - Teaching Political Science Credits: 1 hr.
PSCI 6960 - Research and Professional Skills Credits: 2 hrs.

And one of:
PSCI 6620 - Political Philosophy I Credits: 3 hrs.
PSCI 6630 - Political Philosophy II Credits: 3 hrs. or
PSCI 6650 - Modern Democratic Theory Credits: 3 hrs.

3. Pass written and oral field examinations on the student's political science program.

Master of International Development Administration
MIDA Director: Paul Clements,
Room 3354, Friedmann Hall

The Master of International Development Administration (MIDA) program is designed to prepare candidates for careers in international development and to meet the specialized needs of public administrators and program and project managers from the developing countries. The course of instruction has as its focus the managerial and political dimensions of development and democratization and includes a strong multidisciplinary component that draws from political science, public administration, economics, geography, social work, communication, and evaluation, research and measurement.

The program is designed for two types of students: Public administrators and officials from developing countries who require additional training to meet new or increased responsibilities; and recent graduates from both developing and industrial countries, including the United States, who are interested in careers in international development, such as in government, non-governmental organizations (NGOs), or international organizations.

The MIDA program includes development administration theory and practice, methods and strategies of development management, and the honing of skills. MIDA students are guided in their work by established and experienced members of the academic community, all of whom are research scholars, and the majority of whom have lived and worked in the developing countries. Usually faculty have had experience with national and/or international organizations, or have worked with a variety of governments on development projects.
Two options exist—the standard MIDA program and the Peace Corps option. The admission and program requirements for each option are listed below.

**Standard MIDA Program Option**

**Admission Requirements**
Applicants must satisfy the requirements for admission to the Graduate College in order to be considered for admission to this program. An applicant must possess an undergraduate degree, preferably in the social sciences with either a concentration in political science or public administration, and should have some exposure to economics and/or statistics. Applicants with actual public administration experience may, under some circumstances, substitute professional attainments for undergraduate preparation.

A grade point average of 3.0 in all undergraduate work is normally a requirement for admission to the MIDA program; however, where grading scales are computed differently, equivalencies will be determined. International students must obtain from and submit their applications to the WMU Office of International Student Services. American students should apply through the WMU Graduate Admissions Office. The Department of Political Science also requires three recommendations (using WMU Graduate Reference Forms), a one page statement of the student's interest in the MIDA program, and any other supporting data that can assist the Department's Admissions Committee, which screens and judges all applications.

All students must demonstrate English proficiency (i.e., the ability to speak, read, and write in the English language) before entering the MIDA program. A Career English Program is available for students whose English language capabilities are limited.

Students are encouraged to submit all required application materials by June 15 for the fall semester; by September 15 for the spring semester; and by February 15 for the summer session.

**Program Requirements**
The Master of International Development Administration is a professional degree that requires 42 semester hours of graduate courses. Up to six hours may be waived for those with extensive administration experience. To earn the MIDA degree, students must maintain a minimum "B" average (GPA 3.0 on a 4.0 scale) in all courses. Students normally complete the program in 20 months. The basic requirements are as follows:

1. **Prerequisites** (non-credit)
   Only for those candidates without the requested academic or practical background: PSCI 2400, Introduction to Comparative Politics; ECON 2010 or 2020, Principles of Economics, or other courses as determined by the MIDA Director.

2. **Required Core Courses (15 hours)**
   PADM 6270 - Human Resources Administration Credits: 3 hrs.
   PSCI 5320 - Administration in Developing Countries Credits: 3 hrs.
   PSCI 6330 – Comparative National Development Strategies Credits: 3 hours
   PSCI 6360 - Seminar: Development Methods and Skills Credits: 3 hours
   PSCI 6380 - Seminar: Planning Development Programs Credits: 3 hours

3. **Development Analysis (6 hours)**
   Select two of the following:
   ECON 5880 – Economic Development Credits: 3 hours
   (ECON 6880 may be substituted)
   PSCI 6311 – Monitoring and Evaluation of International Development Projects Credits: 3 hours
   PSCI 6440 – Economic and Social Development Theory Credits: 3 hours

4. **Tools or Skills (6 hours)**
   Select two:
   ECON 6010 – Basic Economic Analysis Credits: 3 hours
   EMR 6400 – Fundamentals of Evaluation, Measurement and Research Credits: 3 hours
GEOG 5010 – Introduction to GIS  Credits: 4 hours
PADM 6060 – Analytical Methods  Credits: 3 hours
PADM 6070 – Quantitative Data Analysis  Credits: 3 hours
PADM 6080 – Organization Theory and Behavior  Credits: 3 hours
PADM 6120 - Principles of Public Budgeting  Credits: 3 hours
PADM 6290 – Supervisory Skills for Administrators  Credits: 3 hours
PADM 6840 – Public Financial Resource Management  Credits: 3 hours
PSCI 6910 – Political Analysis I  Credits: 3 hours
PSCI 6920 – Political Analysis II  Credits: 3 hours

5. International and Comparative Studies (3 hours)
Select one:
PSCI 6400 – Seminar in Comparative Politics  Credits: 3 hours
PSCI 6410 – Foundations of Comparative Politics  Credits: 3 hours
PSCI 6500 – Developing Countries Seminar  Credits: 3 hours

6. Concentrations.
Three courses within one of the six areas of concentration (9 hours). Under special circumstances a mix of courses appropriate to the needs of the student may be selected with the approval of the MIDA Director.

a. Leadership:
COM 6730 - Conflict Management Credits: 3 hrs.
COM 6830 – Leadership and Communication in Organizations  Credits: 3 hrs.
EDLD 6020 - Educational Leadership, Systems and Change  Credits: 3 hrs.
PADM 6290 – Supervisory Skills for Administrators  Credits: 3 hours
PADM 6630 – Leading the Public Organization  Credits: 3 hours
PADM 6880 – Program Planning and Proposal Writing  Credits: 3 hours
PSCI 6490 - Rural Development  Credits: 3 hours
PSCI 6490 – Rural Development  Credits: 3 hours
(Please: School of Social Work approval)
SWRK 6430 – Leadership and Management in Human Services  Credits: 3 hours
(Please: School of Social Work approval)

b. Health Services Management:
PADM 6510 - Health Services Delivery  Credits: 3 hours
PADM 6520 – Financial Management of Health Care Organizations  Credits: 3 hours
PADM 6530 – Health Policy Analysis  Credits: 3 hours
PADM 6540 – Planning and Management in Health Organizations  Credits: 3 hours
PADM 6550 - The Administration of Health Services  Credits: 3 hours

PSCI 6460 - Comparative Public Policy  Credits: 3 hours
PSCI 6640 - The Nature of Political Inquiry and Analysis  Credits: 3 hours
PSCI 6910 - Political Analysis I  Credits: 3 hours

C. Public Policy Analysis:
ECON 6010 – Basic Economic Analysis  Credits: 3 hours
GEOG 5570 – Environmental Impacts  Credits: 3 hours
PADM 6530 – Health Policy Analysis  Credits: 3 hours
PADM 6780 – Program Evaluation  Credits: 3 hours
PSCI 6460 - Comparative Public Policy  Credits: 3 hours
PSCI 6490 – Rural Development  Credits: 3 hours
PSCI 6640 - The Nature of Political Inquiry and Analysis  Credits: 3 hours
PSCI 6910 - Political Analysis I  Credits: 3 hours

D. Urban and Rural Studies:
GEOG 5010 – Introduction to GIS  Credits: 4 hours
GEOG 5440 - Studies in Economic Geography  Credits: 2-3 hours
GEOG 5530 - Water Resources Management  Credits: 3 hours
GEOG 5560 - Studies in Urban and Regional Planning  Credits: 3 hours
GEOG 5570 – Environmental Impacts  Credits: 3 hours
GEOG 5700 - Cities and Urban Systems  Credits: 3-4 hours
PSCI 6490 - Rural Development   Credits: 3 hours

e. Monitoring and Evaluation
EMR 6400 – Fundamentals of Evaluation, Measurement and Research   Credits: 3 hours
EMR 6420 – Program Evaluation   Credits: 3 hours
(Prerequisite: EMR 6400)
or
PADM 6780 – Program Evaluation   Credits: 3 hours
EMR 6430 – Personnel Evaluation   Credits: 3 hours
(Prerequisite: EMR 6400)
EMR 6450 – Elementary Statistics   Credits: 3 hours
(Prerequisite: EMR 6400)
EMR 6500 – Survey Research   Credits: 3 hours
(Prerequisites: EMR 6400 and EMR 6450)
EMR 6520 – Evaluation Practicum   Credits: 3 hours
EVAL 6000 – Foundations of Evaluation   Credits: 3 hours
GEOG 5570 – Environmental Impacts   Credits: 3 hours
PSCI 6311 – Monitoring and Evaluation of International Development Projects   Credits: 3 hours

f. Planning and Nonprofit Management
EMR 6400 – Fundamentals of Evaluation, Measurement and Research   Credits: 3 hours
GEOG 5560 - Studies in Urban and Regional Planning   Credits: 3 hours
PADM 5830 – Grant Writing for Nonprofits   Credits: 3 hours
PADM 6290 – Supervisory Skills for Administrators   Credits: 3 hours
SWRK 6270 – Planning in Nonprofit Organizations   Credits: 2 hours
SWRK 6670 – Program Planning   Credits: 3 hours
(SWRK courses require School of Social Work approval prior to registration.)

7. Approved Elective (3 hours):
With the approval of the MIDA Director choose one course from the above.

Peace Corps Program Option

The MIDA Peace Corps Option is designed for students who wish to earn the MIDA degree and to carry out two years of service as Peace Corps Volunteers. This option is only available to U.S. citizens as Peace Corps only accepts U.S. nationals. Prospective students should apply for entrance into Peace Corps and into the MIDA Program concurrently. Rather than the 42 credit hours required for a standard MIDA, the Peace Corps Option requires 36 credit hours plus completion of Peace Corps service. Of these 36 credit hours, 30 are earned at Western Michigan University and six credit hours are earned for a field paper researched and written during Peace Corps service. The 30 credit hours on campus are normally earned in a rigorous ten month course of study from September through June (four three-hour courses in the fall semester, four in the spring semester, and two in the summer session), or in 16 months including a two or four month break in the summer.

Admission Requirements
The admission requirements for the Peace Corps Option are the same as those for the Standard Program Option listed above. Applicants, however, should note on the MIDA application that they want the “Peace Corps Option.” On the application to Peace Corps, applicants should note that they are also applying to the Master’s International Program (MIP) in Development Administration at Western Michigan University

Program Requirements
1. Prerequisites—same as for Standard MIDA Program Option.

2. Required Core Courses (12 hours):
PADM 6270 - Human Resources Administration   Credits: 3 hours
PSCI 5320 - Administration in Developing Countries   Credits: 3 hours
PSCI 6330 – Comparative National Development Strategies  Credits: 3 hours
PSCI 6360 - Seminar: Development Methods and Skills  Credits: 3 hours

3. Development Analysis (3 hours)
Select one:
ECON 5880 – Economic Development  Credits: 3 hours
(ECON 6880 may be substituted)
PSCI 6311 – Monitoring and Evaluation of International Development Projects  Credits: 3 hours
PSCI 6440 – Economic and Social Development Theory  Credits: 3 hours

4. International and Comparative Studies (3 hours.):
Select one:
PSCI 6400 – Seminar in Comparative Politics  Credits: 3 hours
PSCI 6410 – Foundations of Comparative Politics  Credits: 3 hours
PSCI 6500 – Developing Countries Seminar  Credits: 3 hours

5. Concentrations (9 hours)
Three courses in an area of personal concentration selected with the approval of the MIDA Director.

6. Approved elective (3 hours)
One course selected with the approval of the MIDA Director.

7. Field Paper (6 hours)
PSCI 6390 - Peace Corps Field Paper  Credits: 6 hours

8. Peace Corps Service:
Notification by Peace Corps of completed service.

Doctor of Philosophy in Political Science
Director of Graduate Studies: Jim Butterfield,
Room 3352, Friedmann Hall

The Doctor of Philosophy in Political Science is designed to prepare students for careers in teaching and both
academic and applied research. The Ph.D. program provides basic training in American politics, comparative
politics, political theory and philosophy, and research methods. Students may enter with either a B.A. degree or an
M.A. degree.

Admission Requirements
Students must satisfy the general admission requirements of the Graduate College. Students applying to the program
with a bachelor's degree must have completed at least 24 hours of work in the social sciences or other relevant fields
and have achieved a 3.25 grade point average in their last two years of course work. Students applying with a
master's degree must have achieved a grade point average of at least 3.25 in their graduate work. Graduate Record
Exam scores for the quantitative, verbal and analytical parts are required for all students. Each applicant should
arrange to have three recommendations sent (using WMU Graduate Reference Forms) and submit a curriculum
vitae, a brief essay concerning their academic and professional objectives, and two writing samples that indicate
their ability in professional writing. All application materials for admission should be submitted by the following
dates: July 1 for Fall Semester, November 1 for Spring Semester, March 1 for Summer I Session, and May 1 for
Summer II Session.

Program Requirements
Students should meet with the Director of Graduate Studies before registering for classes their first semester.

The doctorate requires a minimum of 90 credit hours of work beyond the baccalaureate. After successfully
completing 30 hours in the program and passing the M.A. Field Exam or the Ph.D. Comprehensive Exams, students
will be eligible for a Master of Arts degree. Up to 30 credit hours may be applicable from a master’s degree.
The basic requirements for the doctorate are as follows:

1. Prerequisites (non credit). Students must have completed the following course or its equivalent with a grade of “B” or better:
   PSCI 3950 - Quantitative Methods for Political Scientists

2. Required core courses.
   Each student is required to take the following core courses (27 hours) or their equivalent:
   
   A. Foundations:
   - PSCI 6010 - Foundations of American Politics Credits: 3 hrs.
   - PSCI 6410 - Foundations of Comparative Politics Credits: 3 hrs.
   - PSCI 6640 - The Nature of Political Inquiry and Analysis Credits: 3 hrs.
   - PSCI 6910 - Political Analysis I Credits: 3 hrs.
   - PSCI 6920 - Political Analysis II Credits: 3 hrs.
   - PSCI 6940 - Teaching Political Science Credits: 1 hr.
   - PSCI 6950 - Teaching Excellence Credits: 2 hrs.
   - PSCI 6960 - Research and Professional Skills Credits: 2 hrs.
   - PSCI 6970 - Proposal Workshop Credits: 1 hr.

   And Two of the Following:
   - PSCI 6620 - Political Philosophy I Credits: 3 hrs.
   - PSCI 6630 - Political Philosophy II Credits: 3 hrs.
   - PSCI 6650 - Modern Democratic Theory Credits: 3 hrs.

3. Minimum Field Course Requirements.
   Students must take three courses in their exam fields and two in their non-exam field, as follows:
   
   Exam Fields:
   - American Politics: PSCI 6010 and two American electives
   - Political Theory: PSCI 6410 and two Comparative electives
   - Political Theory: Three of the following: PSCI 6620, PSCI 6630, PSCI 6650, or any theory elective

   Non-Exam Fields:
   - American Politics: PSCI 6010 and one American elective
   - Comparative Politics: PSCI 6410 and one Comparative elective
   - Political Theory: Two of the following: PSCI 6620, PSCI 6630 or PSCI 6650

   Students must further take enough courses to prepare them for their doctoral research and attain required hours in anticipation of dissertation credit. The precise number of elective courses should be worked out with the Graduate Director. In addition to elective courses in Political Science, students may include courses from cognate fields (with approval of the Graduate Director) and independent study.

   In order to continue in the program, students must receive a positive annual review.

5. Research tools/methods.
   All Ph.D. students must demonstrate proficiency in at least two research skills and/or methodology appropriate to their field of specialization, as determined in consultation with their advisor, field faculty, and the Graduate Director. As such, all students must successfully complete PSCI 6640, 6910, and 6920 or their equivalents, and are urged to do so as early in their careers as possible. In addition, all students must attain competence in a second elective research skill/methodological tool sufficient to meaningfully assist their research activities. Elective research tools may include advanced statistical methodology, foreign language skills (other than English), survey research, econometrics, Geographic Information Systems (GIS), or other alternative skills as approved by the Graduate Director and/or Graduate Committee. Students should check the specific research tools/methodology policy with the Graduate Director.
6. Comprehensive examination.
In order to continue in the program after the completion of their required core course work, students must take and pass written and oral examinations covering two of the following three fields: American Politics, Comparative Politics, and Political Theory.

As the capstone to the Ph.D. degree program, the dissertation is awarded 15-21 credit hours. The dissertation is an original and substantive research requirement and will be developed and completed under the supervision of a dissertation advisor.
Psychology

R. Wayne Fuqua, Chair
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Galen J. Alessi
John Austin
Lisa E. Baker
Alyce M. Dickinson
Eric J. Fox
Scott T. Gaynor
Bradley E. Huitema
Linda A. LeBlanc
Richard W. Malott
Heather M. McGee
Amy Naugle
Cynthia Pietras
Alan Poling
C. Richard Spates
Ron Van Houten
Lester W. Wright, Jr.

Graduate Training Committee Chairperson:
Amy Naugle,
3524 Wood Hall

Linda Rowen, Program Secretary
3700 Wood Hall

The Department of Psychology has a strong scientific and behavior analytic orientation, which influences all the Department's graduate degree programs.

Graduate students receive a personal appointment to a faculty advisor and two faculty sponsors in an apprenticeship role. These arrangements facilitate the development of a personalized program to accommodate the academic and professional interests of the student and to utilize the full range of research and other facilities within the University. The student is encouraged to participate in the daily conduct of the Department's academic program and research activities.

Graduate students in all programs of the department are expected to abide by the following principles: “Ethical Principles of Psychologists” and the “Standards for Providers of Psychological Services,” published by the American Psychological Association; “Guidelines for Human Subjects Research at WMU” and “Humane Care and Use of Animals Policy and Procedures,” published by Western Michigan University; and “Guide for the Care and Use of Laboratory Animals,” published by the National Research Council. The Department expects students to be familiar with the content of these documents and to abide by the principles contained therein as they apply to academic endeavors, professional service, and research activities conducted in partial fulfillment of degree requirements as well as professional service and scholarly or research activities which are not directly awarded academic credit but are completed as part of program requirements of the Department of Psychology at Western Michigan University.

The members of the department faculty conduct an annual review of student progress and recommend to The Graduate College advancement from program applicant to candidacy for a degree within each program. This evaluation includes a review of academic performance, professional responsibility, and adherence to the accepted
ethical and professional guidelines of the discipline and the profession as published by the American Psychological Association. Failure to meet these standards and the ethical principles of the American Psychological Association and the State or failure to abide by “The WMU Student Code” and “Student Rights and Responsibilities” as delineated in the Graduate Catalog may lead to disciplinary action and/or dismissal from the program. Disciplinary reviews, including a due process hearing for the student, are conducted by the Department's Graduate Training Committee, and a summary of the findings and a recommendation for action are sent to the Dean of the Graduate College.

The Department of Psychology offers financial assistance through Department assistantships and program fellowships. Additional information concerning financial awards and program requirements may be obtained from the Department office.

**Master of Arts in Psychology**

**Admission Requirements**

Applications are reviewed in terms of four sources of information, although performance related to any one source is not sufficient to assure or deny admission. Applicants are assumed to have substantial training in psychology at the undergraduate level with a minimum of 18 hours of credit in psychology, including introductory statistics. Applicants may be required to complete additional courses following matriculation in order to satisfy these basic requirements.

The application procedure includes submission of:
1. A transcript showing the completion of an undergraduate major or minor in psychology
2. Graduate Record Examination (verbal and quantitative tests)
3. Three letters of recommendation
4. An autobiography describing academic interests and professional goals
5. The Department of Psychology admission application

Students are admitted only during the Fall Semester each year. The deadline for receipt of all application materials is January 20.

It is the policy and commitment of the Department of Psychology not to discriminate on the basis of race, sex, age, color, national origin, height, weight, marital status, sexual orientation, religion, handicap, or Veteran status in its educational programs, student programs, admissions, or employment policies. The Department of Psychology complies with all requirements of Title VII of the Civil Rights Act of 1964, Title IX of the 1972 Amendments, Executive Order 11246 as amended, and Section 504 or the Rehabilitation Act of 1973, and all other pertinent state and federal regulations.

**Program Requirements**

*Behavior Analysis*

Advisor:
Alan Pohling,
Behavior Analysis Program Chair
3756 Wood Hall

This program prepares students for doctoral study or for work in applied settings.

The Behavior Analysis program requires 36 credit hours, including:
1. Principles of Learning and Motivation (3 hrs.)
2. Theoretical Issues in Behavior Analysis (3 hrs.)
3. Professional Issues (3 hrs.)
4. Behavioral Approaches to Individual and Systems Management (3 hrs.)
5. Cognates (0-3 hrs.)
6. Research Methods (6 hrs.)
7. Master’s Thesis or Master’s Project (6 hrs.)
8. Behavior Analysis: Theory and Application (6-9 hrs.)
9. Professional Experience (0-9 hrs.)
Note: Limited license advisory:

Behavior-analysis students wishing to qualify for a Limited License to Practice as a psychologist in the State of Michigan are advised that the General Rules of the Board of Psychology of Michigan's Department of Licensing and Regulation lists the following requirements for a Rule 7 limited license at the M.A. Level:
1. one course in assessment
2. one course in treatment
3. a 500-hour practicum under supervision of a licensed psychologist
4. 2,000 hours of supervised, post-M.A. experience.

Behavior-analysis students may need to take two or more extra courses to meet these additional requirements. Students interested in qualifying for a limited license are encouraged to consult the appropriate licensing law and the Board of Psychology for further details.

Industrial/Organizational Psychology
Advisor: Alyce Dickinson, Industrial/Organizational Psychology Program Chair
3744 Wood Hall

The master’s program in Industrial/Organizational Psychology prepares students for human resource management positions in business, government, and human service organizations or for entry into a Ph.D. program for advanced study.

This program requires a minimum of 36 credit hours, including:
1. Industrial/Organization Psychology Core (9 hrs.)
   - PSY 6430 – Personnel Selection and Placement
   - PSY 6440 – Training and Development
   - PSY 6450 – Psychology of Work
2. Behavior Analysis (6 hrs.)
   - PSY 6100 – Conditioning and Learning
   - PSY 6510 - Applied Behavior Analysis: A System Approach
3. Professional Ethics (3 hrs.)
   - PSY 6050 Professional and Research Ethics
4. Research Methods (6 hrs.)
   - PSY 6080 – Research Methods in Applied Behavior Analysis
   - PSY 6340 – Experimental Design and Analysis
5. Research and Practice (6 hrs)
   - Thesis Option: PSY 7000 – Master’s Thesis (6 hrs)
     OR
   - Practicum Option: (6 hrs)
     - PSY 5470 – Practicum, Organization Improvement and
     - Either:
       - PSY 5480 – e-Learning Practicum
       - PSY 6520 – Systems Analysis Practicum
6. Electives (6 hrs)

Clinical Psychology
No terminal Master of Arts is offered in Clinical Psychology. A master's degree in this area is offered only as part of the Doctor of Philosophy. See the description of the doctoral program in clinical psychology for more information.
Doctor of Philosophy in Psychology
The Doctor of Philosophy in Psychology is designed to provide intensive training in Behavior Analysis or Clinical Psychology. The Doctor of Philosophy is a research degree for persons intending to assume leadership roles in teaching, research, and service in a variety of professional and academic institutions.

In addition to meeting the entrance requirements of the Graduate College, applicants are expected to show evidence of interest in and aptitude for conducting research.

Graduate students receive a personal appointment of a doctoral committee chairperson and two faculty sponsors to facilitate the full development of the student's academic interests within the research programs of the department and the University. The program is arranged to encourage active participation in the daily conduct of the department's academic program and research activities.

Program Requirements
The credit hour requirements of the Ph.D. program are arranged to prepare students for teaching and research. The content areas and credit hours of the individual doctoral programs are listed below and include:

Behavior Analysis (78 hours.)
Advisor: Alan poling,
3756 Wood Hall

1. Applied Behavior Analysis (6 hours)
2. Experimental Analysis of Behavior (6 hours)
3. Conceptual and Theoretical Issues (6 hours)
4. Research Methods and Statistics (6 hours)
5. Professional Issues (3 hours)
6. Psychology Electives (15 to 27 hours)
7. Master’s Thesis or Project (6 hours)
8. Professional Experience (6 to 18 hours)
9. Doctoral Dissertation (12 hours)

Courses count toward the Ph.D. program in Behavior Analysis only after the student has completed all courses in an M.A. program, including the M.A. thesis or M.A. project requirement.

Clinical Psychology (95 hours.)
Co-directors of Clinical Training: Scott Gaynor, Amy Naugle
3530 (Gaynor) and 3524 (Naugle) Wood Hall

1. Clinical Community Foundations (27 hours)
2. Methodology (6 hours)
3. Clinical Core (15 hours)
4. Research (21 hours)
5. Clinical Practicum and Internship (20-31 hours)
6. Research Tool (6 hours)

The research activity of the doctoral student is continuous and is encouraged through participation in the apprentice research program, completion of a six credit hour Master's Thesis and completion of a fifteen credit hour dissertation. The student is required to complete core methods courses, but also to demonstrate additional competence via a research tool sequence in an area such as grant writing, clinical trials design, foreign language, American Sign Language, computer programming, or advanced methods/statistics. The doctoral candidate will also show evidence of an ability to interpret, integrate, and discuss research data by the satisfactory completion of a comprehensive examination. The clinical training of the student is accomplished via coursework in relevant foundational and core clinical domains as well as through extensive supervised practical experience. These practical experiences occur in our campus clinic, local external agencies, and culminate in a clinical internship.

The program is arranged to provide formal evaluations of the student as he/she progresses from baccalaureate apprentice to doctoral applicant with the completion of the Master's Thesis and to doctoral degree candidate with
completion of the comprehensive examination. The award of the Ph.D. degree is made following the satisfactory completion of the required hours of approved course credit, demonstration of competence research, satisfactory completion of comprehensive examination, the oral defense of the dissertation before the student's doctoral committee at a public presentation, and successful completion of a year-long supervised clinical internship.

The Department of Psychology offers financial assistance through Department assistantships and program fellowships. Additional information concerning financial awards and program requirements may be obtained from the department office.
Public Affairs and Administration

Dr. Barbara S. Liggett, SPHR
Interim Director and Associate Professor
Main Office: 220E Walwood Hall
Telephone: (269) 387-8930
Fax: (269) 387-8935

Melisa Beeson
Anna Filipova
Barbara Liggett
Janice Maatman
Robert Peters
Victoria Ross
Udaya Wagle
James A. Visser

Master of Public Administration
Advisors: Dr. Robert Peters (Battle Creek), Dr. James Visser (Kalamazoo), (TBD) (Lansing) and Dr. Barbara S. Liggett (all sites)

The Master of Public Administration (M.P.A.) integrates research, teaching, and service in a manner that enhances leadership skills, administrative capabilities, management practices, and an understanding of environmental constraints on policy in southwest Michigan public-serving organizations. Program content emphasizes the administration of local, regional, and state government agencies; health care organizations; and other public and nonprofit agencies. Reflecting the multi-disciplinary nature of the field, the M.P.A. draws upon the diverse talents of academic departments throughout the University in addition to the faculty of the School of Public Affairs and Administration. The M.P.A. is offered on the main campus in Kalamazoo, and at the University's regional sites in Lansing and Battle Creek.

Admission Requirements
Applicants to the M.P.A. program must meet the Graduate College requirements of an undergraduate degree from an accredited college or university with an overall grade point average of at least 3.0 on a 4.0 scale. Students with an undergraduate GPA of at least 2.5, and who demonstrate a record of relevant work experience and professional advancement, may be considered for conditional admission.

The following must be submitted in order to be considered for admission:
1. The University’s Application for Graduate Admission, with the application fee.
2. An official transcript from each undergraduate and graduate institution attended (except WMU).
3. The School of Public Affairs and Administration’s “Departmental Information Form” (DIF).
4. Responses to two essay questions listed on the DIF.
5. A current resume.
6. Two letters of recommendation.

Admission is based on undergraduate grade point average, work experience, letters of recommendation, and career goals. The M.P.A. Admissions Committee meets in February (Summer I & II admission), June (Fall admission), and October (Spring admission) to consider applications.

Program Requirements (39 hours)
The M.P.A. curriculum provides a foundation in the principles of administration, addresses the practical responsibilities of managers, and reflects on the task of administrative leadership. The 39 credit hour program includes three components: the Core Program, an Area of Concentration, and the Project Paper Seminar. Pre-career students (status determined upon admission) also complete a three credit hour (300 contact hour) internship. The curriculum assumes that candidates already have basic computer literacy and a working knowledge of the American political processes at local, state, and national levels.
Core Program (18 hours)
The Core Program includes course work in the theoretical foundation of public management, critical areas of administrative responsibility, and methods of administrative and policy analysis. Students complete each of the following courses:

- PADM 6000 – Historical and Legal Foundations of American Public Administration Credits: 3 hours
- PADM 6180 - The Political and Economic Environment of Public Administration Credits: 3 hours
- PADM 6390 – Managing Public Performance and Information Technology Credits: 3 hours
- PADM 6060 – Analytical Methods Credits: 3 hours
- PADM 6070 – Quantitative Data Analysis Credits: 3 hours
- PADM 6080 - Organization Theory and Behavior Credits: 3 hours

Project Paper Seminar (3 hrs)
PADM 6800 – Project Paper Seminar is the capstone course for the M.P.A. program. It provides an opportunity for students to integrate theory and practice in a significant problem solving exercise. The product of the seminar is a professional analysis of a management problem or an applied scholarly inquiry in the field of public administration. M.P.A. candidates who have completed at least 30 hours of M.P.A. course work, including all M.P.A. program core requirements, are eligible to enroll in the Project Paper Seminar. M.P.A. advisors encourage students to enroll in this seminar as their last course, if possible.

Professional Field Experience/Internship (3 hours)
For pre-career students, the fourth major component of the M.P.A. is a planned professional field experience, or internship, equivalent to three credit hours (300 contact hours). The goal of the internship is to provide candidates with a work experience which will afford realistic exposure to their world of professional administration and to the organizational and bureaucratic environment in which the dynamics of an agency are developed.

Area of Concentration (18 hours)
Each Area of Concentration includes 18 hours of courses beyond the M.P.A. core program. Options for the Area of Concentration are health care administration, human resources administration, law, nonprofit leadership and administration, and public management. In the event that a student’s needs are not adequately addressed by one of the five areas of concentration, he or she may, with an advisor’s assistance and approval, design his or her concentration from the wide array of courses that are offered by the School of Public Affairs and Administration and by other departments in the University.

Health Care Administration Concentration
The 21 credit hour Health Care Administration (HCA) Concentration in the M.P.A. is composed of one 3 credit hour course from each of Areas I, II, III, IV, and VI and six credit hours from Area V. M.P.A. candidates completing the concentration in addition to all other degree requirements will have “Health Care Administration” noted on their official transcript.

Area I, Health Care Environment:
PADM 6510 - Health Services Delivery Credits: 3 hours

Area II, Budgeting and Finance:
PADM 6520 - Financial Management of Health Care Organizations Credits: 3 hours or FIN 6620 - Health Care Financial Management Credits: 3 hours

Area III, Human Resources:
PADM 6270 - Human Resources Administration Credits: 3 hours or PADM 6290 - Supervisory Skills for Administrators Credits: 3 hours

Area IV, Health Care Policy Development:
PADM 6530 - Health Policy Analysis Credits: 3 hours
Area V, Electives:
PADM 6540 - Strategic Planning and Management in Health Care Organizations  Credits: 3 hours
PADM 6550 - The Administration of Health Services  Credits: 3 hours
PADM 6570 - Management of Managed Care Organizations  Credits: 3 hours
PADM 6780 - Program Evaluation  Credits: 3 hours
LAW 6880 - Health Law Administration  Credits: 3 hours
LAW 6890 - Legal Problems of Health Care Organizations  Credits: 3 hours
Other courses by permission of M.P.A. Advisor.

Area VI, Capstone Project:
PADM 6800 - Project Paper Seminar Credits: 3 hrs.

Human Resources Administration Concentration
The 21 credit hour Human Resources Administration (HRA) Concentration in the MPA is composed of one course from each of Areas I, II, III, and V, and nine credit hours from Area IV. MPA candidates completing the concentration in addition to all other degree requirements will have “Human Resources Administration” noted on their official transcript, beginning with those who graduate in the fall of 2001.

Area I, Legal Dimensions:
Select one:
PADM 6110 - Administrative Law and Governmental Regulation  Credits: 3 hours or
LAW 6820 - Managerial Aspects of Labor Law  Credits: 3 hours

Area II, Budgeting and Finance:
PADM 6120 - Principles of Public Budgeting  Credits: 3 hours

Area III, Human Resources:
PADM 6270 - Human Resources Administration  Credits: 3 hours or
PADM 6290 - Supervisory Skills for Administrators  Credits: 3 hours

Area IV, Electives:
PADM 6270 - Human Resources Administration  Credits: 3 hours
PADM 6290 - Supervisory Skills for Administrators  Credits: 3 hours
CECP 6400 - Principles of Human Resources Development  Credits: 3 hours
CECP 6410 - Fundamentals of Needs Analysis  Credits: 3 hours
CECP 6420 - Evaluation of Human Resources Development Transfer and Impact  Credits: 3 hours
CECP 6450 - Practicum in Human Resources Development  Credits: 3 hours
ECON 6160 - Collective Bargaining in Public Employment  Credits: 3 hours
EDLD 6630 - Personnel Administration  Credits: 3 hours
MGMT 6170 - Managing Human Resources and Behavior  Credits: 3 hours
MGMT 6520 - Strategic Human Resource Management  Credits: 3 hours
PSY 6430 - Personnel Selection and Placement  Credits: 3 hours
PSY 6440 - Personnel Training and Development  Credits: 3 hours
PSY 6510 - Applied Behavior Analysis: A Systems Approach  Credits: 3 hours
Other courses by permission of M.P.A. Advisor.

Area V, Capstone Project:
PADM 6800 - Project Paper Seminar  Credits: 3 hours

Law Concentration
The 21 credit hour Law Concentration is composed of one course from each of Areas I, II, III, IV, and VI, and 6 hours from Area V. M.P.A. candidates completing the concentration in addition to all other degree requirements will have “Law” noted on their official transcript, beginning with those who graduated fall of 2002. The Area I required law course and all Area V law electives will be taught by Thomas M. Cooley Law School faculty. Students must be admitted to the Thomas M. Cooley Law School JD program and complete the Introduction of Law School Online
Course (www.cooleylaw.edu) prior to enrolling in any law courses and PADM 6000 Historical and Legal Foundations of Public Administration, or another appropriate M.P.A. core course. Students are also urged to consult their advisor before pursuing the M.P.A. law concentration.

Area I, Legal Dimensions:
Federal Administrative Law (Thomas M. Cooley Law School course)

Area II, Budgeting and Finance:
Select one:
PADM 6120 - Principles of Public Budgeting  Credits: 3 hours or
PADM 6520 - Financial Management of Health Care Organizations  Credits: 3 hours

Area III, Human Resources:
Select one:
PADM 6270 - Human Resources Administration  Credits: 3 hours or
PADM 6290 - Supervisory Skills for Administrators  Credits: 3 hours

Area IV, Cognate Electives:
PADM 6130 - Local Government Administration  Credits: 3 hours
PADM 6150 - State and Local Government Finance  Credits: 3 hours
BIOS 5120 - Environment and Health Problems  Credits: 3 hours
GEOG 5560 - Studies in Urban and Regional Planning  Credits: 3 hours
GEOG 5570 - Environmental Impact Assessment  Credits: 3 hours
PSCI 6010 - Foundations of American Politics  Credits: 3 hours
PSCI 6040 - American National Politics and Public Policy  Credits: 3 hours
Other courses by permission of MPA Advisor.

Area V, Law Electives:

Area VI, Capstone Project:
PADM 6800 - Project Paper Seminar  Credits: 3 hours

Nonprofit Leadership and Administration Concentration
The 18 credit hour Nonprofit Leadership and Administration (NLA) Concentration in the MPA is composed of three required courses and 9 credit hours of electives. MPA candidates completing the concentration in addition to all other degree requirements will have “Nonprofit Leadership and Administration” noted on their official transcript.

Required (9 hours)
PADM 6400 – Nonprofit Governance  Credits: 3 hours
PADM 6431 – Budget Development and Accounting for Nonprofit Organizations  Credits: 3 hours
PADM 6441 – Human Resources for Nonprofit Organizations  Credits: 3 hours

Electives (9 hours)
PADM 5830 - Grant Writing for Nonprofit Organizations  Credits: 3 hours
PADM 5840 - Promoting Nonprofit Organizations  Credits: 3 hours
PADM 5870 - Fund Raising for Nonprofit Organizations  Credits: 3 hours
PADM 6461 – Evaluation of Nonprofit Organizations  Credits: 3 hours
PADM 6471 – Leadership in Nonprofit Organizations  Credits: 3 hours
PADM 6481 – Planning in Nonprofit Organizations  Credits: 3 hours

Public Management Concentration
The 18 credit hour Public Management (PM) Concentration in the M.P.A. is composed of two options (local government administration or state government administration. Each option includes three required courses and three elective courses. M.P.A. candidates completing the concentration in addition to all other degree requirements will have “Public Management” noted on their official transcript.
Students desiring to combine or blend the local government and state agency administration options into a more general management concentration, may do so under the guidance and special permission of the students’ advisor.

**Local Government Administration Option**
Required (9 hours)
PADM 6120 – Principles of Public Budgeting  Credits: 3 hours
PADM 6130 – Local Government Administration  Credits: 3 hours

Select either:
PADM 6270 – Human Resources Administration  Credits: 3 hours or
PADM 6290 – Supervisory Skills for Public Management  Credits: 3 hours

Electives (9 hours)
Select 9 credit hours from the following:
PADM 6110 – Administrative Law and Governmental Regulation  Credits: 3 hours
PADM 6140 – Managing Community Growth and Development  Credits: 3 hours
PADM 6150 – State and Local Government Finance  Credits: 3 hours
PADM 6170 – Intergovernmental and Inter-organizational Relations  Credits: 3 hours

With special permission from the student’s advisor, students may substitute a course for one of the elective courses noted above. Suggested substitutes may include:
PADM 6400 – Nonprofit Governance  Credits: 3 hours
PADM 6860 – State Agency Administration  Credits: 3 hours
GEOG 5010 – Introduction to Geographic Information Systems  Credits: 4 hours
GEOG 5560 – Studies in Urban and Regional Planning  Credits: 3 hours
GEOG 5570 – Environmental Impact Assessment  Credits: 3 hours
GEOG 5690 – Intermediate Geographic information Systems  Credits: 4 hours
GEOG 5700 – Cities and Urban Systems  Credits: 3 to 4
GEOG 6690 – Advanced GIS Seminar  Credits: 4 hours
GEOG 6700 – Seminar in Urban Geography and Planning  Credits: 2 to 3
SOC 6600 – Theoretical Issues in Criminology  Credits: 3 hours
SOC 6610 – Seminar: Current Issues in Criminology  Credits: 3 hours
SOC 6640 – Studies in Criminology  Credits: 3 hours

**State Agency Administration Option**
Required (9 hours)
PADM 6120 – Principles of Public Budgeting  Credits: 3 hours
PADM 6860 – State Agency Administration  Credits: 3 hours

Select either:
PADM 6270 – Human Resources Administration  Credits: 3 hours or
PADM 6290 – Supervisory Skills for Public Management  Credits: 3 hours

Electives (9 hours)
Select 9 hours from the following:
PADM 6110 – Administrative Law and Governmental Regulation  Credits: 3 hours
PADM 6150 – State and Local Government Finance  Credits: 3 hours
PADM 6170 – Intergovernmental and Inter-organizational Relations  Credits: 3 hours
PADM 6870 – Legislative relations for Public Administrators  Credits: 3 hours

With special permission from the student’s advisor, students may substitute a course for one of the elective courses noted above. Suggested substitutes may include:
PADM 6140 – Managing Community Growth and Development  Credits: 3 hours
PADM 6400 – Nonprofit Governance  Credits: 3 hours
Joint Doctor of Laws and Master of Public Administration

Advisor: Dr. Robert Peters
Room 220E
Walwood Hall

The joint J.D./M.P.A. degree program provides advanced practitioner-oriented education in legal, administrative, and policy processes that are essential to the effective management of legal practices as well as health care, nonprofit, and public organizations. The combination of skills and theory is also ideal for pre-career and in-career students who aspire to careers in court administration, criminal justice, regulation, drafting legislation, lobbying, senior management, and politics. Law courses are offered at Western Michigan University’s Lansing regional site and the Thomas M. Cooley Law School. The remaining M.P.A. courses are offered on the main campus in Kalamazoo and the University’s regional sites in Battle Creek and Lansing.

Admission Requirements
Applicants must meet the minimum requirements for each program. The Thomas M. Cooley Law School J.D. program and the Western Michigan University M.P.A. program maintain independent admission requirements, processes, and committees. Consequently, admission to one degree program does not guarantee admission to the second program.

Students are urged to consult an advisor before pursuing the joint J.D./M.P.A. degree.

Program Requirements
Joint degree students must fulfill the requirements of both degrees. Thomas M. Cooley Law School students may transfer a maximum of six credit hours to the M.P.A. law concentration and waive the M.P.A. law requirement. The combination of transfers and waiver reduces the M.P.A. program requirement for in-career students from 39 to 30 credit hours.

MPA students may transfer to the Thomas M. Cooley Law School JD program a maximum of six credit hours of M.P.A. law courses and three credit hours of PADM 6000 Historical and Legal Foundations of American Public Administration or other appropriate M.P.A. core course.

Certificate Program in Health Care Administration

Advisor: Dr. James Visser
Room 220E
Walwood Hall

The purpose of the Graduate Certificate in Health Care Administration is to enhance the capacity of its graduates to function effectively as managers in the health care system. The program includes the legal, financial, and policy dimensions of contemporary health care administration, critical management issues, strategic planning and evaluation, and critical issues in the delivery of health care services.
Admission Requirements
The criteria for admission to this certificate program are (a) a master's or other graduate degree or (b) current admission to a graduate degree program or (c) a bachelor's degree with 3.00 grade point average and substantial work experience in the management or delivery of health care services. Students may be admitted conditionally and later admitted to the program after evaluation of the first six credit hours. Students may transfer in a maximum of six (6) semester hours of graduate credit from another institution or from courses taken at Western Michigan University as a Guest student.

The following must be submitted in order to be considered for admission:
1. The University’s Application for Graduate Admission, with the application fee.
2. An official transcript from each undergraduate and graduate institution attended (except WMU). Even if the applicant is a graduate of WMU, an official transcript is required from each institution attended prior to, and after, WMU.
3. The School of Public Affairs and Administration’s “Departmental Information Form” (DIF).
4. A one-page biographical essay.
5. A current resume.

Students will be admitted to this certificate program three times per year. The Admissions Committee will review applications in October to admit students for the Spring semester; in February to admit students for the Summer session; and in June to admit students for the Fall semester.

Program Requirements
Each student will satisfactorily complete a program consisting of six three-credit-hour courses (18 hours). Students select one course from each of Areas I, II, III, IV and six hours from Area V.

Area I: Health Care Environment
PADM 6510 - Health Services Delivery Credits: 3 hrs.

Area II: Budgeting and Finance
PADM 6520 - Financial Management of Health Care Organizations Credits: 3 hrs. or
FIN 6620 - Health Care Financial Management Credits: 3 hrs.

Area III: Health Care Policy Development
PADM 6530 - Health Policy Analysis Credits: 3 hrs.

Area IV: Administrative Issues in the Delivery of Health Care Services
PADM 6550 - The Administration of Health Services Credits: 3 hrs.

Area V: Electives
PADM 6540 - Strategic Planning and Management in Health Care Organizations Credits: 3 hrs.
PADM 6570 - Management of Managed Care Organizations Credits: 3 hrs.
PADM 6780 - Program Evaluation Credits: 3 hrs.
LAW 6880 - Health Law Administration Credits: 3 hrs.
LAW 6890 - Legal Problems of Health Care Organizations Credits: 3 hrs.
Other courses by permission of MPA Advisor.

Certificate Program in Nonprofit Leadership and Administration
Advisor: Janice Maatman,
Room 220E
Walwood Hall

The purpose of the Graduate Certificate Program in Nonprofit Leadership and Administration (NLA) is to strengthen the capacity of leaders to carry out the missions of the organizations they serve. This is accomplished
through education, community-service, and research designed to improve the contribution that public-serving organizations can make to society. Special emphasis is placed on individual and community development as the pivotal function of nonprofit organizations and collaboration as the central mode of public problem solving.

The Nonprofit Leadership and Administration certificate program may be taken by itself or in conjunction with a graduate degree program.

**Admission Requirements**
The criteria for admission to this certificate program are (a) a master's or other graduate degree, or (b) current admission to a graduate degree program, or (c) a bachelor's degree with an undergraduate grade point average of 3.0 and work or voluntary experience or familiarity with nonprofit organizations. Students may transfer in a maximum of six (6) semester hours of graduate credit from another institution or from courses taken at Western Michigan University as a Guest student.

The following must be submitted in order to be considered for admission:
1. The University’s Application for Graduate Admission, with the application fee.
2. An official transcript from each undergraduate and graduate institution attended (except WMU). Even if the applicant is a graduate of WMU, an official transcript is required from each institution attended prior to, and after, WMU.
3. The School of Public Affairs and Administration’s “Departmental Information Form” (DIF).
4. A one-page biographical essay.
5. A current resume.

Students will be admitted to this certificate program three times per year. The Admissions Committee will review applications in October to admit students for the Spring semester; in February to admit students for the Summer session; and in June to admit students for the Fall semester.

**Program Requirements**
The Graduate Certificate Program in Nonprofit Leadership and Administration is an eighteen (18) credit hour program of study. Three core courses (9 hours) are required. The remaining nine credit hours may be taken as electives.

**Required (9 hours)**
- PADM 6400 – Nonprofit Governance Credits: 3 hours
- PADM 6431 – Budget Development and Accounting for Nonprofit Organizations Credits: 3 hours
- PADM 6441 – Human Resources for Nonprofit Organizations Credits: 3 hours

**Electives (9 hours) Select 9 credit hours from the following:**
- PADM 5830 - Grant Writing for Nonprofit Organizations Credits: 3 hours
- PADM 5840 - Promoting Nonprofit Organizations Credits: 3 hours
- PADM 5870 - Fund Raising for Nonprofit Organizations Credits: 3 hours
- PADM 6461 – Evaluation of Nonprofit Organizations Credits: 3 hours
- PADM 6471 - Leadership in Nonprofit Organizations Credits: 3 hours
- PADM 6481 - Planning in Nonprofit Organizations Credits: 3 hours

**Doctor of Philosophy in Public Administration**

**Advisor: Dr. Udaya Wagle,**  
Room 220E  
Walwood Hall

The mission of the Doctor of Philosophy in Public Administration program is to give students a deep and extensive knowledge of the history, theory, practice, and future of the field. The curriculum encourages broad intellectual inquiry with a scholarly perspective and seeks to prepare students for careers in teaching, research, administration, and consulting. The doctoral program is designed for those who have experience in a supervisory or administrative position with a federal, state, or local government or nonprofit agency and those wishing to teach public
administration in a college or university setting. The program is structured to provide decision makers, researchers, and future professors with a more sophisticated understanding of the governing process.

The curriculum incorporates a diversity of viewpoints, gathered from classical and contemporary readings in the discipline, examination of the contributions of its seminal thinkers, analysis of the institutions and processes of governance, exploration of emerging theories and trends, and an investigation of the challenges of leadership and public management in a democracy. Public administration is multidisciplinary and so during the coursework phase each student will be able to develop substantive and/or methodological knowledge in one or more of the many related disciplines, including sociology, economics, educational leadership, interdisciplinary health studies, political science, statistics, and communication.

Integral to the program is the development and refinement of the skills to conduct both qualitative and quantitative research, practice in statistical and quantitative analysis, and experience with applied skills of leadership and ethical decision-making.

Students should graduate with the ability to perform independent research on theoretical public administration concerns and substantive issues, to analyze a wider range of alternative policies, and to weigh competing choices in the decision-making process.

**Admission Requirements**
Applicants can obtain a doctoral student information packet from the School of Public Affairs and Administration for complete details concerning admission to the Ph.D. program. The following criteria will be used to make admission decisions. In order to be competitive, applicants must:

1. Have an undergraduate degree with at least a 3.00 grade point average.
2. Have a master’s degree in public administration or a related academic discipline with at least a 3.25 grade point average in all graduate coursework.
3. Have at least four years of supervisory or administrative experience, preferably in public serving organizations.
4. Provide three letters of recommendation, at least one of which should be from a person acquainted with the applicant’s professional work and at least one of which should be familiar with the applicant’s graduate-level academic work (use the WMU Graduate Reference Form).
5. Submit the completed Departmental Application Form, including responses to the required essay question.
6. Submit a complete and up-to-date professional resume.
7. Provide Graduate record examination (GRE) scores for the quantitative, verbal, and analytical written parts of the examination.

All application materials should be submitted by April 30 to ensure consideration for the Fall semester. Late applications may be considered on a space available basis while earlier applications may be required for a student to meet university financial aid deadlines. An interview with members of the School’s faculty may be requested as part of the admissions process.

**Program Requirements**
Students should meet with the Doctoral Director after being accepted into the program and before the end of their first term of coursework to develop an initial program of study. Forty-eight semester hours of credit are required beyond the master’s degree, including the statistics requirements (3 hours), the public administration core (15 hours), the methods requirement (9 hours), the elective requirement (6 hours), the dissertation seminar (3 hours), and the minimum hours of dissertations credit (12 hours). This may be reduced to 45 semester hours if the statistics requirement is deemed to have been met at the time of admission to the program. Successful performance on the comprehensive examination and the submission of scholarly article is required of all students in order to continue in the program. Finally, successful annual reviews are required of students at all stages in the program.

**Statistics Requirement**
Each student must take PADM 6070: Quantitative Data Analysis or an equivalent statistics course. Students should be aware that many of the methods courses will require this background and so they are encouraged to meet this requirement early in the program. If this has been done in the five years prior to program admission, this
requirement may be waived at the student’s request and the credit hours required for the doctoral degree may be reduced by 3 credit hours.

**PADM 6070 – Quantitative Data Analysis  Credits: 3 hours**

**Public Administration Core (15 hours)**
- PADM 6610 - Intellectual History of Public Administration  Credits: 3 hours
- PADM 6630 - Leading the Public Organization  Credits: 3 hours
- PADM 6650 - Public Policy, Theory, and Research  Credits: 3 hours
- PADM 6660 - Contemporary Issues in Public Management  Credits: 3 hours
- PADM 6840 - Management of Public Financial Resources  Credits: 3 hours

**Comprehensive Examination**
After completing the public administration core, students will be eligible to take the written comprehensive examination. The exam will be offered once each year and will be prepared and graded by a group of faculty who teach the public administration core courses. Outside readers may be used to assess the comprehensive examinations as well. Results will be honors, satisfactory, or unsatisfactory. Students with a score of unsatisfactory will have one opportunity to retake the comprehensive examination. A score of unsatisfactory on the retake will result in program dismissal.

**Methods Requirement (9 hours)**
Each student will be required to successfully complete three methodology courses beyond the general statistics requirement. This will ideally include a two-or three-course methodology sequence in a specific discipline and include courses that have components covering research design, qualitative research, and quantitative research. The methodology requirement will be tailored to meet the needs of individual doctoral students and must be approved by the Doctoral Director in the student’s Program of Study. Examples of relevant courses include, but are not limited to:

(a) SOC 6060 – Research Design and Data Collection I  Credits: 3 hours
SOC 6070 – Logic and Analysis of Social Research I  Credits: 3 hours
SOC 6210 – Logic and Analysis of Social Research II  Credits: 3 hours
SOC 6820 – Qualitative Methods  Credits: 3 hours

(b) ECON 6190 – Introduction to Econometrics  Credits: 3 hours
ECON 6220 – Economic Statistics  Credits: 3 hours
ECON 6700 – Advanced Econometrics I  Credits: 3 hours

(c) IHS 6260 – Qualitative Research Concepts in HHS  Credits: 3 hours
IHS 6280 – Quantitative Research Concepts in HHS  Credits: 3 hours
IHS 6300 – Designing and Conducting HHS Research  Credits: 3 hours

(d) PSCI 6640 – The Nature of Political Inquiry and Analysis  Credits: 3 hours
PSCI 6910 – Political Analysis I  Credits: 3 hours
PSCI 6920 – Political Analysis II  Credits: 3 hours

(e) STAT 5610 – Applied Multivariate Statistical Methods  Credits: 3 hours
STAT 5660 – Nonparametric Statistical Methods  Credits: 3 hours
STAT 5670 – Statistical Design and Analysis of Experiments  Credits: 4 hours
STAT 5680 – Regression Analysis  Credits: 3 hours

(f) EMR 6400 – Fundamentals of Evaluation, Measurement, and Research  Credits: 3 hours
EMR 6410 – Fundamentals of Measurement in the Behavioral Sciences  Credits: 3 hours
EMR 6480 – Qualitative Research Methods  Credits: 3 hours

(g) COM 6020 – Quantitative Communication Research  Credits: 3 hours
COM 6050 – Qualitative Communication Research  Credits: 3 hours

**Electives (6 hours)**
Electives may come from within the public administration curriculum or may be in the disciplinary field(s) related to the student’s methodological core and/or proposed dissertation. These must be 6000-level or higher graduate courses and must be in the student’s approved Program of Study before the student takes the electives.

**Article Submission Requirement**
Each student shall produce a substantive scholarly article and submit it to a recognized peer-reviewed journal. The purpose of this requirement is to increase the understanding of students of the peer-review process and their role in contributing to the development of academic knowledge. Another purpose is to allow each student to put his/her developing research and methodological tools to this real world test. “Substantive” is intended to exclude commentaries, book reviews, and general expository pieces.

A core public administration faculty member will need to determine that this article submission is of high quality and meets departmental standards. This article submission requirement will usually be met after meeting the comprehensive examination requirement and must be met within four years of starting course work in the doctoral program. While obviously desirable for the student and the program, the article does not need to be published for this requirement to be fulfilled.

**Doctoral Seminar (3 hours)**
Each student must take PADM 6970: Dissertation Seminar, which will focus specifically on developing a dissertation proposal and adapting their developing methodological expertise to the field of public administration.

PADM 6970 – Doctoral Seminar  Credits: 3 hours

**Dissertation (12 hours)**

PADM 7300 - Doctoral Dissertation Credits: minimum 12 hours

Each student must complete at least 12 credit hours of doctoral dissertation which focuses on scholarly investigation of a limited topic, issue, or problem of choice. This will be an independent research conducted by the candidate under the guidance of a faculty committee. The dissertation committee chair (first reader) plays a key role in guiding the candidate’s proposal development, research, and writing. The candidate must defend the proposal before the dissertation committee to formally begin research and defend the dissertation publicly once the research and writing is complete.

**Residency**
Each student is required to enroll each Fall and Spring semester until completion of the degree and must also be enrolled in the term in which he/she will graduate. After all course work is completed, students are required to maintain continuous enrollment in PADM 7300: Doctoral Dissertation, in all Fall and Spring semesters until graduation. During the first six semesters of PADM 7300 students must register for at least two dissertation hours.

**Annual Student Reviews**
Each student must submit the Doctoral Student Annual Activity report (DSAAR) each year by March 15 and will receive an annual review letter for the faculty by May 15. In order to continue in the program, each student must receive a positive review. This may be “positive with conditions” in which case the student will have one academic year to meet the stated conditions. A 3.0 grade point average is required to graduate and is therefore also an ongoing condition for positive annual reviews.
Sociology
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Susan M. Carlson
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Douglas V. Davidson
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Elena Gapova
Barry Goetz
Chien-Juh Gu
Gregory Howard
Vyacheslav Karpov
Ronald C. Kramer
Richard R. MacDonald
Gerald Markle
Angela Moe
Victoria Ross
Zoann Snyder
Thomas L. Van Valey
Robert Wait

Master of Arts in Sociology
Advisor: Gregory Howard,
Room 2419, Sangren Hall

The principal aim of the master’s program in sociology is to develop an advanced understanding of the significant features and processes of human society through a focus on both research and teaching. The program prepares competent professionals for careers in research, education, government, and private enterprise. The department’s core program of study stresses both theory and method while elective credits and the theses project develop substantial knowledge in an area of specialization.

Admission Requirements
1. Twenty-four semester hours in undergraduate social sciences, with at least fifteen semester hours in sociology, including courses in theory and research methods (applicants without the requisite hours of undergraduate sociology courses may be permitted to make deficiencies as a condition of matriculation).
2. Grade-point average of 3.0 or better in undergraduate sociology courses.
3. Applicants must supply a biographical statement, sample of academic writing, GRE scores, official transcripts from all undergraduate and graduate schools attended, TOEFL scores (international applicants only), and three letters of recommendation from academic and/or professional sources to the Central Graduate Committee, Department of Sociology. Additional information and application forms may be obtained from the department.

Financial Assistance
A number of departmental, University, and governmental assistantships, fellowships, and associateships are available to qualified students. Educational opportunities and part-time employment may be available through the facilities of the Leonard C. Kercher Center for Social Research. Research through the Kercher Center includes studies of education, mental illness, marital roles, race relations, group dynamics, deviant behavior, comparative institutions, and numerous other topics. Graduate students frequently participate in these studies.
Additional information and application forms may be obtained from the department.

**Program Requirements**
1. Complete at least 36 graduate credit hours
   Selected in consultation with the student's master's committee. At least 24 hours, including SOC 7000: Master’s Thesis, must be in sociology; up to nine hours may be in an approved cognate area.

One additional research methods course in sociology, and SOC 7000 are required of all master's students.
SOC 6000 - Proseminar in Sociology Credits: 3 hrs.
SOC 6020 - Classical Sociological Theory Credits: 3 hrs.
SOC 6030 - Contemporary Theory: Culture, Social Action, and Society Credits: 3 hrs.
   or
SOC 6040 - Contemporary Theory: Agency, Interaction, and Structure Credits: 3 hrs.
SOC 6060 - Research Design and Data Collection I Credits: 3 hrs.
SOC 6070 - Logic and Analysis of Social Research I Credits: 3 hrs.
SOC 6210 - Logic and Analysis of Social Research II Credits: 3 hrs.
SOC 7000 - Master's Thesis Credits: 6 hrs.

2. Maintain a grade point average of 3.0 or better in all course work.

   Six hours of credit are given for the thesis.


**Doctor of Philosophy in Sociology**
Advisor: Gregory Howard,
Room 2419, Sangren Hall

The principal aim of the doctoral program in sociology is to develop an advanced understanding of the significant features and processes of human society through a focus on both research and teaching. The program prepares informed scholars and competent professionals for careers in research, education, government, and private enterprise. The department’s core program of study stresses both theory and method while elective credits, cognate courses in another department, comprehensive examinations in two areas of concentration(i.e., research methods/applied sociology, comparative sociology, criminology, gender and feminism, race and ethnic relations, social psychology, and social theory), and the dissertation project develop substantial knowledge in areas of specialization.

**Admission Requirements**
1. Master's degree in sociology or a closely related field (applicants with degrees in fields other than sociology may be required to make up deficiencies as a condition of admission).
2. Grade point average of 3.25 in all graduate work. Grade point average of 3.0 or better in undergraduate sociology courses.
3. Applicants must supply a biographical statement, sample of academic writing, GRE scores, official transcripts from all undergraduate and graduate schools attended, TOEFL scores (international applicants only), and three letters of recommendation from academic and/or professional sources to the Central Graduate Committee, Department of Sociology. Additional information and application forms may be obtained from the department.

**Financial Assistance**
A number of departmental, University, and governmental assistantships, fellowships, and associateships are available to qualified students. Educational opportunities and part-time employment may be available through the facilities of the Leonard C. Kercher Center for Social Research. Research through the Kercher Center includes studies of education, mental illness, marital roles, race relations, group dynamics, deviant behavior, comparative institutions, and numerous other topics. Graduate students frequently participate in these studies.
Program Requirements
1. Complete, beyond the master's degree, at least sixty hours of course work and dissertation credits, selected in consultation with the student’s doctoral committee.

Prerequisites for the doctoral program are:
SOC 6000 - Proseminar in Sociology Credits: 3 hrs.
SOC 6060 - Research Design and Data Collection I Credits: 3 hrs.
SOC 6070 - Logic and Analysis of Social Research I Credits: 3 hrs.
SOC 6210 - Logic and Analysis of Social Research II Credits: 3 hrs.

The following courses are required for all doctoral students:
SOC 6020 - Classical Sociological Theory Credits: 3 hrs.
SOC 6030 - Contemporary Theory: Culture, Social Action, and Society Credits: 3 hrs.
SOC 6040 - Contemporary Theory: Agency, Interaction, and Structure Credits: 3 hrs.
SOC 6200 - Research Design and Data Collection II Credits: 3 hrs.

And one additional research course selected from:
SOC 6800 - Studies in Research Methodology: Variable Topics Credits: 3 hrs.
SOC 6810 - Advanced Multivariate Analysis Credits: 3 hrs.
SOC 6820 - Qualitative Methods Credits: 3 hrs.
SOC 6870 - Evaluation Research I Credits: 3 hrs.
SOC 6880 - Methods of Survey Research Credits: 3 hrs.

2. Complete a minimum of six hours of cognate courses from outside the Department of Sociology. The courses selected should be in a field of knowledge related to the student’s major interest.

3. Demonstrate competence in research by completing:
SOC 6200 – Research Design and Data Collection II Credits: 3 hours
SOC 6210 – Logic and Analysis of Social Research II Credits: 3 hours

4. Pass oral and written examinations in two departmental areas of concentration selected from: applied sociology comparative sociology criminology gender and feminism race and ethnic relations, sociological theory and social psychology.

5. Complete 15 credit hours of the following course and submit a dissertation that is acceptable to the Department’s graduate faculty and shows evidence of competence to design, carry out, and report an original sociological investigation.
SOC 7300 - Doctoral Dissertation Credits: 15 hrs.

6. Criteria and procedures for meeting these requirements are described in detail in the department's Graduate Handbook.
Spanish

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Master of Arts in Spanish
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The Master of Arts in Spanish enables students to extend and deepen their knowledge of language, literature and culture in the Hispanic world. The program provides advanced study for those who intend to pursue professions in Spanish or related fields as well as for those students who desire to do further graduate work.

Admission Requirements
1. Possess a baccalaureate degree with a major of 30 hours in Spanish, or equivalent.
2. Have a minimum 3.0 grade point average in the undergraduate Spanish major.
3. Provide two letters of recommendation from persons able to evaluate the applicant's potential for graduate work in Spanish.
4. Submit a brief statement regarding areas of interest and academic/professional goals.
5. Submit an official copy of transcripts for all completed coursework.
6. Applicants who do not meet all of the above requirements may be admitted at the discretion of the Spanish graduate faculty. In such cases, students may be required to complete advisor-approved course work to remove certain deficiencies.

Program Requirements
1. Complete 30 hours of work in courses numbered 5000 and above. At least 18 hours of these credits must be in courses numbered 6000 and above. A maximum of six hours of the required 30 hours may be taken in appropriate cognate fields, as approved by the Spanish graduate advisor.
2. Complete satisfactorily
SPAN 6000 - Don Quijote Credits: 3 hours
3. Maintain a minimum grade point average of 3.0 in all graduate courses combined.
4. Pass a two-part comprehensive examination conducted in Spanish on the field of Hispanic literature, culture, and language.

Additional Program Information
For additional information about the Master of Arts in Spanish and for forms needed to apply for admission, students may write to WMU’s Office of Orientation and Admissions or to the department's graduate advisor. Students are encouraged to consult information available at [www.wmich.edu/spanish](http://www.wmich.edu/spanish). Assistantships may be available for qualified applicants.

**Doctor of Philosophy in Spanish**

Advisor: Pablo Pastrana-Pérez,
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Students who pursue the Ph.D. in Spanish at Western Michigan University will study the culture of the Hispanic world in both broad and specific terms. The Spanish doctoral program is based upon the belief that advanced students ought to acquire the widest possible knowledge of Hispanic culture before they choose to limit their focus to selected portions of it in the doctoral dissertation. Students will be encouraged to develop a significant content base in the culture of Spain and America, from the beginnings to present day. They will be expected to understand the relationship between the myriad of specific components that have come to form Hispanic civilization and to appreciate them for their own esthetic and intellectual value, as well as for their particular contribution to the overall culture. Additionally, students should develop the methods and skills necessary to investigate and analyze language and literature and be able to express their findings in clear, consistent and complete terms. The goal of the Ph.D. program is, in sum, twofold: to lead students to comprehend and appreciate the breadth and uniqueness of Hispanic culture as it has evolved through time and across geography, and to enable students to formulate and express their own discoveries and conclusions regarding the enduring values and manifestations of that culture.

**Admission Requirements**

1. The M.A. in Spanish at Western Michigan University or an equivalent degree from another university.
2. Satisfaction of the general requirements of the Graduate College.
3. Three letters of recommendation from persons qualified to assess applicant’s academic potential for Ph.D. study in Spanish.
4. A 500-word statement written by the applicant in which s/he describes principal academic and career interests and goals, as well as reasons for desiring to study in the Spanish program at Western Michigan University.
5. A writing sample in Spanish. This would ordinarily be a paper written in a course taken during the M.A. program.
6. An interview in Spanish, either in person or by telephone.

**Program Requirements**

1. Completion of a minimum of 36 hours of course work beyond the M.A., with a minimum grade point average of 3.00. All Spanish courses in the department must be taken at the 6000-level or above. With prior approval of the Spanish graduate advisor, a maximum of six of the 36 hours may be taken in relevant courses in other languages in the department, or outside the department.

2. Successful completion of the following required courses, all of which count within the total 36 hours:
   - SPAN 6000 - *Don Quijote*  Credits: 3 hours
   - SPAN 6600 - History of the Spanish Language  Credits: 3 hours
   - SPAN 6700 - Trends in Literary Criticism  Credits: 3 hours

3. Reading knowledge of at least one language, in addition to Spanish and English, relevant to one of the student’s major research interests. Competency will be measured by a reading or translation examination, the exact format of which will be determined by the student’s advisor in consultation with the student. The required level of reading is comparable to the third year of college study of the language.

4. Grade of “pass” or higher on the Ph.D. Comprehensive Examination. All course work and the reading knowledge examination (see 1, 2, and 3 above) must be completed before the comprehensive exam is taken. Additional information about this examination is given below.
5. Preparation and defense of a dissertation on a topic chosen by the student in consultation with the director. At least 15 hours of dissertation credits are required. Additional information about the dissertation is given below.

6. Fulfillment of all general and specific requirements of the Graduate College.

Recommendations in Addition to Requirements

1. Teaching. It is expected that most Ph.D. students in Spanish will have an interest in teaching. Thus, at some time during their graduate career at Western Michigan University, all Spanish Ph.D. students will be given the opportunity to gain teaching experience, usually through a teaching assistantship. Opportunities for teaching exist in a variety of courses at the undergraduate level. This experience will be guided by faculty supervision. Renewal or continuation of assistantships depends on satisfactory performance in teaching and in graduate studies, as well as on availability of university resources.

2. Study abroad. It is recommended that before graduation, all Ph.D. students in Spanish will have spent at least six months in residence or study in a Spanish-speaking country. Many students will have fulfilled that expectation as undergraduates, but they are urged to seek additional opportunities to study abroad. Students in our program are eligible for scholarships offered by the Universidad Autónoma de Querétaro in Mexico with which we have an exchange agreement. Six hours of graduate credit from this institution may be counted toward the 36 hour Ph.D. course requirement. Study at other universities in Mexico, Spain, or other countries is also possible with the approval of the graduate advisor. Research and writing for the dissertation may be carried out during residence abroad, provided that arrangements are approved by the dissertation director. Since the faculty places a high priority on mastery of the Spanish language and the acquisition of cultural insights gained during residence in Spanish-speaking countries, the department will be very supportive of students’ efforts to study abroad. Graduate students are eligible for the President’s Grants for study abroad awarded by the University, as well as for some departmental scholarships.

Areas of Study and Comprehensive Examination

Areas of study are the following:
- Spanish Literature and Culture: Medieval and Golden Age periods
- Spanish Literature and Culture: 18th century to present
- Spanish American Literature and Culture: Colonial period through Modernismo
- Spanish American Literature and Culture: 20th and 21st centuries
- Linguistics I: Spanish linguistic systems and their acquisitions
- Linguistics II: Variation in the Spanish linguistic systems

All students are expected to prepare themselves through course work in all areas of study, and through additional readings. They will select two areas of major interest in which they will be examined. Reading lists serve as preparation guides. Students should take the comprehensive examination as soon as possible after finishing required course work and passing the reading knowledge exam, but in any case they must take the examination within a period of six months after having completed those requirements.

The comprehensive examination will be given twice each year during a three-week period, in May and October. The exam will be structured in this way: (1) Two four-hour written exams, one over each of the two areas of major interest; (2) one oral exam lasting approximately two hours. All parts of the comprehensive examination will be conducted in Spanish.

A single grade will be given for the entire exam. Possible grades are: superior, good, pass, fail. Students who fail the exam may retake it once. At the discretion of the examination committee, they may be required to retake the entire examination or portions of it.

Dissertation

The dissertation is the capstone of the Ph.D. experience. It ought to be an original, high-quality, contribution to scholarship in an area of particular interest to the student. As in the case of course work, the dissertation is a learning experience to be guided by faculty. To be sure, the research and writing of this book-length manuscript requires considerable independent work and discipline on the part of the student. Nonetheless, we give great importance to the role of the faculty in this process, particularly to the duties of the dissertation director. The goal is that the entire
process be realistic, fair, collegial, and expeditious. We believe that this student-centered approach to research will be significant for the achievement of our overall objective, i.e., the formation of first-rate teacher/scholars in a reasonable period of time.
Statistics

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Loren Heun
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Joshua Naranjo
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The Department of Statistics offers graduate programs leading to the Master of Science in Statistics and the Doctor of Philosophy in Statistics.

Financial Assistance
The Department of Statistics offers opportunities for financial support of graduate students through Graduate Assistantships and Fellowships. Individuals desiring further information about such opportunities, or about the graduate program as a whole, should contact the Statistics Department Office, 3304 Everett Tower.

Dr. Joshua Naranjo, Graduate Committee Chair, 5507 Everett Tower, 387-4548. E-mail: joshua.naranjo@wmich.edu

Master of Science in Statistics
Advisor: Dr. Joshua Naranjo
See Statistics Department Office, 3304 Everett Tower

This program will give students a combination of knowledge of statistical techniques, experience with using these techniques in applied situations, and understanding of the theoretical principles behind these techniques. Students receive excellent training for professional employment in industry or government, and at the same time obtain sufficient theoretical background to qualify them to teach elementary statistics or to continue into more advanced degree programs. The student is encouraged to apply for an internship experience (STAT 7120) where it is expected that students will collaborate with professional statisticians in an actual work environment with real problems. A minimum of thirty-two hours is required, and the resulting degree is a Master of Science in Statistics.

Admission Requirements
For admission, candidates must have completed an undergraduate program containing a substantial amount of mathematics, including a complete calculus sequence, a course in probability, a course in statistical methods, and a course in linear algebra. A complete undergraduate mathematics major is not required.

Program Requirements
The program requires at least 32 hours of approved courses from the following groups:

1. Statistics Courses
   STAT 5610 - Applied Multivariate Statistical Methods Credits: 3 hrs.
   STAT 5620 - Statistical Theory Credits: 4 hrs.
   STAT 6600 - Statistical Inference I Credits: 4 hrs.
   STAT 6620 - Applied Linear Models Credits: 3 hrs.
   STAT 6640 - Design of Experiments I Credits: 3 hrs.
   STAT 6800 - SAS Programming Credits: 3 hrs.
2. Four of the following:
   - STAT 5630 - Sample Survey Methods Credits: 3 hrs.
   - STAT 5650 - Design of Experiments for Quality Improvement Credits: 3 hrs.
   - STAT 5660 - Nonparametric Statistical Methods Credits: 3 hrs.
   - STAT 5820 - Time Series Analysis Credits: 3 hours
   - STAT 6610 - Multivariate Statistical Analysis Credits: 3 hrs.
   - STAT 6630 - Linear Models Credits: 3 hrs.
   - STAT 6650 - Statistical Inference II Credits: 3 hrs.
   - STAT 6660 - Nonparametric Statistical Theory Credits: 3 hrs.
   - STAT 6670 - Introduction to Random Processes Credits: 3 hrs.
   - STAT 6680 - Categorical Data Analysis Credits: 3 hrs.
   - STAT 6690 - Studies in Probability and Statistics Credits: 3 hrs.
   - STAT 6810 - Survival Data Analysis Credits: 3 hrs.
   - STAT 6830 - Robust Statistical Analysis Credits: 3 hrs.
   - STAT 6840 - Design of Experiments II Credits: 3 hrs.

   Students who want to enter a Ph.D. program in Statistics are encouraged to take their electives from
   - STAT 5820 - Time Series Analysis Credits: 3 hours
   - STAT 6610 - Multivariate Statistical Analysis Credits: 3 hrs.
   - STAT 6630 - Linear Models Credits: 3 hrs.
   - STAT 6650 - Statistical Inference II Credits: 3 hrs.
   - STAT 6660 - Nonparametric Statistical Theory Credits: 3 hrs.
   - STAT 6810 - Survival Data Analysis Credits: 3 hrs.
   - STAT 6830 - Robust Statistical Analysis Credits: 3 hrs.
   - STAT 6840 - Design of Experiments II Credits: 3 hrs.

   3. Additional Course or an approved elective.
      - STAT 7120 - Professional Field Experience Credits: 2-12 hrs. or an approved elective

   4. Pass the Department Graduate Exams in Statistics which cover material in:
      - STAT 5620 - Statistical Theory Credits: 4 hrs.
      - STAT 6600 - Statistical Inference I Credits: 4 hrs.
      - STAT 6620 - Applied Linear Models Credits: 3 hrs.
      - STAT 6640 - Design of Experiments I Credits: 3 hrs.

**Doctor of Philosophy in Statistics**

Advisor: Dr. Joseph McKean
Room 5506 Everett Tower

The Doctor of Philosophy in Statistics is designed to prepare students for careers in teaching and research in universities, in industry, or in government. It is expected that students, through courses and other experiences, will develop facility in theoretical statistics and in several applied statistics areas. Choices available in the cognate area allow the program to be designed to suit a variety of career interests.

**Admission Requirements**
A student may enter this program with a master’s degree or directly upon completion of a bachelor’s program. In addition to satisfying the general admission requirements of The Graduate College, the student must have acquired a sufficient level of mathematical training with satisfactory grades as determined by the Doctoral Committee. Upon entrance to the program the student is assigned an advisor who assists him/her in planning his/her program until he/she reaches the stage of having a Dissertation Advisor appointed.
Administration
This program will be administered by the Doctoral Committee. The Doctoral Committee will be responsible for the scheduling, preparation, and grading of preliminary examinations in statistics and for arranging a Thesis Proposal Defense.

Progress Toward Completion
Each year the Doctoral Committee will review the progress of all doctoral students in the Statistics program. Any student not making satisfactory progress may be dropped from the program with approval of the Doctoral Committee. Grades, performance on preliminary exams, the schedule of completed classes, general progress towards completion, etc., will be considered in this decision.

Program Requirements
1. Departmental Graduate Examination in Statistics
As soon as possible, a student must pass the Departmental Graduate Examination in Statistics at the doctoral level. This consists of two, 3-hour exams in the areas of theoretical statistics (including probability) and applied statistics from the courses STAT 5620, 6600, 6620, and 6640. The Departmental Graduate Examination will be given once a year, usually in the Spring.

2. Take at least 60 hours of course work including the following:
STAT 5620 - Statistical Theory Credits: 4 hrs.
STAT 6600 - Statistical Inference I Credits: 4 hrs.
STAT 6620 - Applied Linear Models Credits: 3 hrs.
STAT 6640 - Design of Experiments I Credits: 3 hrs.
STAT 6800 - SAS Programming Credits: 3 hrs.

The doctoral preliminary examination sequence:
STAT 6610 - Multivariate Statistical Analysis Credits: 3 hrs.
STAT 6630 - Linear Models Credits: 3 hrs.
STAT 6650 - Statistical Inference II Credits: 3 hrs.
STAT 6660 - Nonparametric Statistical Theory Credits: 3 hrs.

Electives
Seven electives are required.
Take at least two of the seven electives from the following advanced statistics courses:
STAT 5820 - Time Series Analysis Credits: 3 hours
STAT 6680 - Categorical Data Analysis Credits: 3 hrs.
STAT 6810 - Survival Data Analysis Credits: 3 hrs.
STAT 6830 - Robust Statistical Analysis Credits: 3 hrs.
STAT 6840 - Design of Experiments II Credits: 3 hrs.
STAT 6850 - Applied Data Mining Credits: 3 hrs.

Additional Electives
Take the remaining required electives from the following:
STAT 5610 - Applied Multivariate Statistical Methods Credits: 3 hrs.
STAT 5630 - Sample Survey Methods Credits: 3 hrs.
STAT 5650 - Design of Experiments for Quality Improvement Credits: 3 hrs.
STAT 5660 - Nonparametric Statistical Methods Credits: 3 hrs.
STAT 6670 - Introduction to Random Processes Credits: 3 hrs.
STAT 6690 - Studies in Probability and Statistics Credits: 3 hrs.
STAT 6700 – Statistical Consulting Practicum Credits: 3 hours

Cognates
Six credit hours in an approved cognate area related to statistical applications (such as computer science, computational or applied mathematics, engineering, biological science, management, or economics) or statistical electives from the electives listed above.
**Seminar Work**

**STAT 6910 - Practicum in Statistical Consulting**
Credits: 1 hr.

**STAT 6960 - Seminar in Probability and Statistics**
Credits: 1-3 hrs.

3. Take three preliminary examinations.
A student must pass Preliminary Examinations in Multivariate/Linear Models (STAT 6610, 6630), in Statistical Inference (STAT 6650, 6660) and in a third area to be chosen, with the approval of the Doctoral Committee, from Advanced Statistics or a cognate area depending on the career interests of the student. Two failures on the same examination will result in dismissal from the program.

4. Demonstrate competency in two research tools.
In accordance with the requirements of The Graduate College, each student is required to attain competence in two approved research tools. Normally for students in Statistics these will consist of demonstrated competence in computer usage or a foreign language. Competence in computer usage can be demonstrated by passing STAT 6800 or an equivalent course with a grade of B or better. Competence in a foreign language can be demonstrated by passing a reading course at the 4000-level in that language or by translating from a language other than English a statistical paper to the satisfaction of the Doctoral Committee. A third option for a research tool is a cross-disciplinary research experience involving concepts and language of a discipline other than Statistics (e.g., Biology, Chemistry, Engineering) and resulting in documentation of the student’s competence in the other discipline in a form of written reports and/or published papers. The Doctoral Committee shall determine the acceptability of the cross-disciplinary research experience.

5. Dissertation
Complete and defend the dissertation before the student's doctoral committee. This requires at least 15 hours of the following course:

**STAT 7300 - Doctoral Dissertation**
Credits: 15 hrs.

**Procedures**
The Doctoral Committee will be responsible for the advising of students in the statistics doctoral program.

Upon entrance to the doctoral program in Statistics, the student will be assigned an advisor by the Doctoral Committee for planning the student's program until he/she reaches the status of candidate. During the semester in which the student attains the status of candidate, with the approval and advice of the Doctoral Committee, he/she will be assigned a dissertation advisor. The candidate and the dissertation advisor will select, with the approval of these committees a Dissertation Committee for the candidate. In each of the above situations final appointment is subject to the approval of the Chairperson of the Department and The Graduate College.

During the first semester, the student must have a plan of study written and approved by the Doctoral Committee. The selection of preliminary exams shall be included.

A student is expected to take preliminary exams at the first opportunity after the necessary course work is completed. Normally the exams in statistics will be given at most once a year, and students should be aware that failure to take or pass an exam could cause a delay in their progress and possibly of being dropped from the program.

A student must also pass a Dissertation Proposal Defense, which is an oral presentation of a thesis proposal to the Doctoral Committee. This would take place at the end of the first year after passing all three prelims.
Women's Studies, Center for

Gwen Raaberg, Director
Main Office: 3063 Moore Hall
Telephone: (269) 387-2511
Fax: (269) 387-2507
Haworth College of Business

P. David Shields
Dean

Ajay Samant
Associate Dean

Academic Units:
Accountancy
Business Information Systems
Finance and Commercial Law
Management
Marketing
Military Science

The Haworth College of Business provides high-quality student-centered business education through teaching, research and service activities that deliver exceptional intellectual and economic value to regional and international communities.

College Graduate Degree Programs:
The degree programs leading to the Master of Business Administration and the Master of Science in Accountancy are offered within the framework of the graduate education goal of the Haworth College of Business.

The undergraduate and master's business programs offered by the Haworth College of Business, Western Michigan University are accredited by AASCB: The Association to Advance Collegiate Schools of Business.

Enrollment in any graduate business course requires active admission to the M.B.A. or M.S.A. program. Students admitted to the University on Non-degree status are not eligible for enrollment in graduate business courses. Requests for exception to these enrollment policies must be submitted in writing to the Director of M.B.A. Programs, Haworth College of Business, 2130 Schneider Hall.

Application Procedures
U.S. residents may apply throughout the year. International applicants need to apply by April 1 for fall semester, August 1 for spring semester, or January 1 for summer semester. Please submit the following items:
1. The application (accessed at www.wmich.edu/admissions) and fee
2. An official transcript from each academic institution except WMU
3. One of the following items:
   a) Official GMAT scores, or
   b) Evidence of a prior graduate or professional degree from an accredited U.S. University, or
   c) Resume and letter requesting GMAT waiver based on seven years of executive experience.
4. Official TOEFL scores (for international students)

Continuation Requirements
To continue enrollment in graduate programs in the Haworth College of Business students must meet published University standards for graduate education. These standards require active admission status and an overall grade point average of at least 3.00 in all graduate business course work with alternative enrollment conditions possible as defined in the "Academic Standards" section of this Graduate Catalog.
Accountancy
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Fax: (269) 387-5710

Hans J. Dykxhoorn
Jamie P. Forrest
Charles E. Hines, Jr.
Richard L. Hodges
Jerry G. Kreuze
Sheldon A. Langsam
Jack M. Ruhl
Kathleen E. Sinning
Ola M. Smith
Roger Y. W. Tang

Master of Science in Accountancy
Advisors:
Hans J. Dykxhoorn
Room 3228, Schneider Hall

Kathleen E. Sinning
Room 3182, Schneider Hall

Roger Y. W. Tang
Room 3128, Schneider Hall

The Master of Science in Accountancy prepares students for professional careers in public accounting, industry, commerce, finance, and government. A graduate of the Haworth College of Business with a Master of Science in Accountancy will be qualified to take many of the professional certification examinations.

The M.S.A. program is designed to provide greater breadth and depth in accounting and business than that delivered in the undergraduate accountancy program. The curriculum helps students further develop their technical expertise, communication skills, and understanding of the role of accountants in organizations. Course work will be selected from the areas of financial accounting, cost and managerial accounting, auditing, taxation, not-for-profit, accounting fraud, and accounting systems.

Admission Requirements
1. To be eligible for admission to the Master of Science in Accountancy (M.S.A.) program, an applicant must meet one of the following criteria, which are managed by the Office of Student Development in the College:
   a. A total score of at least 1100, which is the sum of the GMAT score and (200 x the GPA for the last 60 hours in an accredited undergraduate degree program); and
   b. a minimum GMAT score of 480; and
   c. a minimum GPA of 2.75 for the last 60 hours in an accredited undergraduate degree program.

A Western Michigan University accounting major with an average grade point of 3.5 or higher in the following eight courses (or equivalents) is not required to take the GMAT: ACTY 3100, 3110, 3130, 3220, 3240, 4160, and two of the electives (4110, 4130, 4140, 4220, and 4240).

2. An applicant whose native language is not English must achieve a minimum score of 215 on the Test of English as a Foreign Language (TOEFL).

3. Each applicant must provide evidence of proficiency in the required basic skills prior to formal graduate program admission. Basic skills are defined as computer literacy, quantitative analysis, statistics, and writing in English. The writing skill requirement is considered met if the applicant achieves a score of 4.0 or higher on the essay portion of the GMAT. The quantitative analysis skill requirement is considered met if the student (a) has an undergraduate
business degree (BBA) from a university or college with an AACSB accredited business program or (b) has satisfactorily completed a college level undergraduate mathematics course (pre-calculus or calculus).

If the basic skills requirements have not been completed at the time of admission, the student may receive conditional admission with the provision that all unmet basic skill requirements will be satisfied by the end of the first 12 months of active graduate program enrollment.

Prerequisites to Graduate Study
The required preparation is an undergraduate degree in accounting, or its equivalent, and a 3.0 grade point average in accounting and business courses. Basic Skills: Quantitative Analysis, Computer Literacy, Written Communications. Basic Core: Corporate Finance; Legal, Regulatory, and Political Aspects of Business; Basic Economic Analysis. Accountancy Course Prerequisites: ACTY 2100, Principles of Accounting I; ACTY 2110, Principles of Accounting II; ACTY 3100, Financial Accounting I; ACTY 3110, Financial Accounting II; ACTY 3130, Accounting Information Systems; ACTY 3220, Managerial Accounting-Concepts and Practices; ACTY 3240, Introductory Tax Accounting; ACTY 4160, Auditing.

Program Requirements
A minimum of 30 semester hours of graduate work is required. A minimum of 15 hours of accounting must be selected from the following courses:
ACTY 6100 - Financial Accounting and Reporting Credits: 3 hrs.
ACTY 6170 - Attestation and Assurance Services Credits: 3 hrs.
ACTY 6210 - International Accounting Credits: 3 hrs.
ACTY 6220 - Seminar in Management Accounting Credits: 3 hrs.
ACTY 6240 - Business Tax Planning Credits: 3 hrs.
ACTY 6270 - Accounting Fraud Credits: 3 hrs.
ACTY 6420 - 6450 - Selected Topics in Accountancy Credits: 3 hrs.
Additional Requirements
In addition to the accountancy course requirements, the student must elect a minimum of nine hours of 6000-level courses outside the Department of Accountancy. Each individual program must include at least twenty-four hours of 6000- or 7000-level courses and must have prior approval of a department advisor.

To summarize the requirements:
1. Minimum of 30 hours of graduate course work.
2. Minimum of 15 hours of graduate course work in accountancy.
3. Minimum of 9 hours of non-accounting graduate courses.
4. Minimum of 24 hours at the 6000-level or above.
5. Minimum of 39 semester hours of accounting in graduate and undergraduate course work.

A graduate of the Haworth College of Business with a Master of Science in Accountancy will be qualified to take many of the professional certification examinations. Since the qualifying rules differ by state and are subject to change, the student is responsible for determining if additional criteria need to be met for a specific exam or state. The program is designed to meet the AICPA's 150-hour requirement. A student without a degree in business must complete 24 credit hours of business courses to meet the 150-hour requirement.

The current requirements to sit for the CPA exam in Michigan include 24 hours of accounting, including auditing. The course work also must include a study in systems and governmental accounting.
Business Information Systems

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Roberta Allen
Kuriakose Athappilly
Kuanchin Chen
Mimi Coleman
Jan Gabel-Goes
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Finance and Commercial Law

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Finance Area
Onur Arugaslan
Robert Balik
David Burnie
James Demello
Christopher M. Korth
C. R. Krishna-Swamy
Inayat Mangla
Ali Metwalli
Craig Peterson
Ajay Samant
Tim F. Scheu
Devrim Yaman

Law Area
Norman Hawker
Leo Stevenson
Management

Thomas Carey, Chair
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Marie-Laure Bougnol-Potter
Sime Curkovic
Satish Deshpande
Dan Farrell
David Flanagan
Damodar Golhar
Robert Landeros
K.C. O'Shaughnessy
Timothy Palmer
Jennifer Palthe
Thomas Scannell
Christina Stamper
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Frank Gambino
Karen Lancendorfer
Ronald Larson
Hanjoon Lee
Thaweephan Leingpibul
Mushtaq Luqmani
Michael McCardle
Betty Parker
Zahir A. Quraeshi
Robert Reck
Roberta Schultz
Ann Veeck
John Weitzel
Interdisciplinary Programs – Haworth College of Business

Master of Business Administration
Office of Academic Advising and Admissions
Room 2130, Schneider Hall

The Master of Business Administration (M.B.A.) is an evening program designed to broaden the functional business knowledge and strengthen the leadership skills of working professionals as well as international students seeking to study business in the United States. It is also suitable for individuals with limited work experience who plan to use the M.B.A. as a foundation from which to begin or resume their careers. The program seeks highly motivated college graduates who will bring their personal values, experiences, and interests to the classroom.

The M.B.A. program consists of nine required core courses in the functional areas of business plus three elective courses that suit the interests of the student. The program of study may be completed in two years although students with full-time employment may take up to six years to complete the program.

Admission Requirements
Admission to the M.B.A. Program is based on a combination of undergraduate grade point average, score on the Graduate Management Admission Test (GMAT), references, and work experience. To be admitted, applicants must have at least 1,050 points based on this formula: 200 times the last 60 hour undergraduate GPA plus GMAT score. The GPA must be a minimum of 2.5 for the last 60 hours in an undergraduate program, and the GMAT score must be a minimum of 450. Information on the GMAT may be found at www.mba.com.

International students must have a bachelor’s degree with an acceptable grade point average from an educational institution approved by Western Michigan University.

In addition, international students whose native language is not English must demonstrate proficiency in the English language by taking the TOEFL examination. Those scoring less than 213 on the computer form of the TOEFL examination may be required to participate in the Graduate Preparation Institute for International Students offered by the Career English Language Institute (CELCIS) prior to beginning the M.B.A. program. Information on CELCIS may be found at www.wmich.edu/celcis.

Waiver of GMAT
The GMAT requirement may be waived for:
1. Applicants who hold a graduate or professional degree from an educational institution approved by Western Michigan University.
2. Applicants with substantial professional work experience who meet both of the following criteria:
   a. An undergraduate grade point average of 3.0 or higher in the last two years of an accredited undergraduate degree program; and
   b. seven or more years of substantial, full-time, executive work experience which has occurred within ten years prior to the date of program application.

Requests for a waiver of the GMAT requirement based on substantial executive experience must be approved by the Haworth College of Business Academic Review Board.

Proficiency in Basic Skills
All applicants must provide evidence of proficiency in the following four basic skills before being admitted to the M.B.A. program: computer literacy, quantitative analysis, statistics, and writing in English.
1. The computer literacy requirement is usually met by undergraduate course work or work experience requiring computer usage.
2. The quantitative analysis requirement is considered met if the student has earned an undergraduate business degree (B.B.A.) from a university or college with an AACSB accredited program or has satisfactorily completed a college level undergraduate mathematics course in finite mathematics, precalculus, or calculus.
3. The statistics requirement is considered met if the applicant has satisfactorily completed an undergraduate level statistics course at the sophomore level or higher.
4. The writing in English requirement is considered met if the applicant receives a score of 3.50 or higher on the essay portion of the GMAT or as indicated by junior or senior level undergraduate course work that requires proficiency in written English.

Appeals and Requests for Exceptions
Appeals and requests for exceptions to the admission standards must be made in writing to the Director of M.B.A. Programs, Room 2130 Schneider Hall, Haworth College of Business, Western Michigan University, Kalamazoo, MI 49008. All appeals and requests for exceptions will be reviewed by the Haworth College of Business Academic Review Board.

Program Requirements
The M.B.A. program includes five components: Prerequisites/Basic Core, Business Context, Functional Core, Concentration Electives, and Integrative Business Solutions.

1. Prerequisites/Basic Core (12 hours)
In order to provide students with the background of the common body of knowledge in business and administration, study in the areas of Accountancy, Economics, Finance, and Law is required. These requirements are fulfilled if the applicant completed an undergraduate business degree and if the applicant completed the B.B.A. prerequisite equivalents with a “B” average in the appropriate class(es). These waivers are on a course-by-course basis for the regular M.B.A. program.
ACTY 6010 – Financial Accounting Credits: 3 hrs.
ECON 6010 - Basic Economic Analysis Credits: 3 hrs.
FIN 6020 - Corporate Finance Credits: 3 hrs.
LAW 6040 - Legal, Regulatory, and Political Aspects of Business Credits: 3 hrs.

2. Business Context (9 hours)
BUS 6150 - Global Business and Intercultural Communication Credits: 3 hrs.
BUS 6160 - Business Policy and the Social and Ethical Environment Credits: 3 hrs.
BUS 6180 - Information Technology Management Credits: 3 hrs.

3. Functional Core (15 hours)
ACTY 6110 - Managerial Accounting Credits: 3 hrs.
FIN 6120 - Financial Management Credits: 3 hrs.
MGMT 6170 - Managing Human Resources and Behavior Credits: 3 hrs.
MKTG 6130 - Customer-Driven Marketing Management Credits: 3 hrs.
And Either:
MGMT 6140 - Business Process Management Credits: 3 hrs. OR
MKTG 6140 - Business Process Management Credits: 3 hrs.

4. Integrative Business Solutions (3 hours)
BUS 6990 - Business Strategy Credits: 3 hrs.

5. Concentration Electives (9 hours)
An area of concentration may be selected from Computer Information Systems, Finance, General Business, International Business, Management, or Marketing. Electives are required at the 6000-level, with a maximum of three hours which may be approved at the 5000-level. Students must consult with an M.B.A. advisor in their area of anticipated concentration during the first semester of their enrollment at Western Michigan University.

6. Students with an undergraduate major or minor in a business discipline may be allowed to substitute a fourth concentration elective for the M.B.A. core course offered by their undergraduate area of study. The undergraduate majors and the core courses which could be replaced with a higher level elective are:
ACTY 6110 - Managerial Accounting Credits: 3 hrs.
BUS 6180 - Information Technology Management Credits: 3 hrs.
FIN 6120 - Financial Management Credits: 3 hrs.
MGMT 6170 - Managing Human Resources and Behavior Credits: 3 hrs.
And select either:
MGMT 6140 - Business Process Management Credits: 3 hrs. or
MKTG 6140 - Business Process Management Credits: 3 hrs.

Additional Information
To effect the substitution, students (a) must consult with an advisor in the desired area of M.B.A. concentration; (b) obtain approval from an advisor in the undergraduate discipline to substitute a fourth elective for the core course in the discipline; and (c) if the M.B.A. concentration is outside the undergraduate area, a faculty advisor in their area of concentration must also approve the substitute elective.

Degree Partnership Program: Juris Doctor and Master of Business Administration
Thomas M. Cooley Law School and Western Michigan University

The Haworth College of Business of Western Michigan University (HCoB) and the Thomas M. Cooley Law School (TMCLS) will cooperate in the delivery of a Master of Business Administration and a Juris Doctor degree. Both schools will offer their existing JD and M.B.A. degrees independently and will cooperate in a manner that will permit eligible students in one institution’s degree program to incorporate course work from the other institution’s program.

General Provisions
All degree requirements of TMCLS and HCoB are unaffected by the degree partnership program. Each institution will admit students, will conduct graduation audits, and will exercise control over its respective academic programs independently. Admission to either the M.B.A. degree or the JD degree does not guarantee admission to the other program.

HCoB students are eligible for course waiver or transfer of courses taken at the partner institution if the students are in good standing at their respective institution. TMCLS may transfer credit and HCoB may waive individual courses (of their respective programs) subject to the approved list of courses below with written advisor approval for each student. Grades for waived courses are not computed as part of the GPA, but a reduction in total program hours will occur.

Academic Credit
Individuals who plan to participate in the degree partnership program may apply for admission to both programs simultaneously or while an active student of either college. They are encouraged to do so in a manner which permits timely completion of both programs and which meet other requirements. Credit may be transferred or waived between the schools, specifically waived in the case of HCoB only if a student has matriculated in both schools. TMCLS may grant transfer credit from HCoB for purposes of the degree participation program only if a student begins and completes an eligible HCoB-WMU transfer course after matriculation at TMCLS.

Students who have matriculated in the degree participation program will sign a declaration of intent to participate and submit it to their academic advisors at both schools before registering for the first elective course in either program.

Students who have matriculated in the degree participation program may begin taking courses in the second program according to the following provisions: A TMCLS JD student may begin taking M.B.A. courses at HCoB-WMU after satisfactorily completing 27 credit hours at TMCLS. An HCoB M.B.A. student may begin taking JD courses after satisfactorily completing 9 credit hours in the M.B.A. program at the Haworth College of Business of WMU.

Neither school can confer its degree upon students participating in the degree partnership program until six acceptable credits are transferred from or waived by the other institution. In general, completion of the second degree should not extend beyond twelve months of conferral of the first degree, subject to the WMU Graduate College requirement of a six-year maximum time period for master degree completion.
TMCLS will accept six semester hours of credit earned by a student in good standing at WMU in any combination of the following HCoB courses:

- ACTY 6240 – Business Tax Planning Credits: 3 hours
- BUS 6150 – Global Business and Intercultural Communication Credits: 3 hours
- BUS 6160 – Business Policy and the Social and Ethical Environment Credits: 3 hours
- FCL 6420 – International Finance Credits: 3 hours
- LAW 6840 – International Business Law Credits: 3 hours
- LAW 6880 – Health Law Administration Credits: 3 hours
- MGMT 6410 – Business Venturing Credit: 3 hours
- MGMT 6520 – Strategic Human Resource Management Credit: 3 hours
- MKTG 6130 – Customer-Driven Marketing Management Credit: 3 hours
- MKTG 6770 – Buyer Behavior Credits: 3 hours
- or other courses deemed appropriate for transfer by the department or program advisor for other 6000-level courses.

In addition, if LAW 6040 is required in the program of an M.B.A. student, HCoB-WMU will accept three semester hours of credit earned by a student in good standing at TMCLS in any of the following TMCLS courses:

- Civil Procedure II Credits: 3 hours
- Constitutional Law I Credits: 3 hours
- Contracts I Credits: 3 hours
- Contracts II Credits: 3 hours

as a waiver for LAW 6040 at HCoB-WMU

HCoB will accept six semester hours of credit earned by a student in good standing at TMCLS in any combination of the following TMCLS courses:

- Secured Transactions Credits: 3 hours
- Taxation Credits: 3 hours
- Bankruptcy Credits: 3 hours
- Business Planning Credits: 3 hours
- Federal Administrative Law Credits: 3 hours
- Sales Credits: 3 hours
- Alternative Dispute Resolution Credits: 2 hours
- Collective Bargaining Credits: 2 hours
- Comparative Law Credits: 2 hours
- Computer Law Credits: 2 hours
- Consumer Law Credits: 2 hours
- Deferred Compensation and Pension Planning Credits: 2 hours
- International Business Law Credits: 2 hours
- International Financial Regulation Credits: 2 hours
- International Human Rights Law Credits: 2 hours
- International Trade Law Credits: 2 hours
- Labor Law Credits: 2 hours
- NAFTA Credits: 2 hours
- Patent Law Credits: 2 hours
- Products Liability Credits: 2 hours
- Securities Regulation Credits: 2 hours

Specifically, as part of the six credit hours of elective courses waived, HCoB will accept the successful completion, jointly, of (1) Business Organizations and (2) Professional Responsibility at TMCLS as equivalent to BUS 6160 at WMU.
College of Education

Gary Wegenke
Dean

Katharine Cummings
Associate Dean

Academic Units:
College of Education
Counselor Education and Counseling Psychology
Educational Leadership, Research and Technology
  Educational Leadership
  Educational Technology
  Evaluation, Measurement, and Research
Family and Consumer Sciences
  Career and Technical Education
  Family and Consumer Sciences
Health, Physical Education, and Recreation
Special Education and Literacy Studies
  Literacy Studies
  Special Education
Teaching, Learning, and Educational Studies
  Education
  Educational Studies
Counselor Education and Counseling Psychology

Patrick Munley, Chair
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Carla R. Adkison-Bradley
Diane K. Anderson
Mary L. Anderson
Mary Z. Anderson
Nicholas A. Andreadis
Gary H. Bischof
Larry A. Buzas
Stephen E. Craig
James M. Croteau
Lonnie E. Duncan
Suzanne M. Hedstrom
Alan J. Hovestadt
Phillip D. Johnson
Norman M. Kiracofe
Kelly A. McDonnell
Jerry E. McLaughlin
Joseph R. Morris
Eric M. Sauer
Jennifer L. Wiebold

Master's Programs
Three master's programs are offered by the Department of Counselor Education and Counseling Psychology: The Master of Arts in Counseling Psychology prepares graduates to be eligible for a limited license as a psychologist in the state of Michigan, the Master of Arts in Counselor Education, with five program options, prepares graduates to be eligible for a license as a professional counselor. Additionally, the Master of Arts in Human Resources Development prepares graduates to provide direction, through leadership and consultation, for organizational learning and development in business, government, education, and healthcare settings.

Doctoral Programs
Two doctoral programs are offered by the Department of Counselor Education and Counseling Psychology. The doctoral program in Counseling Psychology leads to a Doctor of Philosophy (Ph.D.) and holds accreditation by the American Psychological Association (APA). The doctoral program in Counselor Education leads to a Doctor of Philosophy (Ph.D.) and is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

Admission Requirements
Admission to a specific doctoral program is considered by the appropriate departmental training committee. Applicants should request current admission information from the Office of Admissions and from the department.

A student admitted to a specific doctoral program is expected to follow the policies, procedures, code of ethics, and course requirements for that program. Each student, upon admission to a doctoral program, is assigned a temporary doctoral advisor. Later, as outlined in The Doctoral Handbook, a student selects and requests the appointment of a permanent Doctoral Committee.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its
commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Master of Arts in Counseling Psychology
Department Office, Room 3102, Sangren Hall.

The Master of Arts in Counseling Psychology provides, beyond the departmental required core course work, a focus on psychopathology, psychological assessment, counseling and psychotherapy theories and practices, and advanced practicum experiences. This program is selected by students seeking limited licensure as a psychologist in the State of Michigan.

Admission Requirements
Admission to the Master of Arts in Counseling Psychology is based upon grade point average, educational background, counseling and/or related experiences, as well as other factors. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete and return a questionnaire prepared by the department. Interviews, letters of recommendation, test scores, and other materials may also be required.

The Department has three different application deadlines for M.A. program admissions during the year: January 15, for ensuing Summer and Fall semesters, May 15, also for the ensuing Fall semester, and September 15 for the following Spring semester. Applicants interested in beginning their graduate master’s degree studies in the Fall semester are encouraged to meet the January 15 application deadline. This allows applicants to receive admission offers well in advance of the fall semester. Also, applicants who plan to seek assistantships or campus employment beginning in the fall semester should apply by January 15 to be competitive for such assistance or positions. Applicants must complete a WMU graduate application and a Department application.

Applications materials may be obtained from the Office of Admissions and from the department, and are also available on-line through links on the WMU Office of Admissions and department Web pages. Upon admission, each student is assigned an advisor who will assist in preparing a program of study. It is recommended that the program of study, which also serves as the application for candidacy, be completed during the first semester or session of enrollment.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Program Requirements
The counseling psychology program requires a minimum of 48 semester hours of course work, including seven, three-semester-hour, core courses. A curriculum guide for the program is available from the department office.

Students are expected to work with advisors in order to be informed of policies, course offerings, prerequisites, and applications required for designated courses. A student's performance and progress will be evaluated throughout the program. This process includes "check points," such as candidacy, assignment of a grade below “B” in any course, and final evaluation prior to graduation. The student is referred to the Department's Policy on Retention.
Master of Arts in Counselor Education
Department Office, Room 3102, Sangren Hall.

The program options leading to a Master of Arts in Counselor Education are designed to prepare individuals for entry level positions in counseling, rehabilitation, and student affairs practice in a variety of educational and non-educational settings. The program options are:

1. Clinical Mental Health Counseling  a,d, f
2. School Counseling: Elementary a, b, d; Secondary a, b, d; or School Counselor License, K-12 a, c, d
3. College Counseling a, d
4. Marriage, Couple, and Family Counseling  a
5. Rehabilitation Counseling a, e is offered as part of the Rehabilitation Counseling/Teaching program (RCTM) which is jointly administered by the Department of Counselor Education and Counseling Psychology and the Department of Blindness and Low Vision Studies.

Superscript (a,b,c,d,e,f) Definitions
   a Leads to Michigan license as a professional counselor.
   b Leads to endorsement as a counselor on a current, valid Michigan teaching certificate.
   c Prepares students who do not hold a valid Michigan Teaching Certificate for school counselor license recommendation in Michigan.
   d Accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP)
   e Accredited by the Council on Rehabilitation Education (CORE)
   f This options is accredited by the Council for Accreditation of Counseling and Related Educational Programs as a Community Counseling program.

Admission Requirements
Admission to one of the options above is based upon grade point average, educational background, counseling and/or student affairs related experiences, as well as other factors. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete and return a questionnaire indicating, among other things, the program option desired. Interviews, letters of recommendation, test scores, and other material may be required.

The Department has three different application deadlines for M.A. program admissions during the year: January 15, for ensuing Summer and Fall semesters, May 15, also for the ensuing Fall semester, and September 15 for the following Spring semester. Applicants interested in beginning their graduate master’s degree studies in the Fall semester are encouraged to meet the January 15 application deadline. This allows applicants to receive admission offers well in advance of the fall semester. Also, applicants who plan to seek assistantships or campus employment beginning in the fall semester should apply by January 15 to be competitive for such assistance or positions.

Applicants must complete a WMU graduate application and a Department application.

Applications materials may be obtained from the Office of Admissions and from the department, and are also available on-line through links on the WMU Office of Admissions and department Web pages. Upon admission, each student is assigned an advisor who will assist in preparing a program of study. It is recommended that the program of study, which also serves as the application for candidacy, be completed during the first semester or session of enrollment.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.
Program Requirements
Program options in Clinical Mental Health Counseling, and Marriage, Couple, and Family Counseling require a minimum of 60 semester hours of course work. Program options in School Counseling and College Counseling require a minimum of 48 semester hours of course work. The program option in Rehabilitation Counseling requires a minimum of 53 semester hours of course work. Curriculum guides for the program options are available from the department office.

Students are expected to work with advisors in order to be informed of policies, course offerings, prerequisites, and applications required for designated courses. A student's performance and progress will be evaluated throughout the program. This process includes "check points," such as candidacy, assignment of a grade below "B" in any course, and final evaluation prior to graduation. The student is referred to the Department's Policy on Retention.

The Clinical Mental Health Counseling program incorporates coursework in research methods, group dynamics, tests and measurement, counseling theory, counseling techniques, professional issues and ethics, multicultural counseling, lifespan development, career development, psychopathology, causes of substance abuse, recovery oriented systems of care and foundations of clinical mental health counseling. The program includes a 600-hour internship at a clinical mental health setting. Graduates of this program are prepared to work in a variety of professional counseling settings. This option leads to license as a professional counselor.

Programs in School Counseling (Elementary, Secondary, or School Counselor License) incorporate courses emphasizing counseling theory and practice, ethics, testing/appraisal, career development, and psychoeducational consultation. In addition, students desiring school counselor certification will elect courses related to the administration of pupil personnel services in elementary and/or secondary schools. A license as a professional counselor may be earned through this option.

The College Counseling program is designed to prepare counselors to work in post-secondary educational settings (universities, four-year colleges, community colleges and technical institutes/colleges). The College Counseling option accents college student development, individual and group counseling, ethics, and foundations of college counseling. The program includes a 600 hour supervised counseling internship experience in a college setting. This option leads to a licensure as a professional counselor.

The Marriage, Couple and Family Counseling option is offered in collaboration with the Department of Family and Consumer Sciences. In addition to the core counseling courses, this 60-hour program emphasizes an understanding of the issues faced by contemporary couples and families and a family systems approach to the conceptualization and treatment of couples and families. The program includes a 600-hour internship at a community setting in which students have adequate exposure to couple and family cases. Graduates of this program are prepared to work with individuals, couples and families in a variety of professional counseling settings. This option leads to licensure as a professional counselor. Working with an advisor, the option can also lead to licensure as a marriage and family therapist.

The Rehabilitation Counseling option is offered in conjunction with the Master of Arts in Vision Rehabilitation Therapy. The 76 hour Rehabilitation Counseling/Teaching degree program prepares a dually competent practitioner who is able to provide both rehabilitation counseling and rehabilitation teaching skills. Application for the dual Master of Arts degree in rehabilitation counseling/teaching (RCT) is made through the Department of Blindness and Low Vision Studies. Upon completion of the RCT program, the individual earns a Master of Arts in Counselor Education: Rehabilitation Counseling and a Master of Arts in Vision Rehabilitation Therapy.

Master of Arts in Counselor Education: Clinical Mental Health Counseling
This option is accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). Graduates meet department requirements for certification of counseling education. Graduates are also eligible to become Licensed Professional Counselors (LPC) after first becoming Limited Licensed Professional Counselors (LLPC). The LPC is granted after 3000 hours of supervised experience (by a LPC) and a passing score on the National Counselor Examination (NCE) developed by the National Board for Certified Counselors (NBCC). The NCE is also the State of Michigan Counselor License Examination. Graduates from this option are also eligible
to become Nationally Certified Counselors (NCC). Students who are interested in receiving credentialing information should secure a copy of the Credentialing Requirements document located in the CECP office.

Counseling Core (30 hours)
CECP 6010 – Research Methods Credits: 3 hours
CECP 6020 – Group Dynamics and Procedures Credits: 3 hours
CECP 6030 – Tests and Measurements Credits: 3 hours
CECP 6040 – Counseling Techniques Credits: 3 hours
CECP 6050 – Professional Issues and Ethics Credits: 3 hours
CECP 6070 – Multicultural Counseling and Psychology Credits: 3 hours
CECP 6080 – Counseling and Lifespan Development Credits: 3 hours
CECP 6100 – Career Development: Theory and Practice Credits: 3 hours
CECP 6110 – Theories of Counseling Credits: 3 hours
CECP 6220 – Psycho-educational Consultation Credits: 3 hours

Program Courses in Clinical Mental Health Counseling (18 hours)
CECP 6210 – Psychopathology: Classification and Treatment Credits: 3 hours
CECP 6280 – Foundations of Clinical Mental Health Counseling Credits: 3 hours
CECP 6340 – Causes of Substance Abuse Credits: 3 hours
CECP 6360 – Recovery Oriented Systems of Care Credits: 3 hours
CECP 6610 – Foundations of Systemic Family Therapy Credits: 3 hours
CECP 6750 – Counseling Theories and Practices Credits: 3 hours

Supervised Clinical Practice (8 hours)
CECP 6120 – Counseling Practicum Credits: 4 hours*
CECP 6130 – Field Practicum Credits: 4 hours**

Electives (4 hours)
Students must select 4 credit hours of graduate level electives, all of which must be approved by students’ faculty advisor.

Total Semester Hours (60 hours)

The master’s degree option also includes the following requirements:
* Membership in a group for a minimum of 10 hours prior to CECP 6120, Counseling Practicum. The student must present written verification of group membership with the CECP 6120, Counseling Practicum application.
** 25 additional hours of field experience during CECP 6120, Counseling Practicum (including 10 hours of group leadership). Weekly 1.5 hours group supervision with designated CECP staff during CECP 6130, Field Practicum.

Master of Arts in Counselor Education: College Counseling
The degree in College Counselor is designed to prepare counselors to work in a post-secondary educational setting (universities, four-year colleges, community colleges and technical institutes/colleges). It is a 48-credit program leading to professional counseling licensure in Michigan. The program includes a 600 clock-hour supervised counseling internship experience in a college setting. The College Counseling program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body that evaluates and grants accreditation to graduate-level programs in professional counseling. This program can also lead to licensure as a Professional Counselor in Michigan. Upon graduation a person can apply for a Limited License as a Professional Counselor in Michigan. The License as a Professional Counselor (LPC) may be granted after 3000 hours of post Master’s work experience (supervised by a Licensed Professional Counselor) and passage of the National Counselor Examination (NCE).

Program Requirements
CECP 6010 – Research Methods Credits: 3 hours
CECP 6020 – Group Dynamics and Procedures Credits: 3 hours
CECP 6030 – Tests and Measurement Credits: 3 hours
CECP 6040 – Counseling Techniques  Credits: 3 hours
CECP 6050 – Professional Issues and Ethics  Credits: 3 hours
CECP 6070 – Multicultural Counseling and Psychology  Credits: 3 hours
CECP 6080 – Counseling and Life Span Development  Credits: 3 hours
CECP 6100 – Career Development: Theory and Practice  Credits: 3 hours
CECP 6110 – Theories of Counseling  Credits: 3 hours
CECP 6120 – Counseling Practicum  Credits: 4 hours
CECP 6130 – Field Practicum  Credits: 2 - 6 hours
(A minimum of 600 clock-hours at an approved site)
CECP 6210 – Psychopathology: Classification and Treatment  Credits: 3 hours
CECP 6220 – Psychoeducational Consultation  Credits: 3 hours
CECP 6230 – College Student Development  Credits: 3 hours
CECP 6350 – Foundations of College Counseling  Credits: 4 hours

Master of Arts in Counselor Education: Marriage, Couple and Family Counseling
The curriculum is designed to meet the academic guidelines for Licensure as a Professional Counselor (LPC) in Michigan.

The curriculum is also designed to meet the academic guidelines for Licensure as a Marriage and Family Therapist (LMFT) in Michigan. LMFT internship requires an eight continuous months duration and accruing a total of 300 direct client contact hours, with half (150 hours) with couples or families, and one hour of supervision for every five hours of direct client contact.

The program is not accredited at this time, but is designed to meet the CACREP 2009 standards for a 60-hour specialty program in Marriage, Couple and Family Counseling.

Counseling Core
CECP 6010 – Research Methods  Credits: 3 hours
CECP 6020 – Group Dynamics and Procedures  Credits: 3 hours
CECP 6030 – Tests and Measurements  Credits: 3 hours
CECP 6040 – Counseling Techniques  Credits: 3 hours
CECP 6050 – Professional Issues and Ethics  Credits: 3 hours
CECP 6070 – Multicultural Counseling and Psychology  Credits: 3 hours
CECP 6080 – Counseling and Lifespan Development  Credits: 3 hours
CECP 6100 – Career Development: Theory and Practice  Credits: 3 hours
CECP 6110 – Theories of Counseling  Credits: 3 hours
CECP 6220 – Psychoeducational Consultation  Credits: 3 hours

Program Courses in Marriage, Couple and Family Counseling
CECP 6210 – Psychopathology: Classification and Treatment  Credits: 3 hours
CECP 6610 – Foundations of Systemic Family Therapy  Credits: 3 hours
CECP 6620 – Couple Interaction and Therapy  Credits: 3 hours
CECP 6630 – Family Interaction and Therapy  Credits: 3 hours
CECP 6650 – Sex Therapy  Credits: 3 hours

Choose Two of the Following (6 hours)
CECP 6640 – Seminar on Families and Family Therapy  Credits: 3 hours
FCS 5680 – Gender, Culture, and Families  Credits: 3 hours
FCS 6550 – Adult-Child Relationships  Credits: 3 hours
FCS 6600 – Studies in Family Relationships  Credits: 3 hours

Supervised Clinical Practice
CECP 6120 – Counseling Practicum  Credits: 4 hours*
CECP 6130 – Field Practicum  Credits: 4 hours**
Elective (1 hour)
Appropriate elective approved by academic advisor.

Total Semester Credit Hours (60 hours)

This master’s degree option includes the following requirements:
* Membership in a group for a minimum of ten hours prior to CECP 6120, Counseling Practicum. The student must present written verification of group membership with the application for CECP 6120. 25 additional hours of field experience during CECP 6120, Counseling Practicum; a minimum of 10 of the 25 hours must be in group leadership.
**CECP 6130 is a 600-clock hour supervised placement in a field setting. Weekly 1.5 hours of group supervision with designated CECP staff during CECP 6130, Field Practicum.

Master of Arts in Human Resources Development
Advisors: Nicholas Andreadis, Larry Buzas, Patrick Munley
Department Office, Room 3102, Sangren Hall.

The Master of Arts in Human Resources Development (HRD) provides graduate preparation for persons seeking entry into, or advancement in, a career in human resources development (also known as staff development, employee training, etc.) in business, government, education, and healthcare settings. This program prepares leading-edge HRD practitioners who are able to provide effective direction, through leadership and consulting roles, to assure that organizational learning and development functions are linked to, produce, and can demonstrate worthwhile organizational and individual performance results.

Admission Requirements
Admission to the Master of Arts in Human Resources Development is based upon grade point average, educational background, professional work experience, as well as other factors. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete and return a questionnaire prepared by the department. Interviews, letters of recommendation, test scores, and other materials may also be required.

The department has three different application deadlines for M.A. program admissions during the year: January 15, for ensuing Summer and Fall semesters, May 15, also for the ensuing Fall semester, and September 15 for the following Spring semester. Applicants interested in beginning their graduate master’s degree studies in the Fall semester are encouraged to meet the January 15 application deadline. This allows applicants to receive admission offers well in advance of the fall semester. Also, applicants who plan to seek assistantships or campus employment beginning in the fall semester should apply by January 15 to be competitive for such assistance or positions. Applicants must complete a WMU graduate application and a department application.

Applications materials may be obtained from the Office of Admissions and from the department, and are also available on-line through links on the WMU Office of Admissions and department Web pages. Upon admission, each student is assigned an advisor who will assist in preparing a program of study. It is recommended that the program of study, which also serves as the application for candidacy, be completed during the first semester or session of enrollment.

The department recognizes the importance of increasing the educational opportunities of racial minority students, as well as the importance of ensuring an increased diversity of role models in the fields represented by its training programs. Therefore, the department strives to create an atmosphere conducive to the concerns of racial minorities and diverse populations, to integrate these concerns into programs and course offerings, and to fulfill its commitment to recruit, admit, support, and graduate a diverse population of students prepared for their chosen careers.

Program Requirements
The Human Resources Development program requires a minimum of 36 semester hours, including seven, 3-semester hour core courses. A curriculum guide for the program is available from the department office.

The Human Resources program provides flexibility in designing a course of study to meet the interest and needs of the student. In addition to the core courses, students must, with approval of advisor, select courses for an option in human resources development. The options are human performance and technology, counseling and organizational psychology, organizational communication and development, instructional design and technology, public administration and leadership, and school leadership and administration.

1. CECP Core (9 hrs.)
   CECP 6010 - Research Methods Credits: 3 hrs.
   CECP 6070 - Multicultural Counseling and Psychology Credits: 3 hrs.
   CECP 6220 - Psychoeducational Consultation Credits: 3 hrs.

2. Program Concentration (15 hrs.)
   CECP 6400 - Principles of Human Resources Development Credits: 3 hrs.
   CECP 6410 - Fundamentals of Needs Analysis Credits: 3 hrs.
   CECP 6420 - Evaluation of Human Resources Development Transfer and Impact Credits: 3 hrs.
   CECP 6430 - Project Management in Human Resources Development Credits: 3 hrs.
   CECP 6860 - Topical Seminars Credits: 1-4 hrs.

3. Electives (12 hrs.)
   Students, in consultation with advisor, will pursue one of the following HRD specialty options from which a minimum of 12 hours of course work is selected.

   - Human Performance and Technology
   - Counseling and Organizational Psychology
   - Organization Communication and Development
   - Instructional Design and Technology
   - Public Administration and Leadership
   - School Leadership and Administration

Master of Arts in Rehabilitation Counseling/Teaching

Advisor: Jennipher Wiebold,

The Rehabilitation Counseling/Teaching program** (RCTM) is jointly administered by the Department of Blindness and Low Vision Studies and the Department of Counselor Education and Counseling Psychology.

The seventy-six hour Rehabilitation Counseling/Teaching degree program prepares a dually competent practitioner who is able to provide both rehabilitation counseling and rehabilitation teaching skills. Graduates receive two Master of Arts degrees that make them eligible to become certified rehabilitation counselors and ACVREP certified rehabilitation teachers. Graduates are prepared to provide a full range of vocational rehabilitation counseling services to individuals with physical, intellectual, cognitive, and psychiatric disabilities. As rehabilitation counselors, the graduates assist clients with career choices, manage their acquisition of work-related skills, develop jobs, and assist with placement into employment. As rehabilitation teachers, they serve people with blindness and low vision by providing instruction in the activities of daily living, communications, and recreation/leisure.

**Leads to Michigan license as a professional counselor and national certification.

Doctor of Philosophy in Counseling Psychology

The doctoral program in counseling psychology is based on a philosophy that theory, research, and practice are interdependent and complementary dimensions of professional education in a scientist-practitioner training model. The educational curriculum and practical experiences of the program are designed to ensure competency in all three
dimensions and to facilitate their integration in the development of a professional identity. Consistent with these goals, the curriculum in counseling psychology consists of course work and related experiences in four broad areas: 1) the science of psychology, 2) specialization in counseling psychology, 3) counseling and psychotherapy, and 4) research. The program recognizes that counseling psychologists may be employed in a variety of professional settings such as academic departments, college and university counseling centers, mental health agencies, private practices, and business and industry. Consequently, the program provides broad-based training appropriate to accommodate the potentially diverse career interests of its graduates.

Training typically fulfills expectations for psychologist licensure/certification eligibility. The program is accredited by the American Psychological Association and is designated as a doctoral program in psychology by the Council for the National Register of Health Service Providers in Psychology.

Program Requirements
The credit hour requirements and the course work for the Counseling Psychology Program include:
1. Basic scientific core (30 hrs.)
   a. Research methods (6 hrs.)
   b. Statistics (6 hrs.)
   c. Biological basis of behavior (3 hrs.)
   d. Cognitive-affective basis of behavior (3 hrs.)
   e. Social basis of behavior (3 hrs.)
   f. Individual behavior and human development (6 hrs.)
   g. History and systems of psychology (3 hrs.)
2. Specialization in Counseling Psychology (42 hrs.)
   a. Counseling Psychology (24 hrs.)
   b. Human Assessment (6 hrs.)
   c. Supervised Practica (12 hrs.)
3. Recommended Electives (3 hrs.)
4. Doctoral Dissertation (12 hrs.)
5. Pre-doctoral Internship (4 hrs.)
Total Hours 91

Counseling Psychology students are expected to demonstrate competencies in psychological theory, practice, and research by passing a series of doctoral comprehensive examinations in the following areas: 1) counseling psychology information and knowledge and 2) professional work sample.

Doctor of Philosophy in Counselor Education
The doctoral program in Counselor Education is designed to provide advanced-level preparation for counselors in various mental health and school settings as well as preparing counselors for the counselor education professorate in colleges and universities. Preparing counselors to work as counselor educators and supervisors is the program’s highest priority. Doctoral students pursuing this degree are expected to demonstrate 1) a wide range of individual and group counseling skills; 2) a sound theoretical foundation in counseling; 3) teaching and supervision competencies; 4) advanced multicultural counseling skills; 5) research skills; 6) competencies associated with being an educational leader, and 7) an understanding of academic program development, curriculum and administration. Students are expected to involve themselves in appropriate activities of the Department, College, University, and of relevant professional associations. The doctoral program in Counselor Education is not intended to meet the educational requirements of those who seek to be licensed psychologists. It assumes that applicants have or are about to complete their master’s degree in counseling or a closely related field. Persons with a master’s degree in a related field may be asked to complete an additional masters degree in counseling.

Program Requirements
All students enrolled in this doctoral program must complete the following set of requirements in addition to course work related to a particular specialty:
1. Doctoral Core (30 hrs.)
   a. Professional Seminar Counselor Education (3 hrs.)
b. Advanced Counseling Theory and Practices (3 hrs.)
c. Supervision in Counseling & Psychotherapy (4 hrs.)
d. Doctoral Practicum: Clinical Supervision (4 hrs.)
e. Doctoral Practicum in Counselor Education (4 hrs.)
f. College Teaching in Counseling (3 hrs.)
g. Vocational Development Theory (3 hrs.)
h. Advanced Multicultural Counseling (3 hrs.)
i. Internship in Counselor Education (4 hrs.)

2. Scientific Inquiry Core (27 hrs.)
   a. Research Design and Analysis (6 hrs.)
   b. Qualitative Research (3 hrs.)
   c. Elective in Research Design or Data Analysis (3 hrs.)
   d. Communication Skills Research Tool Competency
   e. Dissertation Seminar (3 hrs.)
   f. Doctoral Dissertation (12 hrs.)

3. Emphasis (12 hrs.)
   Courses focused around a theme or particular interest approved by the student’s doctoral committee. These
   emphases may include, but are not limited to: School Counseling, Community Counseling, College Counseling,
   Marriage and Family Counseling.

   Counselor Education doctoral students are required to demonstrate professional competencies through supervised
   experiences. These experiences include research, teaching and counseling. All doctoral candidates must pass a
   comprehensive examination over doctoral course work before admission to candidacy. The doctoral committee is
   responsible for the development and evaluation of the doctoral comprehensive examination.
Educational Leadership, Research and Technology

Van Cooley, Chair  
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Donna Talbot  
Charles Warfield  
Gary Wegenke

The Educational Leadership, Research and Technology Department offers a number of graduate degrees focused on preparing leaders and researchers for a variety of public and private organizations. A primary focus of all degrees is to produce a diverse academic and professional community of ethically engaged and intellectually active scholars and scholar-practitioners.

Within the Educational Leadership area, three graduate degrees are offered. The Masters of Arts in Educational Leadership degree prepares students for entry and mid-level leadership positions in K-12 and higher education settings via six concentrations: (1) K-12 School Principal Leadership; (2) K-12 Central Office Administration Leadership; (3) K-12 School Business Official Leadership; (4) K-12 Curriculum and Instruction Leadership; (5) Organizational Analysis Leadership; and (6) Higher Education and Student Affairs. The Education Specialist in Educational Leadership degree focuses on preparation for central office K-12 leadership positions, while the Doctor of Philosophy in Educational Leadership is targeted toward top leadership positions within the areas of K-12, Higher education, Career Technical Education, or other environments engaged in education or adult learning.

Within the Evaluation, Measurement, and Research area, two graduate degrees are offered. Graduates from the Master of Arts in Evaluation, Measurement, and Research are qualified to serve in a staff position in evaluation, testing, or research units in school or non-school settings, or in local, state, or federal government agencies. Those receiving the Doctor of Philosophy in Evaluation, Measurement, and Research are prepared to serve as leaders in such organizations, and/or to obtain faculty positions within evaluation, measurement, and research programs at institutions of higher education.

Within the Educational Technology area, an advanced certificate program is offered, as well as one graduate degree. Both the Certificate Program in Educational Technology and the Master of Arts in Educational Technology prepare students to serve as technology leaders within various educational organizations.

Master of Arts in Educational Leadership

Advisors: Andrea Beach, Louann Bierlein Palmer, Walter Burt, Van Cooley, Joseph Kretovics, Dennis McCrumb, James Morse, Sue Poppink, Patricia Reeves, Jianping Shen, Donna Talbot, Charles Warfield, Gary Wegenke, Room 2217 Sangren Hall.
The Department of Educational Leadership, Research and Technology offers a Master of Arts in Educational Leadership with concentrations in six areas: (1) K-12 School Principal Leadership; (2) K-12 Central Office Administration Leadership; (3) K-12 School Business Official Leadership; (4) K-12 Curriculum and Instruction Leadership; (5) Organizational Analysis Leadership; and (6) Higher Education and Student Affairs.

The master’s program prepares leaders for a variety of roles in private and public settings. Each concentration includes a leadership core, a specialty core, and a capstone experience. A Performance-Driven Leadership model is used within this program that emphasizes the transfer of theory into practice. Students actively engage in a number of activities while exploring effective leadership constructs.

Persons who wish to apply to the Educational Leadership master's program are urged to review the application requirements found at [http://www.wmich.edu/coe/elrt/edleadership/masters-admissions.htm](http://www.wmich.edu/coe/elrt/edleadership/masters-admissions.htm). Satisfactory completion of courses prior to admission to a Department program does not guarantee admission.

**K-12 School Principal Leadership, 30 hrs.**
This concentration is designed to prepare students for a leadership role as a building principal. Students who complete this concentration will be recommended to receive, from the state, the K-12 Basic Administrator Certificate, and two endorsements (elementary and secondary principal).

1. **Leadership Core**
The required courses in the leadership core include:
- **EDLD 6020 - Educational Leadership, Systems and Change**  Credits: 3 hours
- **EDLD 6300 – Data-Informed Decision-Making, Research and Evaluation**  Credits: 3 hours
- **EDLD 6791 – Educational Leadership Masters Seminar**  Credits: 1 hour
- **EDLD 6792 – Capstone Seminar**  Credits: 2 hours

2. **Specialty Core**
Courses required within the specialty core include:
- **EDLD 6610 - School Law**  Credits: 3 hours
- **EDLD 6620 - School Business Management**  Credits: 3 hours
- **EDLD 6640 - Curriculum Development**  Credits: 3 hours
- **EDLD 6670 - The Principalship**  Credits: 3 hours
- **EDLD 6730 – Instructional Leadership and Supervision**  Credits: 3 hours
- **EDLD 6740 - School Community Relations and Cultural Competence**  Credits: 3 hours

3. **Elective (3 hours) approved by advisor**

**K-12 Curriculum and Instruction Leadership, 30 hours**
This concentration is designed to prepare students for a leadership role in curriculum and instruction. Often this includes teachers who do not wish to become administrators, but desire to take on curriculum and instructional leadership activities.

1. **Leadership Core**
The required courses in the leadership core include:
- **EDLD 6020 - Educational Leadership, Systems and Change**  Credits: 3 hours
- **EDLD 6300 – Data-Informed Decision-Making, Research and Evaluation**  Credits: 3 hours
- **EDLD 6791 – Educational Leadership Masters Seminar**  Credits: 1 hour
- **EDLD 6792 – Capstone Seminar**  Credits: 2 hours

2. **Specialty Core**
Courses required in the specialty core are:
- **ED 6020 – School Curriculum**  Credits: 3 hours
- **ED 6280 – Curriculum Theory**  Credits: 3 hours
- **EDLD 6640 - Curriculum Development**  Credits: 3 hours
- **EDLD 6730 – Instructional Leadership and Supervision**  Credits: 3 hours
EDLD 6740 - School Community Relations and Cultural Competence  Credits: 3 hours
EMR 6420 - Program Evaluation  Credits: 3 hours

3. Elective (3 hours) approved by advisor

**Organizational Analysis Leadership, 30 hours**
This concentration is designed for graduate students who desire to develop and enhance their leadership skill in areas outside of K-12 education. It is designed for students who work in nonprofit organizations, government agencies, universities, and other organizations in which “educational” activities occur.

1. Leadership Core
The required courses in the leadership core include
EDLD 6020 - Educational Leadership, Systems and Change  Credits: 3 hours
EDLD 6300 – Data-Informed Decision-Making, research and Evaluation  Credits: 3 hours
EDLD 6791 – Educational Leadership Masters Seminar  Credits: 1 hour
EDLD 6792 – Capstone Seminar  Credits: 2 hours

2. Specialty Core
Courses within the specialty core are:
EDLD 6060 – Advanced Systems Thinking  Credits: 3 hours
EDLD 6630 - Personnel Administration  Credits: 3 hours
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research  Credits: 3 hours
EMR 6420 - Program Evaluation  Credits: 3 hours
EMR 6430 - Personnel Evaluation  Credits: 3 hours

3. Electives (6 hours) approved by advisor

**Higher Education and Student Affairs, 39 hours**
This concentration is designed to prepare students for entry and mid-level professional positions in Student Affairs. This can include positions in admissions, academic advising, resident life, student activities, financial aid, career services, and offices designed to support and retain historically underserved student populations.

1. Leadership Core
The required courses in the leadership core are:
EDLD 6020 – Educational Leadership, Systems and Change  Credits: 3 hours
EDLD 6791 – Educational Leadership Masters Seminar  Credits: 1 hour
EDLD 6792 – Capstone Seminar  Credits: 2 hours
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research  Credits: 3 hours

2. Specialty Core
Courses within the specialty core are:
EDLD 6510 – Foundation of Student Affairs  Credits: 3 hours
EDLD 6530 – The College Student  Credits: 3 hours
EDLD 6540 – Administration and Assessment of College Environments  Credits: 3 hours
EDLD 6550 – Intervention Skills for Higher Education Professionals  Credits: 3 hours
EDLD 6570 – Equity and Diversity in Higher Education  Credits: 2 hours
EDLD 6580 – Field Experience in Higher Education  Credits: 3 hours
EDLD 6590 – Higher Education Law  Credits: 3 hours
EDLD 6880 – Higher Education & The New Technological Frontier  Credits: 3 hours
Six credits within a required diversity cognate.
Specialist in Education in Educational Leadership

Advisors: Anrea Beach, Louann Bierlein Palmer, Walter Burt, Van Cooley, Joseph Kretovics, Dennis McCrumb, James Morse, Sue Poppink, Patricia Reeves, Jianping Shen, Charles Warfield, Gary Wegenke
Room 2217, Sangren Hall.

The Specialist in Education (Ed.S.) prepares persons for leadership roles in educational administration positions. The Ed.S. is a degree appropriate for students wishing to initially earn a post-master's, but not doctoral, degree. Persons seeking admission to the Ed.S. program should be definite about academic and professional goals and aspirations. Students are cautioned that satisfactory completion of courses prior to admission to the Department program does not guarantee admission to the program.

Admission Requirements
Applicants to the Ed.S. program should review the application requirements found at http://www.wmich.edu/coe/elrt/edleadership/phd/docinfo.htm. In addition to The Graduate College requirements, the Department requires the submission of an autobiography sketch, 3 graduate reference forms, completion of a Summary of Leadership Experience form, an interview with at least two members of the Educational Leadership faculty, and review and acceptance by the faculty as a whole at a meeting scheduled for student admission.

Program Requirements
A program of study consists of a minimum of 60 credit hours beyond the baccalaureate degree and leads to an Ed.S. degree. In addition to the Ed.S. degree, a student can be recommended to receive from the state an endorsement as a central office administrator if the appropriate courses are completed as follows (or equivalents as determined by the students’ advisor):

EDLD 6020 - Educational Leadership, System and Change Credits: 3 hours
EDLD 6060 – Advanced Systems Thinking Credits: 3 hours
EDLD 6300 – Data-Informed Decision-Making, Research and Evaluation Credits: 3 hours
EDLD 6610 - School Law Credits: 3 hours
EDLD 6620 – School Business Management Credits: 3 hours
EDLD 6630 – Personnel Administration Credits: 3 hours
EDLD 6640 – Curriculum Development Credits: 3 hours
EDLD 6670 – The Principalship Credits: 3 hours
EDLD 6720 – School Finance Credits: 3 hours
EDLD 6810 – Policy Development Credits: 3 hours
EDLD 6850 – School Facilities Planning Credits: 3 hours
EDT 6490 – Planning and Implementing District Level Education Technology Credits: 3 hours OR
EDLD 6820 – Computer Applications Credits: 3 hours
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hours
EDLD 7120 - Professional Field Experience Credits: 3 hours
EDLD 7200 – Specialist Project Credits: 3 hours

Electives (6 hours) (from the master’s degree or other courses as approved by advisor to meet student program needs)

Depending on a student’s goals, an Ed.S. program of studies (equaling at least 60 credits) other than the list noted above may be developed by the student’s advisor. This may lead to the receipt of an Ed.S. degree and a recommendation to receive from the state the K-12 Administrator Certificate and the basic principal endorsements.

Upon completion of an Ed.S. Degree in Educational Leadership from WMU, any such student admitted to the Ph.D. in Educational Leadership will be able to count up to 60 graduate credits toward the 90 credits (post bachelors) required within that Ph.D. degree. This means that for such students, not withstanding any other policy, the minimum credit hours required to be taken at WMU after admission to such a doctoral program is 30 credits (including dissertation credits). There is also no specific number of courses prescribed in order to meet the residency requirement for students within the Ed.S. in Educational Leadership program, although the university’s general residency requirement must be met by students within the Ph.D. in Educational Leadership (either within a Ed.S. program at WMU or within their Ph.D. program at WMU).
Doctor of Philosophy in Educational Leadership
Advisors: Andrea Beach, Louann Bierlein Palmer, Walter Burt, Van Cooley, Joe Kretovics, Sue Poppink, Patricia Reeves, Jianping Shen, Charles Warfield, Gary Wegenke
Room 2217 Sangren Hall

The Ph.D. in Educational Leadership is targeted toward professionals working in the areas of K-12, Higher Education, Career Technical Education, or other environments engaged in education or adult learning. Four concentrations exist: (1) Higher Education Leadership, (2) K—12 Leadership, (3) Organizational Analysis, and (4) Career and Technical Education with program requirements specific to each concentration listed below.

Key program goals include preparing individuals to become transformation leaders, ready to help educational or other institutions to address current challenges, including the need to better educate students who have historically not been well served by traditional learning institutions. In addition, graduates will expand their inquiry and research skills, enabling them to add to the knowledge base concerning education, especially as it relates to the growing challenges facing all educational institutions.

Admission Requirements
Admission to the Doctor of Philosophy in Educational Leadership requires that students meet the Graduate College criteria for admission to a doctoral program, including:
1. Bachelor’s degree from an accredited institution, indicated on an official transcript.
2. For students who have completed at least 20 hours of graduate work, an overall grade point average of at least 3.0 for all graduate work undertaken beyond the bachelor’s degree.
3. Submission of score on the GRE General Test Graduate Application
4. Two official transcripts from each institution attended since high school
5. Autobiographical Statement that shows a clear and complete statement of that person’s professional goals, and how these goals relate to the doctoral program
6. Graduate Reference Forms completed by three different individuals
7. Summary of Leadership Experience form
8. Professional Vitae or Resume

All required forms will be available from the Department of Educational Leadership, Research and technology’s website [http://www.wmich.edu/coe/elrt/edleadership/phd/index.htm](http://www.wmich.edu/coe/elrt/edleadership/phd/index.htm).

Each eligible applicant will be interviewed by a minimum of two members of the faculty, and each application will be reviewed for acceptance by the entire faculty of the Leadership program. After admission, a doctoral chair will be appointed from among the faculty advisors, and the student will work with this advisor to assemble an appropriate doctoral advisory committee to guide the student through the program.

The total number accepted in any given year will depend upon the quality of individual applicants, as well as available resources to support the program.

Program Requirements

Higher Education Leadership Concentration
The Higher Education Leadership concentration within the Ph.D. in Educational Leadership is designed to serve higher educational faculty who have not yet obtained a terminal degree, as well as those working in student services or other administrative areas within universities, community colleges, or other institutions focused on adult learning. The overall focus will be on leadership knowledge and development, applicable to both instructional and management aspects of higher education institutions.

Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership. In total, 90 hours of graduate credit (including credits accepted from a master’s degree program) must be completed as follows.

1. Leadership Core (9 hrs.)
   EDLD 6020 - Educational Leadership, Systems and Change Credits: 3 hours
EDLD 6060 – Advanced Systems Thinking  Credits: 3 hours
EDLD 6090 - Theories of Leadership  Credits: 3 hours

2. Professional Inquiry, Research, and Dissertation Core (33 hrs.)
   (a) Professional Inquiry
   EDLD 6861 - Doctoral Studies Seminar I  Credits: 3 hours
   EDLD 6862 – Doctoral Studies Seminar II   Credits: 3 hours
   EDLD 7120 - Professional Field Experience   Credits: 3 hours
   (b) Research Methods
   EMR 6450 - Elementary Statistics  Credits: 3 hours
   EMR 6480 - Qualitative Research Methods  Credits: 3 hours
   EMR 6550 - Research Design  Credits: 3 hours
   (c) Dissertation
   EDLD 6950 - Dissertation Seminar  Credits: 3 hours.
   EDLD 7300 - Doctoral Dissertation  Credits: at least 12 hours required

3. Higher Education Core (24 hrs.)
   Required Courses
   EDLD 6590 – Higher Education Law   Credits: 3 hours
   EDLD 6870 - Governance and Financing in Universities and Community Colleges Credits: 3 hours
   EDLD 6880 - Higher Education and the New Technological Frontier Credits: 3 hours
   EDLD 6890 - University and Community College Topical Seminar  Credits: 3 hours

4. Elective Courses
   Choose 12 hours from the following list, or equivalents approved by advisor
   CECP 6230 - College Student Development Credits: 3 hours
   CECP 6730 - Advanced College Student Development Theory Credits: 3 hours
   CECP 6860 - Topical Seminars Credits: 1 to 4 hours
   ED 5050 - The Adult Learner Credits: 3 hours
   EDLD 6540 – Administration and Assessment of College Environments Credits: 3 hours
   EDLD 6630 - Personnel Administration Credits: 3 hours
   EDLD 6730 – Instructional Leadership and Supervision Credits: 3 hours
   EMR 6420 - Program Evaluation Credits: 3 hours
   ES 6330 - Human Nature and Diversity Credits: 3 hours
   GRAD 7110 - Readings in Doctoral Specialization Credits: 3 hours

5. Special Interest Cognate and Electives (24 hrs.)
   In conjunction with their advisor, students will identify courses to help strengthen their primary area of interest
   and/or their research knowledge and tools. Many credits for this component may come from the student’s master’s
   degree program. Other courses from the master’s degree may, as appropriate, be used to fulfill some required or
   elective courses for the other components.

K-12 Leadership Concentration
The K-12 Leadership concentration is designed for persons who wish to develop leadership skills and serve as a
superintendent or other central office administrator within a school district serving elementary and secondary
students.

Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of
course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership, or
a total of 30 credits including 12 credits of dissertation if a student has previously completed an Ed.S. in Educational
Leadership at WMU. In total, 90 hours of graduate credit (including credits accepted from a master’s degree
program and/or Ed.S.) must be completed as follows.

1. Leadership Core (9 hrs.)
   EDLD 6020 - Educational Leadership, Systems and Change  Credits: 3 hrs.
EDLD 6060 – Advanced Systems Thinking Credits: 3 hours
EDLD 6090 - Theories of Leadership Credits: 3 hours

2. Professional Inquiry, Research, and Dissertation Core (33 hrs.)
   (a) Professional Inquiry
   EDLD 6861 - Doctoral Studies Seminar I Credits: 3 hours
   EDLD 6862 – Doctoral Studies Seminar II Credits: 3 hours
   EDLD 7120 - Professional Field Experience Credits: 3 hours
   (b) Research Methods
   EMR 6450 - Elementary Statistics Credits: 3 hours
   EMR 6480 - Qualitative Research Methods Credits: 3 hours
   EMR 6550 - Research Design Credits: 3 hours
   (c) Dissertation
   EDLD 6950 - Dissertation Seminar Credits: 3 hours
   EDLD 7300 - Doctoral Dissertation Credits: at least 12 hours required

3. K-12 Education Core (24 hrs.)
   EDLD 6610 - School Law Credits: 3 hours
   EDLD 6620 - School Business Management Credits: 3 hours
   EDLD 6640 - Curriculum Development Credits: 3 hours
   EDLD 6670 - The Principalship Credits: 3 hours
   EDLD 6720 - School Finance Credits: 3 hours
   EDLD 6730 – Instructional Leadership and Supervision Credits: 3 hours
   EDLD 6740 - School Community Relations and Cultural Competence Credits: 3 hours
   EDLD 6810 - Policy Development Credits: 3 hours

4. Special Interest Cognate and Electives (24 hrs.)
   Students could fulfill the requirements for this section by taking any combination of the following three approaches depending on their interests and career goals, such as (A) and (C), or (A) and (B), or just (C).
   (A) Additional Requirements for Central Office Endorsement
       EDLD 6300 – Data-Informed Decision-Making Research and Evaluation Credits: 3 hours
       EDLD 6630 - Personnel Administration Credits: 3 hours
       EDLD 6800 - The Superintendency Credits: 3 hours
       EDLD 6820 - Computer Applications in Administration Credits: 3 hours OR
       EDT 6490 – Planning and Implementing District Level Educational Technology Credits: 3 hours OR
       EDLD 6850 - School Facilities Planning Credits: 3 hours
   (B) Research Methods
       Students could take additional methods courses in qualitative and/or quantitative research, such as the following or other methods courses.
       EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hours
       EMR 6420 - Program Evaluation Credits: 3 hours
       EMR 6500 - Survey Research Credits: 3 hours
       EMR 6520 - Evaluation Practicum Credits: 3 hours
       EMR 6580 - Qualitative Research Practicum Credits: 3 hours
       EMR 6650 - General Linear Models Credits: 3 hours
   (C) Cognate Outside Leadership Specialization
       Students could take courses in an area that has a course prefix other than EDLD.

**Organizational Analysis Concentration**

The Organizational Analysis concentration is designed to develop and enhance leadership skills for those who find an institutional specialization unnecessary (i.e., not focused on K-12 or higher education institutions), with a special focus on organizational analysis skills.
Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership. In total, 90 hours of graduate credit (including credits accepted from a master’s degree program) must be completed as follows.

1. Leadership Core (9 hours)
- EDLD 6020 - Educational Leadership, Systems and Change  Credits: 3 hours
- EDLD 6060 – Advanced Systems Thinking Credits: 3 hours
- EDLD 6090 - Theories of Leadership Credits: 3 hours

2. Professional Inquiry, Research, and Dissertation Core (33 hours)
   (a) Professional Inquiry
- EDLD 6861 - Doctoral Studies Seminar I Credits: 3 hours
- EDLD 6862 – Doctoral Studies Seminar II Credits: 3 hours
- EDLD 7120 - Professional Field Experience Credits: 3 hours
   (b) Research Methods
- EMR 6450 - Elementary Statistics Credits: 3 hours
- EMR 6480 - Qualitative Research Methods Credits: 3 hours
- EMR 6550 - Research Design Credits: 3 hours
   (c) Dissertation
- EDLD 6950 - Dissertation Seminar Credits: 3 hours
- EDLD 7300 - Doctoral Dissertation Credits: at least 12 hours required.

2. Organizational Analysis Core (24 hrs.)
   (a) Required Courses
- EDLD 6810 - Policy Development Credits: 3 hours
- EMR 6420 - Program Evaluation Credits: 3 hours
- EMR 6430 - Personnel Evaluation Credits: 3 hours
- EMR 6500 - Survey Research Credits: 3 hours
   (b) Elective Courses
Choose 12 hrs. from following list, or equivalents approved by advisor
- CECP 6410 - Fundamentals of Needs Analysis Credits: 3 hours
- CECP 6420 - Evaluation of Human Resources Development Transfer and Impact Credits: 3 hours
- CECP 6440 - Learning and Organizational Effectiveness Credits: 3 hours
- EDLD 6630 - Personnel Administration Credits: 3 hours.
- EDLD 6730 – Instructional Leadership and Supervision Credits: 3 hours
- EDLD 6980 - Readings in Educational Leadership Credits: 1 to 4 hours
- EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hours
- EMR 6580 - Qualitative Research Practicum Credits: 3 hours
- EMR 6650 - General Linear Models Credits: 3 hours
- GRAD 7110 - Readings in Doctoral Specialization Credits: 3 hours
- MGMT 6500 - Managing Change Credits: 3 hours
- PADM 6080 - Organization Theory and Behavior Credits: 3 hours

3. Special Interest Cognate and Electives (24 hrs.)
   In conjunction with their advisor, students will identify courses to help strengthen their primary area of interest and/or their research knowledge and tools. Many credits for this component may come from the student’s master’s degree program. Other courses from the master’s degree may, as appropriate, be used to fulfill some required or elective courses for the other components.

**Career and Technical Education Concentration**
The Career and Technical Education concentration is designed to enhance the skills in administrative leadership, curriculum, or instruction for individuals involved in career technical education or related areas within adult, secondary, post-secondary, and four-year institutions.
Students must complete a minimum of 42 graduate credits at Western Michigan University (30 credit hours of course work plus 12 credit hours of dissertation) once admitted to a doctoral program in Educational Leadership. In total, 90 hours of graduate credit (including credits accepted from a master’s degree program) must be completed as follows.

1. Leadership Core (9 hours.)
   EDLD 6020 - Educational Leadership, Systems and Change   Credits: 3 hrs.
   EDLD 6060 – Advanced Systems Thinking   Credits: 3 hours
   EDLD 6090 - Theories of Leadership   Credits: 3 hours

2. Professional Inquiry, Research, and Dissertation Core (33 hours)
   (a) Professional Inquiry
      EDLD 6861 - Doctoral Studies Seminar I   Credits: 3 hours
      EDLD 7120 - Professional Field Experience   Credits: 6 hours.
   (b)Research Methods
      EMR 6450 - Elementary Statistics   Credits: 3 hours
      EMR 6480 - Qualitative Research Methods   Credits: 3 hours
      EMR 6550 - Research Design   Credits: 3 hours
   (c) Dissertation
      EDLD 6950 - Dissertation Seminar   Credits: 3 hours
      EDLD 7300 - Doctoral Dissertation   Credits: at least 12 hours required

3. Career and Technical Education Core (24 hours.)
   CTE 6140 - Administration and Supervision of Career and Technical Education   Credits: 3 hours
   CTE 6160 - Occupational Selection and Training   Credits: 3 hours
   CTE 6430 - Measurement and Evaluation in Career and Technical Education   Credits: 3 hours
   CTE 6450 - Organization of Employment and Training Systems   Credits: 3 hours
   CTE 6460 - Leadership Development in Career and Technical Education   Credits: 3 to 6 hours
   CTE 6480 - Adult Education in Career and Technical Education   Credits: 2 to 3 hours
   CTE 6500 - Business/Industry/Education Work-based Learning   Credits: 3 hours

4. Specialty Cognates (minimum of 12 hours)
   Students may choose one of the following four cognate areas based upon career goals in CTE.
   (A) Curriculum
      ED 6020 - School Curriculum   Credits: 3 hours
      ED 6280 - Curriculum Theory   Credits: 3 hours
      EDLD 6640 - Curriculum Development   Credits: 3 hours
      EMR 6420 - Program Evaluation   Credits: 3 hours
   (B) Educational Leadership
      EDLD 6630 - Personnel Administration   Credits: 3 hours
      EDLD 6670 - The Principalship   Credits: 3 hours
      EDLD 6720 - School Finance   Credits: 3 hours
      EMR 6420 - Program Evaluation   Credits: 3 hours
   (C) Instruction
      Focused on further technical knowledge in a particular CTE discipline, (e.g., Business or Marketing Education, Family and Consumer Sciences, Industrial Technology, Information Technology). May include graduate courses within or outside College of Education intended to enhance technical content needed as a CTE instructor, in an adult, secondary, or post-secondary institution.
      (D) Total Quality Management in Education
      This cognate is offered by Ferris State University (FSU) and leads to a certificate in TQM awarded by FSU.
      ECTE 6500 Implementing TQM in Education   Credits: 3 hours
      ECTE 6550 Quality Improvement Practices   Credits: 3 hours
      ECTE 6600 Quality Management in Education   Credits: 3 hours
ECTE 6650 Quality Metrics and Data Management  Credits: 3 hours

5. Elective Courses (minimum of 12 hrs.)
Other elective courses can be substituted with advisor approval addressing educational leadership, evaluation, measurement, or research design.
CTE 5100 - Special Populations in Career and Technical Education  Credits: 3 hours
CTE 5120 - Principles of Career and Technical Education  Credits: 3 hours
CTE 5130 - Teaching Methods in Career and Technical Education  Credits: 3 hours
CTE 5140 - Workshop in Career and Technical Education  Credits: 1 to 3 hours
CTE 5150 - Grant Writing for Career and Technical Educators  Credits: 3 hours
CTE 5420 - Curriculum Development in CTE  Credits: 3 hours
CTE 5430 - Work-site Based Education Programs  Credits: 3 hours
CTE 6120 - Studies in Technology  Credits: 1 to 4 hours
CTE 6150 - Trends and Developments in Career and Technical Education  Credits: 2 hours
CTE 6170 - Seminar in Career and Technical Education  Credits: 2 to 6 hours

Master of Arts in Evaluation, Measurement, and Research
Advisors: Brooks Applegate, Jianping Shen, Gary Miron
Room 2217 Sangren Hall

The Department of Educational Leadership, Research and Technology offers the Master of Arts in Evaluation, Measurement, and Research. Students completing this degree program will be qualified to serve in a staff position in evaluation, testing, or research units in school or non-school settings, or in local, state, or federal government agencies.

Admission Procedures
Students seeking admission to this degree program should request a Master's Degree Program Application packet from the Department of Educational Leadership, Research and Technology. Applicants must follow all instructions on the Graduate Self-Managed Application form and send all supplemental materials to the Department of Educational Leadership, Research and Technology.

Program Requirements
This 36 credit hour master’s program requires the satisfactory completion of the following courses. EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.
EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hrs.
EMR 6420 - Program Evaluation Credits: 3 hrs.
EMR 6430 - Personnel Evaluation Credits: 3 hrs.
EMR 6450 - Elementary Statistics Credits: 3 hrs.
EMR 6480 - Qualitative Research Methods Credits: 3 hrs.
EMR 6500 - Survey Research Credits: 3 hrs.
EMR 6590 - Contemporary Trends in Research Credits: 3 hrs.
EMR 6790 - Capstone Portfolio Project Credits: 3 hrs.

Additional Requirements
In addition, nine credit hours are chosen from courses outside the EMR program such as sociology, psychology, or other area approved by the advisor.

Doctor of Philosophy in Evaluation, Measurement, and Research
Advisors: Brooks Applegate, Jianping Shen, Gary Miron
Room 2217 Sangren Hall.
This program prepares graduates to serve in leadership roles in evaluation, measurement, or research units in school or non-school settings, as well as in local, state, or federal government agencies and to serve in faculty positions in evaluation, measurement, and research at institutions of higher education.

**Admission Procedures**
Students seeking admission to this degree program should request a Doctoral Degree Program Application packet from the Department of Educational Leadership, Research and Technology. Applicants must follow all instructions on the Graduate Self-Managed Application form and send all supplemental materials to the Department of Educational Leadership, Research and Technology.

**Program Requirements**
The following requirements and courses will lead to a Doctor of Philosophy in Evaluation, Measurement, and Research (93 hours minimum):

- **EMR Comprehensive Examination**
- **EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs.**
- **EMR 6410 - Fundamentals of Measurement in the Behavioral Sciences Credits: 3 hrs.**
- **EMR 6420 - Program Evaluation Credits: 3 hrs.**
- **EMR 6430 - Personnel Evaluation Credits: 3 hrs.**
- **EMR 6450 - Elementary Statistics Credits: 3 hrs.**
- **EMR 6480 - Qualitative Research Methods Credits: 3 hrs.**
- **EMR 6490 - The Nature of Science and Scientific Inquiry Credits: 3 hrs.**
- **EMR 6500 - Survey Research Credits: 3 hrs.**
- **EMR 6510 - Advanced Applications of Measurement Methods Credits: 3 hrs.**
- **EMR 6520 - Evaluation Practicum Credits: 3 hrs.**
- **EMR 6550 - Research Design Credits: 3 hrs.**
- **EMR 6580 - Qualitative Research Practicum Credits: 3 hrs.**
- **EMR 6650 - General Linear Models Credits: 3 hrs.**
- **EMR 7120 - Professional Field Experience Credits: 9 hrs.**
- **EMR 7300 - Doctoral Dissertation Credits: 15 hrs.**

One of the following:
- **EMR 6600 - Advanced Seminar in Research Credits: 3 hrs.**
- **EMR 6610 - Advanced Seminar in Measurement Credits: 3 hrs.**
- **EMR 6620 - Advance Seminar in Evaluation Credits: 3 hrs.**

**Additional Requirements**
In addition, 9 credit hours of advisor-approved electives and 18 hours chosen from a cognate area with advisor approval are required.

**Certificate Program in Educational Technology**
Advisors: Brian Horvitz, Robert Leneway
Room 2217, Sangren Hall

This graduate certificate program provides a strong framework for the development of educational technology competencies for individuals that are employed or seek professional employment in the field of education as technology specialists. The audience for the program is anticipated to be in-service teachers interested in educational technology in the classroom, inservice teachers with more advanced technology knowledge interested in competencies and responsibilities required for building level technology specialists, inservice teachers or individuals who desire or assume the position of district technology coordinator, and district administrators and staff who desire advanced skills in the area of educational technology coordination.

**Admission Requirements**
In addition to meeting the requirements of the Graduate College, all applicants must possess a baccalaureate degree in education or a related field, provide a statement outlining technology skills and background, career goals, and educational philosophy (1,000 words). Admission decisions will be made by the department's faculty, following a review of the applicant's admission materials.
Program Requirements
Students will complete a planned program of study consisting of 15-21 hours of course work with an overall grade point average of 3.0 or better, with no course grade below a "C." The courses include:

Master of Arts in Educational Technology
Advisors: Brian Horvitz, Robert Leneway
Room 2217, Sangren Hall

The Master of Arts in Educational Technology is designed to prepare educators for the integration of educational technology into academic programs of kindergarten through 12th grade schools. The degree program prepares educators for various school-based technology roles, including technology coordinators, technology instructional consultants/teachers, special education technology consultants/teachers and chief technology officers.

A majority of the courses in the Master of Arts in Educational Technology are offered via Extended University Program’s distance education program means that include Vista computer-based management software, Internet conferencing, and other online teaching/learning methods. Courses may be offered as residential courses taught in traditional computer labs and classrooms at Western’s Kalamazoo campus as well as at various regional sites located in southwestern Michigan. Students should be prepared to handle distance education instruction that often requires more independent work, self-direction, and the meeting of course deadlines outside of regular classroom meetings. Students will also need to have mastered basic computer communications systems, including e-mail, use of listservs, web browsing, and submission of assignments via file transfer procedures. An online application and additional information can be found at http://www.wmich.edu/coe/ekrt/edtech.

Admission Requirements
In addition to meeting the requirements of the Graduate College, all applicants must possess a baccalaureate degree in education or a related field, provide a statement outlining technology skills and background, career goals, and educational philosophy (1,000 words). Admission decisions will be made by program faculty after review of admission materials.

Program Requirements
Students will complete a planned program of study consisting of 30-33 credit hours of course work with an overall grade point average of 3.0 or better. The degree course work requires a fifteen credit hour Major Technology Core. Students will select the Major Technology Core with the approval of an academic advisor. The course work also requires a nine hour Minor Technology Elective Core that is related to the career goals of the student and approved by an academic advisor. The minor core must be different from the major core and have at least two of the three courses at the 600-level.

I. Major Technology Core (15 hrs.)
Select 15 hours from either Option A or Option B.

Option A: Technology Coordinator
EDT 5410 – Telecommunications for Teaching and Learning Credits: 3 hours
EDT 5420 – Teaching with Technology: Design and Development for Learning Credits: 3 hours
EDT 6440 – Advanced Information Technologies for Instructional Technology Credits: 3 hours
EDT 6450 – Technical/Operational Issues of Educational Technology Credits: 3 hours
EDT 6480 – Designing Staff Development for Educational Technology Credits: 3 hours
EDT 6490 – Planning and Implementing of District Level Educational Technology Credits: 3 hours

Option B: Special Education Technology
SPED 5370 - Technology in Special Education Credits: 3 hrs.
SPED 6010 - Acquisition and Analysis of Special Education Information Credits: 3 hrs.
SPED 6800 - Instructional Software in Special Education Credits: 3 hrs.
SPED 6810 - Assistive Technology for Persons with Physical, Sensory, and Cognitive Impairments Credits: 3 hrs.
SPED 6820 - Current Research in Special Education Technology Credits: 3 hrs.
SPED 7120 - Professional Field Experience Credits: 2-12 hrs.

II. Technology Minor Elective Core (9 hrs.)
Select 9 hours of elective courses related to the technology career goals of the student and approved by an academic advisor.
One 5000- or 6000-level course (3 hrs.)
One 6000-level course (3 hrs.)
One 6000-level course (3 hrs.)

III. Educational Research (3 hrs.)
EMR 6400 - Fundamentals of Evaluation, Measurement, and Research Credits: 3 hrs. or course equivalent to EMR 6400

IV. Culminating Learning Activity (3 or 6 hrs.)
The culminating learning activity allows students to demonstrate their comprehensive knowledge of educational technology in either a research study or in the development of a curriculum or instructional technology product. Students seeking advanced degrees beyond the master’s level are encouraged to complete a master’s thesis. Other students will elect the capstone course with an advisor-approved technology research, application, or curriculum development project that includes a minimum of 120 hours of effort.
Family and Consumer Sciences

Linda Dannison, Chair
Main Office: 3326 Kohrman Hall
Telephone: (269) 387-3704
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Linda L. Dannison, Chair
Karen R. Blaisure
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Mozhdeh Bruss
John T. Chapman
E. Bryce Dickey
Barbara J. Frazier
Margie J. Geasler
Chantel L. Lumpkin
Arezoo Rojhani
Caroline Webber
Richard W. Zinser

The Department of Family and Consumer Sciences offers the Master of Arts in Career and Technical Education and the Master of Arts in Family and Consumer Sciences. The Department also offers a concentration in Career and Technical Education within the Doctor of Education in Educational Leadership. For more information on this doctoral program, see the catalog listing under the Department of Educational Leadership, Research and Technology.

Master of Arts in Career and Technical Education
Advisor: Linda Dannison,
Room 3326, Kohrman Hall

This 30 hour degree program includes course work that will strengthen students' abilities to teach in career and technical education and to assist in developing and implementing new programs or curricula. The program is flexible to provide advanced techniques for teachers and career preparation for administrators, supervisors, counselors, coordinators, and for any other specialized positions in the career and technical education areas of marketing education, business education, family and consumer sciences, and technology education.

The Master of Arts in Career and Technical Education is designed for bachelor's graduates in marketing education, business education, family and consumer sciences, industrial arts, industrial education, or career and technical education, plus professional preparation in teacher education, including directed or supervised student teaching.

Program Requirements
Complete at least thirty graduate credit hours, selected in consultation with a program advisor. The program of study will consist of 3-6 hours of professional education courses, 15-18 hours of core courses, and 3-12 hours of electives.

M.A. in Career and Technical Education, Post-Baccalaureate Certification
The department also maintains a post-baccalaureate certification program within the Master of Arts in Career and Technical Education that leads to a State secondary provisional certificate with an endorsement in marketing, business, family and consumer sciences, or industrial technology and a vocation endorsement (36 hours). Please see the program advisor for more information about the specific admission and program requirements that apply to this certification.
Master of Arts in Family and Consumer Sciences

Advisor: Linda Dannison,
Room 3326, Kohrman Hall

The graduate program in Family and Consumer Sciences is designed to provide a comprehensive program of study in Family and Consumer Sciences or an in depth program of studies for the person desiring to strengthen specialized interest areas in dietetics and human nutrition, family life education, or textile and apparel technology.

The Master of Arts in Family and Consumer Sciences is designed for the person with a Bachelor of Science or Arts in Family and Consumer Sciences or a home economics-related program of study.

Because of the diversity of the field and unique needs of those desiring graduate training, an individualized program plan is designed for each student within the parameters of the program requirements.

The degree may be used as a foundation for continued graduate work leading to a doctoral degree at another institution.

Admission Requirements
For admission to the master’s program in Family and Consumer Sciences, students must satisfy all the requirements identified in the Graduate Catalog as well as specific departmental requirements. No one requirement is sufficient to guarantee admission or dictate denial of admission.

Possess a Bachelor of Science from an approved accredited school and a major closely related to the selected concentration.
Have a minimum undergraduate grade point average of 3.0 on a 4.0 scale in the last two years of undergraduate work. Non-degree, probationary status may be granted to students with a gpa between 2.5 and 2.99 in the last two years of undergraduate work. Students with that gpa range may establish eligibility for regular admission to WMU by completing nine credit hours of approved graduate-level courses toward their M.A. with a grade of “B” or better in each course.
Include a resume indicating previous education experiences and listing positions held over the past ten years. Indicate the exact title of each position, the agency, school, or firm where employed, and the duration of each employment. Also note particular awards or accomplishments.
Submit a two-page, wordprocessed essay that provides the following information:
Describe experience(s) that influenced your career choice and your desire to return to graduate school.
Explain how having a Master of Arts in Family and Consumer Sciences degree will advance your career.

Program Requirements
All master's programs include a minimum of 30 semester hours, 15 of which must be in courses at the 6000-level or higher, and at least two hours of FCS 7100: Independent Research.
A total of 20 hours in Family and Consumer Sciences must be completed in graduate level courses, planned in consultation with departmental advisor.
Assistantships may be available to those wishing to pursue full-time graduate study.
Health, Physical Education, and Recreation

Lee J. deLisle, Chair
Main Office: 4024 Student Recreation Center
Telephone: (269) 387-2710
Fax: (269) 387-2704

Amos Aduroja
Suzan Ayers
Robert Bensley
Debra Berkey
Jody Brylinsky
Christopher Cheatham
Ray Cool
John Dunn
Marianne Frauenknecht
James Lewis
Yuanlong Liu
Timothy Michael
Michael Miller
Jennifer O’Donoghue
Craig Paiement
Jiabei Zhang

Admission Requirements
Meet Graduate College admission standards, successful completion of an undergraduate major or minor or equivalent appropriate for intended emphasis area, submission of GRE scores, submission of a letter of intent to include education, career and/or research goals and philosophy. In some emphasis areas, an interview or additional qualifications may be required.

Program Requirements
Each graduate student is expected to show competence in four professional areas: research, socio-cultural issues, curriculum or psychological foundations, and a professional area of emphasis. HPER 6900 and HPER 6920 are required. This degree program also requires the successful completion of a minimum of thirty-six graduate credit hours beyond the bachelor's degree in one of the following areas of emphasis: Pedagogy, Special Physical Education, Sport Management, and Sports Studies. For information about additional specific course requirements for each concentration, see the graduate advisor.

Master’s degree candidates are required to complete a comprehensive, integrated capstone experience which can be met through the following:
HPER 7000 - Master's Thesis Credits: 6 hrs.
HPER 7100 - Independent Research Credits: 2 to 6 hrs. or
HPER 7120 - Professional Field Experience Credits: 2 to 12 hrs.

Master of Arts in Physical Education
The Department of Health, Physical Education, and Recreation offers a Master of Arts in Physical Education which prepares teachers, coaches, administrators, and supervisors to assume leadership roles in the following three emphasis areas Pedagogy, Special Physical Education, Sports Management.

Pedagogy, Special Physical Education
Advisor:
Debra S. Berkey  
Room 1043 Student Recreation Center

*Special Physical Education*  
Advisor:  
Jiabei Jhang  
Room 1038 Student Recreation Center

*Sport Management*  
Advisor:  
Craig Paiement  
Room 4024-24 Student Recreation Center

**Master of Arts in Physical Education: Special Physical Education**

Advisor: Jiabel Zhang  
Room 1043 Student Recreation Center  

Our Mission: To train qualified professionals who provide physical education service to individual with disabilities in public schools and other related placements. The program is now being offered as a hybrid online degree.

Coursework required for Master of Arts in Physical Education with an emphasis on Special Physical Education:

**Core (6 credit hours)**  
HPER 6900 – Research Procedures in HPER  Credits: 3 hours  
HPER 6920 – Analytical Techniques in HPER  Credits: 3 hours

**Emphasis (18 credit hours)**  
*Physical Education Majors*  
HPER 6210 – Physical Activities for Exceptional Children  Credits: 3 hours  
HPER 6220 – Programming in Special Physical Education  Credits: 3 hours  
HPER 6250 – Assessment in Special Physical Education  Credits: 3 hours  
SPED 5300 – Introduction to Special Education  Credits: 3 hours  
SPED 6610 – Transdisciplinary Teaming  Credits: 3 hours

*Special Education Majors*  
HPER 6210 – Physical Activities for Exceptional Children  Credits: 3 hours  
HPER 6220 – Programming in Special Physical Education  Credits: 3 hours  
HPER 6250 – Assessment in Special Physical Education  Credits: 3 hours  
HPER 6400 – Instructional Materials in Physical Education  Credits: 3 hours  
HPER 6410 – Teaching and Supervision Skills in Physical Education  Credits: 3 hours  
HPER 6450 – Curriculum Development in HPER  Credits: 3 hours

**Electives (6 credit hours)**  
HPER 6420 – Human Growth and Motor Development  Credits: 3 hours  
HPER 6430 – Physical Skill Acquisition and Motor Learning  Credits: 3 hours  
HPER 6450 – Curriculum Development in HPER  Credits: 3 hours  
HPER 6910 – Psychological Preparation and Mental Training for Sport and Physical Activity  Credits: 3 hours  
HPER 6930 – Sociology of Sport and Physical Activity  Credits: 3 hours

**Capstone (6 or 9 credit hours)**  
HPER 7120 – Professional Field Experience  Credits: 2 to 12 hours (3 credit hours needed)  
HPER 7100 – Independent Research  Credits: 2 to 6 hours (3 credit hours needed) or  
HPER 7000 – Thesis  Credits: 1 to 6 hours (6 credit hours needed) 3 elective hours only if taking HPER 7000

**Master of Arts in Coaching Sports Performance** (36 credit hours)
The Department of Health, Physical Education, and Recreation offers a Master of Arts in Coaching Sport Performance which is designed to provide 36 graduate credit hours of classroom and field experiences enabling students to develop skills and knowledge that coaches and related sport clinicians should possess. The M.A. in Coaching Sport Performance clearly supports an athlete-centered philosophy of sport and encourages each student to create a program of study that will enhance their preparation in becoming a high performance coach, maximizing the benefits of sport for all participants. The established curriculum is aligned with the National Standards for Sport Coaches (NASE 2006) and NCACE Accreditation Level 5. Graduate students find positions as coaches in school and community-based sport, as well as instructional staff for coaching education programs.

Admission Requirements
Meet Graduate College admission standards, successful completion of an undergraduate major or minor, or related coaching experience. Students are to submit a letter of intent to include education and career goals. In cases an interview or additional qualifications may be required.

Planned Program of Study
Each graduate student is expected to show master level competence in the comprehension and behavioral skills associated with the eight domains of the National Standards for Sport Coaches. In addition, each student is expected to demonstrate the capacity to function effectively in applied settings among diverse populations as well as demonstrate a commitment to fostering a safe and effective sport environment for all participants.

Coaching Courses
- HPER 6300 – Professional Development Seminar for Coaches  Credits: 1 hour
- HPER 6310 – Skill Acquisition and Human Performance  Credits: 3 hours
- HPER 6320 – Theories of Strength and Conditioning  Credits: 3 hours
- HPER 6340 – Sports Safety and Injury Management for Coaches  Credits: 3 hours
- HPER 6350 – Principles and Practices of Effective Coaching  Credits: 3 hours
- HPER 6600 – Governance and Administration of Sport  Credits: 3 hours
- HPER 6910 – Psychological Preparation and Mental Training for Sport and Physical Activity  Credits: 3 hours
- HPER 6930 – Sociology of Sport and Physical Activity  Credits: 3 hours

Department Research Courses
- HPER 6900 – Research Procedures in HPER  Credits: 3 hours
- HPER 6920 – Analytical Techniques in HPER  Credits: 3 hours

Recommended Electives
- HPER 6360 – Sport Nutrition and Energy Systems  Credits: 3 hours
- HPER 6440 – Program Evaluation in Sport and Physical Education  Credits: 3 hours

Required Capstone Experience
- HPER 7120 – Professional Field Experience  Credits: 2 hours

Master of Sciences in Exercise and Sports Medicine (36 credit hours)

Advisors:
- Christopher C. Cheatham – Exercise Physiology
- Michael G. Miller – Athletic Training

The Department of Health, Physical Education, and Recreation offers a Master of Science in Exercise and Sports Medicine with two different concentration areas: Athletic Training and Exercise Physiology.
The Athletic Training concentration is an NATA accredited post-professional athletic training education program designed to provide the student with advanced athletic training didactic and laboratory experiences, clinical internship opportunities in which the student will solidify their skills, and research experiences to become better clinicians and educators.

The Exercise Physiology concentration is designed to provide the student with an advanced understanding of the physical and functional adaptations to movement. The program integrates traditional lecture-based courses with hands-on laboratory experiences. One of the major strengths of the program is the combining of the practical application of exercise physiology with current research findings. Students may also individualize their program of study by choosing from a variety of elective courses offered within many departments across the university. Graduates pursue careers in fitness, athletic, and clinically bases settings. Graduates also pursue advanced degrees in exercise physiology or other professional programs such as physical therapy, medicine, etc.

Admission Requirements
Meet Graduate College admission standards, successful completion of an undergraduate major or minor or equivalent appropriate for intended emphasis area, submission of GRE scores, submission of a letter of intent to include education, career and/or research goals and philosophy (Exercise Physiology only), and letters of recommendation (three for Athletic Training, two for Exercise Physiology). Applicants should refer to the Web site for the specific concentration areas for further admissions requirements.

Program Requirements (36 hours)
Research Cognate (both tracks) (6 hours)
HPER 6900 – Research Procedures Credits: 3 hours
HPER 6920 – Analytical Techniques Credits: 3 hours

Athletic Training Concentration

1. Required courses (15 hours):
HPER 5980 – Readings Credits: 1 hour
HPER 6320 – Theories of Strength and Conditioning Credits: 3 hours
HPER 6810 – Sports Medicine: Applied Anatomy Credits: 2 hours
HPER 6830 – Aquatic Therapy Credits: 3 hours
HPER 6840 – Pharmacology for Sports Credits: 3 hours
HPER 6850 – Advanced Techniques in Therapeutic Modalities Credits: 3 hours

2. Emphasis (9 hours)
Emphasis 1 – Exercise Science (choose any 3)
HPER 6700 – Exercise Physiology I Credits: 3 hours
HPER 6710 – Exercise Physiology II Credits: 3 hours
HPER 6720 – Lab Techniques in Exercise Science Credits: 3 hours
HPER 6730 – Biomechanics Credits: 3 hours

Emphasis 2 – Sports Management (choose any 3)
HPER 6600 – Governance and Administration of Sport Credits: 3 hours
HPER 6620 – Legal Liability Credits: 3 hours
HPER 6640 – Promotion and Marketing in Sports Credits: 3 hours
HPER 6650 – Financial Management Credits: 3 hours

3. Thesis Option or Independent Research Option (6 hours):
HPER 7000 – Thesis Credits: 6 hours
OR
HPER 7100 – Independent Research Credits: 6 hours

Exercise Physiology Concentration
1. Required courses (18 hours):
HPER 6700 – Exercise Physiology I  Credits: 3 hours
HPER 6710 – Exercise Physiology II  Credits: 3 hours
HPER 6720 – Lab Techniques in Exercise Science  Credits: 3 hours
HPER 6730 – Biomechanics  Credits: 3 hours
HPER 6740 – Advanced Principles of Exercise Testing and Rx  Credits: 3 hours
HPER 6760 – Exercise Science Seminar  Credits: 3 hours

2. Capstone Experience (12 hours)

*Thesis Option*
HPER 7000 – Thesis  Credits: 6 hours
Electives with advisor approval  Credits: 6 hours

*Non-Thesis Option*
HPER 7100 – Independent Research  Credit: 3 hours
Electives with advisor approval  Credits: 9 hours
OR
HPER 7120 – Field Experience  Credits: 3 hours
Electives with advisor approval  Credits: 9 hours
Special Education and Literacy Studies

Tom Bailey, Interim Chair
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Gayle Ahleman
Allison Baer
Kristal Ehrhardt
Lauren Freedman
Esther Gray
Monica Harris
George Haus
Jill Hermann-Wilmarth
Paula Kohler
Susan Piazza
Shaila Rao
Sarah Summy
Karen Thomas
Elizabeth Whitten
Paul Wilson

The Department of Special Education and Literacy Studies (SPLS) offers undergraduate and graduate programs focused on preparation of educational professionals with expertise in meeting the needs of K-12 students with diverse abilities. Special education faculty offer a number of program options at the undergraduate, masters, and doctoral levels with an emphasis on the application of research-generated practices to improve students’ educational and post-school outcomes. In addition to offering a master’s program that leads to the Reading Specialist Endorsement K-12, the Literacy faculty provide significant instruction to all WMU elementary and secondary education majors. This instruction integrates teaching reading and literacy development throughout the curriculum and across the educational continuum. Within each program area, faculty are engaged in research initiatives that enhance both student engagement and learning. Through the Dorothy J. McGinnis Reading Center and Clinic and the Career Connections Research Center, SPLS faculty provide opportunities for WMU students to participate in experiential learning.

Master of Arts in Literacy Studies

Advisors: Allison Baer, Lauren Freedman, Esther Gray, Jill Hermann-Wilmarth, Susan Piazza, Karen Thomas, Paul Wilson
3506, Sangren Hall

The Master of Arts in Literacy Studies provides a comprehensive professional development program to meet the need in today’s classrooms for continuous literacy instruction K-12 based on current theory, research, and best practices. The program is designed to enhance the knowledge and skills of reflective practitioners, as they become leaders such as Reading Specialists, Literacy Coaches, innovative classroom teachers, researchers, and advocates. Reflective practitioners are passionate learners who embrace diversity, actively inquire and reflect upon their own practice, and nurture the development of new knowledge and skills. This is accomplished through a process of continuous professional, intellectual, and social growth. Students will make connections between and among research, theory, policy, and practice to evaluate the teaching-learning process, inquire into how teaching can be improved, and develop efficacy based on best practices.

Admission Requirements
1. Undergraduate grade point average of 3.0 (4.0 = A); graduate grade point average may be accepted upon review of recent and relevant course work completed at an accredited institution.
2. A written statement of purpose (1,000 to 1,500 words) outlining the applicant’s philosophy of teaching and professional goals. The statement of purpose should indicate the candidate’s career expectations and reasons for seeking admission to the program.
3. Two letters of recommendation from persons able to judge the applicant’s potential to succeed in a graduate program.

Candidates who meet all admissions criteria will be considered for admission to the program.

Upon admissions, each student will be assigned an advisor who will assist in the preparation of a program of study. The program of study should be completed during the first semester of enrollment.

A maximum of nine appropriate Western Michigan University graduate credits taken before admission may be applied to the Master of Arts in Literacy Studies with advisor approval.

**Program Requirements (30-33 hrs.)**

1. **Education Core (6 hrs.)**
   - ED 6010 – Introduction to Research in Educational Settings Credit: 3 hrs
   - ES 6330 – Human Nature and Diversity Credit: 3 hrs.
   - OR
   - ES 6340 – Culture and Politics of Educational Institutions Credit: 3 hrs.

2. **Program Core (18 hrs.)**
   - **Required (15 hrs.)**
     - LS 5160 – Symposium in Reading Credit: 3 hrs.
     - LS 6190 – Clinical Studies in Reading Credit: 3 hrs.
     - LS 6200 – Education Therapy in Reading Credit: 3 hrs.
     - LS 6520 – Oracy and Literacy Credit: 3 hrs.
     - LS 6560 – Creating and Administering a Balanced Literacy Program Credit: 3 hrs.
   - **Elective (3 hrs.)**
     - LS 6120 – Strategic Learning through Texts for Elementary Teachers Credit: 3 hrs.
     - LS 6250 – Reading at the Middle Level Credit: 3 hrs.
     - LS 6800 – Early Literacy Learning Credit: 3 hrs.
     - LS 6870 – Strategic Learning through Texts for High School Teachers Credit: 3 hrs.

3. **Elective (3 hrs.)**
   Elective course work from outside the program core in consultation with advisor.

4. **Capstone or Thesis**
   - LS 6790 – Capstone Seminar Credit: 3 hrs.
   - OR
   - LS 7000 – Master’s Thesis Credit: 6 hrs.

**Master of Arts in Special Education**

Advisors:
George Haus, Paula Kohler, Sarah Summy, Elizabeth Whitten, Shaila Rao, Kristal Ehrhardt, Monica Harris
Room 3506, Sangren Hall

The Master of Arts in Special Education prepares students to locate, organize, critically evaluate, and use research-based practices to provide quality education services to students with disabilities; collaborate with other educators, families, and service providers to solve problems in the field of special education; and to produce new information related to the field. Students develop competencies in information literacy, assessment, curriculum development, collaboration, transition education, and leadership through a curriculum aligned with professional standards established by the Council for Exceptional Children.
Admission Procedures, all options
Students seeking admission to the Master of Arts in Special Education program should request a Master's Degree Program Application packet from the Department of Special Education and Literacy Studies. They must follow all instructions on the Graduate Self-Managed Application form and send the following supplemental materials to the Department of Special Education and Literacy Studies: 1) Department of Special Education and Literacy Studies Master's Degree Program Application, 2) copy of teaching certificate/endorsement(s), 3) current resume, 4) written statement of experience and professional goals, and 5) two reference forms. Completed files are reviewed on a rolling basis. Applications are evaluated on the basis of: 1) undergraduate grade point average (a graduate grade point average may be used if at least 9 hours of recent and relevant course work have been completed), 2) special education experience, 3) congruence of goals and requested program option, 4) writing skills, and 5) references.

Program Requirements all options
All students who receive a Master of Arts in Special Education must complete the following requirements:

A minimum of 37 semester hours of prescribed graduate level work with a point-hour ratio of at least 3.00. Advisors will designate specific course and hour requirements for each option described below.
A comprehensive written examination. This examination may be taken after the student has completed a minimum of twenty semester hours. Responsibility for scheduling this examination is assumed by the graduate student after consulting with the program advisor.

Master Teacher Option
This option is designed for persons who have special education certification and who plan to remain directly involved with students with disabilities in an instructional capacity or who plan to pursue advanced graduate preparation beyond the master's degree. Additional special education teaching endorsements that can be earned through this option are Emotionally Impaired, Learning Disabled, Mentally Impaired, and Visually Impaired.

Prerequisites
Michigan Teaching Certificate or equivalent
Endorsement in at least one area of Special Education
Admission by Department of Special Education and Literacy Studies

Clinical Teacher Option
This option is available to certified teachers seeking a master's degree and an initial endorsement in one of the following areas of special education: Emotionally Impaired, Learning Disabled, Mentally Impaired, or Visually Impaired.

Prerequisites
Michigan Teaching Certificate or equivalent
Admission by Department of Special Education and Literacy Studies

Special Education Technology Option
This option, designed for persons who have special education certification, provides comprehensive knowledge, skills, and experience in the development and use of various special education technologies.

Prerequisites
Michigan Teaching Certificate or equivalent
Endorsement in at least one area of Special Education
Admission to the Department of Special Education and Literacy Studies
Special Education Administration Option

This option, designed for certified and experienced special education teachers, provides course work and field-based experiences necessary to gain State of Michigan Central Office Administrator Certification and approval as either a Director of Special Education or a Supervisor of Special Education.

Prerequisites
Michigan Teaching Certificate or equivalent
Endorsement in at least one area of Special Education
Admission by Department of Special Education and Literacy Studies

Master of Arts in Teaching Children Who Are Visually Impaired
Advisor: Annette Skellenger
Room 3506, Sangren Hall

This 50 hour degree program prepares teachers to work with children with visual impairments in public and residential schools. Instruction is provided in skills to support the regular educational curriculum as well as the expanded core curriculum specific to children with visual impairments. Graduates are eligible to become certified teachers of children with visual impairments. Students may choose to combine this degree program with preparation as an orientation and mobility specialist to attain dual competency in the Master of Arts in Teaching Children Who are Visually Impaired/Master of Arts in Orientation and Mobility for Children program.

Admission Requirements
Students seeking admission to the Master of Arts in Teaching Children Who Are Visually Impaired program should request a Master's Degree Program Application packet from the Department of Blindness and Low Vision Studies.

Program Requirements
The program requires the satisfactory completion of:
BLS 5840 - Computer Technology in Rehabilitation Credits: 3 hrs.
BLS 5880 - Psychosocial Aspects of Disability Credits: 2 hrs.
BLS 5900 - Physiology and Function of the Eye Credits: 2 hrs.
BLS 5910 - Braille and Tactual Communication Systems Credits: 2 hrs.
BLS 5930 - Methods of Teaching Adaptive Communications Credits: 2 hrs.
BLS 5970 - Principles and Practices of Low Vision Credits: 2 hrs.
BLS 6050 - Practice in Low Vision Credits: 1 hr.
BLS 6060 - Adaptive Sports Activities for Visually Impaired Children Credits: 1 hr.
BLS 6070 - Adaptive Art Activities for Visually Impaired Children Credits: 1 hr.
FCS 6360 - Teaching for Independent Living Credits: 4 hrs.
SPED 5440 - Educating Individuals with Severe Impairments Credits: 3 hrs.
SPED 6010 - Acquisition and Analysis of Special Education Information Credits: 3 hrs.
SPED 6100 - Teaching Nemeth Code to Children Credits: 3 hrs.
SPED 6320 - Teaching Children Who Are Visually Impaired Credits: 4 hrs.
SPED 6370 - Research and Evaluation Techniques in Special Education Credits: 3 hrs.
SPED 6610 - Transdisciplinary Teaming Credits: 3 hrs.
SPED 6740 - Intern Teaching in Special Education Credits: 6 hrs.
SPED 7120 - Professional Field Experience Credits: 2-12 hrs.

Additional Requirements
In addition, students will complete a 4-hour comprehensive exam as their capstone requirement.

Master of Arts in Teaching Children Who Are Visually Impaired/Orientation and Mobility for Children
Advisor: Annette Skellenger
Room 3506, Sangren Hall
This dual degree program is offered through the Teaching Children Who Are Visually Impaired/Orientation and Mobility for Children program (SEO) which is jointly administered by the Department of Blindness and Low Vision Studies and the Department of Special Education and Literacy Studies.

This 65 hour degree program prepares a dual competency practitioner who is able to serve in the schools as a teacher of children who are visually impaired and as an orientation and mobility specialist. Two degrees are offered in this option: One, a Master of Arts in Teaching Children Who Are Visually Impaired (from the Department of Special Education and Literacy Studies) and the other, a Master of Arts in Orientation and Mobility with a Concentration in Teaching Children (from the Department of Blindness and Low Vision Studies). Graduates of this program are eligible to become certified teachers and certified orientation and mobility specialists (COMS). It is also possible to specialize in only one of these degrees.

**Program Requirements**
The program requires the satisfactory completion of:
- BLS 5840 - Computer Technology in Rehabilitation Credits: 3 hrs.
- BLS 5880 - Psychosocial Aspects of Disability Credits: 2 hrs.
- BLS 5900 - Physiology and Function of the Eye Credits: 2 hrs.
- BLS 5910 - Braille and Tactual Communication Systems Credits: 2 hrs.
- BLS 5920 - Orientation and Mobility with Children Credits: 2 hrs.
- BLS 5930 - Methods of Teaching Adaptive Communications Credits: 2 hrs.
- BLS 5950 - Introduction to Orientation and Mobility Credits: 2-4 hrs.
- BLS 5970 - Principles and Practices of Low Vision Credits: 2 hrs.
- BLS 6040 - Issues in Travel Credits: 2 hrs.
- BLS 6050 - Practice in Low Vision Credits: 1 hr.
- BLS 6060 - Adaptive Sports Activities for Visually Impaired Children Credits: 1 hr.
- BLS 6070 - Adaptive Art Activities for Visually Impaired Children Credits: 1 hr.
- BLS 6950 - Practicum in Orientation and Mobility Credits: 1-3 hrs.
- BLS 7120 - Professional Field Experience Credits: 2-12 hrs.
- FCS 6360 - Teaching for Independent Living Credits: 4 hrs.
- SPED 5440 - Educating Individuals with Severe Impairments Credits: 3 hrs.
- SPED 6010 - Acquisition and Analysis of Special Education Information Credits: 3 hrs.
- SPED 6100 - Teaching Nemeth Code to Children Credits: 3 hrs.
- SPED 6320 - Teaching Children Who Are Visually Impaired Credits: 4 hrs.
- SPED 6370 - Research and Evaluation Techniques in Special Education Credits: 3 hrs.
- SPED 6610 - Transdisciplinary Teaming Credits: 3 hrs.
- SPED 6740 - Intern Teaching in Special Education Credits: 6 hrs.
- SPED 7120 - Professional Field Experience Credits: 2-12 hrs.

**Additional Requirements**
In addition, students will complete two 4-hour comprehensive exams (each program requires a comprehensive exam) as their capstone requirement.

**Doctor of Education in Special Education**
Advisors: George Haus, Paula Kohler, Sarah Summy, Elizabeth Whitten, Kristal Erhardt, Shaila Rao, Monica Harris
Room 3506, Sangren Hall

The Doctor of Education in Special Education is designed to prepare an individual to serve as a college teacher in a special education program and as an administrator of educational programs for learners with disabilities.

Applicants are expected to satisfy all requirements for admission to doctoral programs specified by the Graduate College. Prospective students must also have acquired a minimum of two years of successful professional experience in serving persons with disabilities. Admission to the program is contingent upon a satisfactory score on the Graduate Record Examination and the successful completion of a personal interview with a committee comprised of graduate faculty of the Special Education program in the Department of Special Education and
Literacy Studies. Application materials are available from the Office of Admissions and Orientation and from the Department of Special Education and Literacy Studies.

Upon acceptance to the department, a Program Advisor will be designated to work with the student in developing the student's overall program. In addition to the prescribed course work, the student will complete an internship in college teaching and an optional internship in administration of programs in special education. During the last semester of course work, the student will be required to complete successfully a written comprehensive examination.

All students in the program will be required to complete successfully a scholarly dissertation. Following the guidelines established by The Graduate College, the student will select a dissertation advisor and a dissertation committee who will guide the student in the development of a dissertation. Following the completion of the dissertation, the student will be required to complete successfully an oral defense of the dissertation as per Graduate College policy.
Teaching, Learning and Educational Studies

DeWayne Anderson, Chair
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Tetyana Koshmanova
Nancy Mansberger
James Muchmore
Regena Fails Nelson
Gerald Pillsbury
G. Thomas Ray
Andrea Smith
R. Paul Vellom
Allison Kelaher Young

Master of Arts in Socio-Cultural Studies of Education
Advisors: Paul Farber, Gerald Pillsbury, G. Tom Ray
Room 2112, Sangren Hall
Telephone: (269) 387-3491

Admission Requirements
1. Undergraduate grade point average of 3.0 (4.0 = A); graduate grade point average may be accepted upon review of recent and relevant course work completed at an accredited institution.
2. A written statement of purpose (1,000 to 1,500 words). The statement of purpose should indicate the candidate's career expectations and reasons for seeking admission to the program.
3. Congruence of applicant's goals and the program concentration.
4. Two letters of recommendation from persons able to judge the applicant's potential to succeed in a graduate program.

Program Requirements
1. Teaching, Learning, and Educational Studies Core (9 hours)
   ED 6010 - Introduction to Research in Educational Settings Credits: 3 hours
   ES 6330 - Human Nature and Diversity Credits: 3 hours
   ES 6340 - Culture and Politics of Educational Institutions Credits: 3 hours

2. Socio-Cultural Studies of Education (9 hours)
   Select two courses from the following:
   ES 6030 - Social and Philosophical Foundations Credits: 3 hours
   ES 6290 - Culture and Schooling Credits: 3 hours
   ES 6300 - History of Education in the United States Credits: 3 hours
   ES 6310 – International and Comparative Education Credits: 3 hours
   ES 6730 - Class, Ethnicity, and Gender in Education Credits: 3 hours
ES 6750 - Multicultural Education  Credits: 3 hours

3. Curriculum Studies (3 hours)
Select one course in curriculum from the following:
ED 6020 - School Curriculum  Credits: 3 hours
ED 6240 - Middle Level School Curriculum  Credits: 3 hours
ED 6280 - Curriculum Theory  Credits: 3 hours

4. Electives (6 hours):
Advisor approved graduate courses, normally from outside the department, which support a particular scholarly interest.

5. Capstone Research Project or Master's Thesis (3 or 6 hours)
ED 6790 - Capstone Research Project  Credits: 3 hours OR
ED 7000 - Master's Thesis  Credits: 6 hours

Master of Arts in the Practice of Teaching
Coordinators/Advisors: Carol Crumbaugh (Elementary), Regena Fails Nelson (Early Childhood), Nancy Mansberger (Middle School/Secondary)

Contact person:
Diane Bourgeois
2217 Sangren
Telephone: (269) 387-3896
Email: diane.bourgeois@wmich.edu

The Master of Arts in the Practice of Teaching provides a comprehensive professional development program for current pre K-12 teachers. In order to address the ever-changing and complex challenges faced by today’s teachers, this degree allows teachers, along with their academic advisors, to customize programs of study to meet individual needs and professional goals.

The Master of Arts in the Practice of Teaching is designed to enhance the knowledge and skill of reflective practitioners for a variety of educational settings. It is our belief that teachers ought to be developed as effective practitioners, leaders, change agents, intellectuals, researchers, and learners. They should be passionate learners who embrace diversity, actively inquire and reflect upon their own practice, nurture the development of new knowledge and skills, and weave the complexities of modern society into the learning process. This is accomplished through a process of continuous professional, intellectual, and social growth within an interrelated spiral of academic content preparation, professional knowledge, pedagogical skill, and guided practice. The Master of Arts in the Practice of Teaching is predicated on the assumption that theory, research, policy, and practice must be continuously integrated in ways that provide innovative models leading to the improvement of teaching, learning, and reflective practice.

The goal of reflective practice is to help teachers develop the ability to analyze their own teaching, inquire into how teaching can be improved, and develop strategies to improve teaching that build on individual strengths. Reflective practitioners must also be able to situate their practice within the social, cultural, and economic dimensions of relationships among schooling, society, and the natural environment. It requires teachers to examine, interpret, and evaluate the teaching-learning process using the best practices described by research and experience as the referent for reflection.

Admission Requirements
1. Bachelor’s degree from an accredited institution.
2. An overall grade point average of at least 3.0 (on a 4-point scale) in the last two years of undergraduate work. Applicants with a GPA of less than 3.0 may be granted a Conditional Admission. This will be converted to a regular admission if students received a grade of “B” or better in the first two graduate courses (six credit-hours) taken.
3. A concise written “statement of purpose” (250 words or less) indicating the applicant's reasons for seeking admission to the program and what the applicant hopes to accomplish during the program of study.

4. Congruence of applicant's written “statement of purpose” with the parameters of this degree program.

5. Experience working in a professionally related setting.

6. A valid Michigan Teaching Certificate will be required for students seeking to obtain additional endorsements.

Upon admission, each student will be assigned an advisor who will assist in the preparation of a program of study. The program of study should be completed during the first semester of enrollment.

A maximum of nine Western Michigan University graduate credits taken before admission may be applied to the Master of Arts in the Practice of Teaching with advisor approval.

**Program Requirements**

1. **Foundations of Practice (12-15 hrs)**
   - ED 6010 – Introduction to Research in Educational Settings Credits: 3 hrs.
   - *ES 6330 – Human Nature and Diversity  Credits: 3 hrs.
   - *ES 6340 – Culture and Politics of Educational Institutions  Credits: 3 hrs.

   Take either:
   - ED 6790 – Capstone  Credits: 3 hrs.
   - Or

   *It is strongly recommended that ES 6330 is taken early in a student’s graduate program, and that ES 6340 be taken near the end of the graduate course of study.

2. **Area of Specialization (12 hrs)**
   
   Students may select, with the approval of their assigned advisor, 12 semester hours in one of several areas of specialization. (*Examples of specialized programs follow below.*)

3. **Education Elective Courses (6 hrs)**
   
   Students may select, with approval of their assigned advisor, six semester hours of education electives. (*Examples of recommended electives follow below.*)

**Program Examples**

*Specialization in Early Childhood Education (ZA endorsement)*

**Program Requirements**

1. **Foundations of Practice (12-15 hrs)**
   - ED 6010 – Introduction to Research in Educational Settings Credits: 3 hrs.
   - ES 6330 – Human Nature and Diversity  Credits: 3 hrs.
   - ES 6340 – Culture and Politics of Educational Institutions  Credits: 3 hrs.

   Take either:
   - ED 6790 – Capstone  Credits: 3 hrs.
   - Or

2. **Area of Specialization (12 hrs)**
   
   ED 6060 – Early Childhood Education  Methods and Materials  Credits: 3 hrs.
   - ED 6080 – Early Childhood Development  Credits: 3 hrs.
ED 6110 – Early Child Assessment  Credits: 3 hrs.
ED 6140 – Parent Education  Credits: 3 hrs.

3. Education Elective Courses (6 hrs)
*LS 5160 – Professional Symposium in Reading  Credits: 3 hrs.
ED 5750 – Administration of Child Development Center  Credits: 3 hrs.

*Required by the State of Michigan for Professional Certification. Students should take this course within their first ten graduate credits.

**K-12 Curriculum and Instruction**

**Program Requirements**

1. Foundations of Practice (12-15 hrs)
   ED 6010 – Introduction to Research in Educational Settings  Credits: 3 hrs.
   ES 6330 – Human Nature and Diversity  Credits: 3 hrs.
   ES 6340 – Culture and Politics of Educational Institutions  Credits: 3 hrs.
   Take either:
   ED 6790 – Capstone  Credits: 3 hrs.
   Or
   ED 7000 – Thesis  Credits: 6 hrs.

2. Area of Specialization (12 hrs)
   ED 6000 – Fundamentals of Measurement and Evaluation  Credits: 3 hrs.
   ED 6020 – School Curriculum  Credits: 3 hrs.
   ED 6700 – School Climate  Credits: 3 hrs.
   ED 6760 – Teaching Thinking  Credits: 3 hrs.

3. Education Elective Courses (6 hrs)
   *LS 5160 – Professional Symposium in Reading  Credits: 3 hrs.
   ED 6210 – The Adolescent Learner  Credits: 3 hrs.

*Required by the State of Michigan for Professional Certification. Students should take this course within their first ten graduate credits.

**Urban Education**

**Program Requirements**

1. Foundations of Practice (12-15 hrs)
   ED 6010 – Introduction to Research in Educational Settings  Credits: 3 hrs.
   ES 6330 – Human Nature and Diversity  Credits: 3 hrs.
   ES 6340 – Culture and Politics of Educational Institutions  Credits: 3 hrs.
   Take either:
   ED 6790 – Capstone  Credits: 3 hrs.
   Or
   ED 7000 – Thesis  Credits: 6 hrs.

2. Area of Specialization (12 hrs)
   ED 6020 – School Curriculum  Credits: 3 hrs.
   ED 6700 – School Climate  Credits: 3 hrs.
   ES 6730 – Class, Ethnicity, and Gender in Education  Credits: 3 hrs.
   ES 6750 – Multicultural Education  Credits: 3 hrs.
3. Education Elective Courses (6 hrs)
*LS 5160 – Professional Symposium in Reading   Credits: 3 hrs.
ED 6760 – Teaching Thinking   Credits: 3 hrs.

*Required by the State of Michigan for Professional Certification. Students should take this course within their first ten graduate credits.
College of Engineering and Applied Sciences

Daniel Litynski
Dean

Osama Abudayyeh,
Associate Dean

Edmund Tsang,
Associate Dean

The College of Engineering and Applied Sciences is dedicated to excellence in education and research. Academic programs educate students for life-long learning and responsible professional leadership in the global community. Research addresses both knowledge generation and application to real-world challenges. Our faculty, staff, and students serve as a resource to our constituents, including business and industry. Graduates of our programs are well prepared for professional careers in basic or applied research and in application of engineering principles to the marketplace.

The College of Engineering and Applied Sciences offers the Master of Science in Engineering in Computer Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering. It offers the Master of Science in Computer Science through the Department of Computer Science; the Master of Science in Engineering Management, and in Manufacturing Engineering through the Department of Industrial and Manufacturing Engineering; Master of Science in Civil Engineering through the Department of Civil and Construction Engineering; and the Master of Science in Paper and Imaging Science and Engineering through the Department of Paper and Printing Science and Engineering. It offers the Doctor of Philosophy in Computer Science, in Electrical and Computer Engineering, in Evaluation, in Industrial Engineering, in Mechanical Engineering, and in Paper and Imaging Science and Engineering.

Course descriptions: Numbers following the course title indicate hours of lecture and laboratory per week during a semester (lecture hours-laboratory hours).

Academic Units:
Civil and Construction Engineering
Computer Science
Electrical and Computer Engineering
Industrial and Manufacturing Engineering
Manufacturing Engineering
Materials Science and Engineering
Mechanical and Aeronautical Engineering
Paper Engineering, Chemical Engineering, and Imaging
Civil and Construction Engineering

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Osama Abudayyeh
Upul Attanayake
Hubo Cai
Ahmad Jrade
Jun-Seok Oh
Sherif Yehia

The Department of Civil and Construction Engineering offer the Master of Science in Engineering (Civil). Courses are offered at times to enable working students to study without quitting their jobs.

Master of Science in Engineering (Civil)
Haluk Aktan, Advisor
G253 Parkview Campus

The principal objective of persons working in the field of civil engineering is the design and construction of systems to enhance the quality of life and to improve the environment in which we live. Western Michigan University’s Master of Science in Engineering (Civil) is aimed at graduates of engineering programs who want to play an active role in the development and rejuvenation of the national infrastructure. The primary areas of focus in the department at the graduate level are construction engineering and management, structural engineering, and transportation engineering. Through the available program options, students can earn the degree on a full-time or part-time basis and can have a design or research orientation.

Admission Requirements
Students entering the proposed master’s degree program are expected to have a background equivalent to that of students graduating from the department’s undergraduate civil and construction engineering programs, or to obtain such background through specified prerequisite coursework. Further, students are expected to have earned a grade-point ratio of at least 3.00/4.00 on the last four semesters of academic study (at least 60 semester credit hours). Applicants with a GPR less than 3.00/4.00 can be considered under special circumstances, such as significant related work experience.

Graduation Requirements
To graduate from the master’s degree program, all students must complete a course in advanced mathematics and must satisfy the requirements of one of three program options. Normally the course in advanced mathematics would be selected from one of the following:

- MATH 5070 – Numeric Analysis I Credits: 3 hours
- MATH 5100 – Applied Matrix Algebra Credits: 3 hours
- MATH 5720 – Vector Calculus and Complex Variables Credits: 4 hours
- MATH 5740 – Advanced Differential Equations Credits: 3 hours
- MATH 6050 – Optimization Credits: 3 hours

With the consent of the advisor, a different course in mathematics may be used under special circumstances.

Regardless of the degree option selected, at least 50 percent of the total credit hours applied to the degree, excluding thesis and design project, must be CCE courses and at least 2/3 of the credit hours applied to the degree must be taught by a department in the College of Engineering and Applied Sciences. Further, no more than three credit hours of independent study courses can be applied to the degree. The program options and additional degree requirements are:
Option 1 – Research (30 hours)
Students must successfully complete at least 24 credit hours of graduate coursework including at least three courses in a primary area of study within civil engineering and two areas in a secondary area of study within civil engineering, successfully complete at least six credit hours of graduate thesis research, prepare a research thesis, and successfully complete a final oral examination that is primarily focused on the research thesis but also address coursework. The final examination will be administered by the student’s graduate academic committee. This program is intended primarily for students who wish to conduct research and expand civil engineering knowledge. Please note that this is the only degree option for which graduate assistantships are available.

Option 2 – Professional Practice (30 hours)
Student must successfully complete at least 27 credit hours of graduate coursework including at least three courses in each of two areas of civil engineering and at least three credit hours of graduate capstone design that culminates in the preparation of a project report. Depending upon the student’s previous background, a course in management may be required as the focus of this degree option in professional practice. Further, each student must successfully complete the Fundamentals of Engineering examination and a final oral examination that is focused on the graduate design project. The final examination will be administered by the student’s graduate academic committee. This degree option is intended primarily for students who intend to practice civil engineering at the professional level.

Option 3 – Technical and Management Development (36 hrs)
Students must successfully complete at least 36 credit hours of graduate coursework including at least three courses in each of two area of civil engineering and three courses developing business management and engineering management skills. At least two CCE courses used for the degree program must be graduate design courses. Further, students must successfully complete a final comprehensive written and/or oral examination that addresses the student’s undergraduate and graduate education. The final examination will be coordinated by the student’s graduate academic advisor. This degree option is intended primarily for students in practice who want to enhance their technical skills and to develop management skills.

Master of Science in Engineering (Civil – Accelerated)
The accelerated degree program (ADP) allows undergraduate students in the Civil and Construction Engineering program and opportunity to complete requirements for the Master’s degree at an accelerated pace. These undergraduate students may count up to nine (but not less than six) credit hours of 5000-level courses, taken during their undergraduate studies, towards a Master’s degree in Civil Engineering within 24 months of completing the Bachelor’s degree in Civil Engineering or Construction Engineering. These students may choose to pursue a Master’s degree in Civil engineering under either the Thesis Option or the Non-Thesis Option.

The program will allow an undergraduate student, majoring in Civil or Construction Engineering, to complete an accelerated Master’s degree in Civil Engineering by completing either 147 combined undergraduate/graduate credit hours (if choosing the Thesis or Project Option), or 153 combined undergraduate/graduate credit hours (if choosing the Non-Thesis Option).

Application to the Accelerated Degree Program
A prospective student who meets the eligibility requirements (see Criteria for Admission below) must set up a meeting with the CCE undergraduate advisor and the graduate advisor to complete the Accelerated Degree Program Planning form for the Master’s degree program.

Before admission to an ADP program can be finalized, a student must submit the standard application for admission to the Office of Admissions/Graduate Admissions including:

1. Application
2. Application fee
3. Copy of all college transcript

Criteria for Admission to the Accelerated Degree Program:
Permission to pursue the accelerated degree does not guarantee admission to the Graduate College. Admission is contingent on meeting the following eligibility requirements at the time of entering the graduate program:

1. A student must declare their interest before completing 96 credit hours in their undergraduate programs, including credits earned from advanced placement.
2. A transfer student must have completed a minimum of 30 credit hours as a full-time student at WMU.
3. A student must have a minimum accumulated GPA of 3.0/4.0 based upon credit hours earned at WMU.

Accelerated Program Planning Form

The Accelerated Program Planning Form must clearly indicate the following:

1. the 5000-level courses (a maximum of nine graduate credit hours) that will be counted for both the Bachelor’s and Master’s degrees.
2. the graduation date for the Master’s degree that meets the time limit for the ADP program (i.e. obtaining a Master’s degree in Civil Engineering within 24 months of completing the Bachelor’s degree). Any changes to the ADP Planning form must be submitted, in writing, and approved by the Graduate Advisor and Graduate Dean.

Requirements for Participation and Graduation

1. Students must complete the Bachelor’s degree prior to entering the Master’s program. Students in the ADP may not elect to bypass the Bachelor’s degree.
2. Students will only be allowed to count a maximum of nine (9) 5000-level credits taken during their undergraduate studies toward their Master’s degree.
3. Students must receive a grade of “B” (3.0/4.0) or better in the 5000-level courses taken during their undergraduate studies. Courses with a grade of “CB” or below cannot be counted toward the Master’s degree.
4. No more than nine (9) hours of graduate work may be counted towards the requirements of both degrees.
5. Students must complete the Master’s degree within 24 months of completing the Bachelor’s degree. If the Master’s program is not completed within these time limits, none of the 5000-level courses specified on the Accelerated Degree Program Planning form can be counted toward the Master’s degree.

Continuing Eligibility

1. It is the responsibility of the student to recognize his/her eligibility status.
2. A student completing the Bachelor’s degree requirements with an accumulated GPA of less than 3.0/4.0 is no longer eligible to count the 5000-level credit hours specified on the ADP Planning form toward the Master’s degree and is automatically terminated from the ADP program.
3. A student who does not follow the approved ADP Planning form may become ineligible to participate in the ADP program.
4. A student who is ineligible to participate in (or withdraws from the ADP program cannot count any of the courses specified on the Accelerated Degree Program Planning form for both Bachelor’s and Master’s degrees. These courses, however, may be counted toward the student’s Bachelor’s degree upon the discretion of the undergraduate advisor.
5. A student who becomes ineligible to participate in the accelerated degree program must be informed by the graduate advisor in writing of his/her ineligibility. A copy of this letter to the student must be sent to the Graduate College.

Withdrawal

A student may, at any time, withdraw from the Accelerated Degree Program by informing both the Director of Undergraduate Programs and the graduate advisor, in writing. A copy of this request to withdraw must be sent to the Graduate College and the Registrar’s Office.
Master of Science in Computer Science

Advising:
B-237 Parkview Campus

The master’s program in computer science emphasizes both computer software development and the theoretical foundations of computer science. It is designed to prepare students for professional positions in business, industry, and government and to provide preparation for graduate work at the doctoral level.

Areas of faculty specialization include algorithmic complexity theory, artificial intelligence, computational geometry, computer architecture, computer graphics, computer networking, data warehousing and mining, distributed and mobile data bases, expert systems, formal specifications, human-computer interaction and visualization, knowledge-based systems, language and automata theory, mathematical and computer modeling, multimedia databases and systems, neural networks, parallel and sequential algorithms, pattern recognition and image processing, scientific computing and numerical analysis, simulation, and software engineering. The program also permits student to acquire expertise in closely related fields such as computer engineering and mathematics.

The master’s program is designed to allow a full-time student entering with a strong undergraduate background in computer science to complete all degree requirements within 16 months; however, it is not uncommon for a student to take somewhat longer.

Admission Requirements
A successful applicant to the master’s program in computer science must satisfy:
1. All of the general admission criteria identified in the Graduate Catalog.
2. Submission of transcripts of prior education. Applicant should have earned or expect to earn an undergraduate degree in a program with significant computer science and mathematics content:
   a. In computer science: computer assembly language, computer organization, data structures, design and analysis of algorithms, file structures, formal languages and automata, logic design, object-oriented and structured programming, and operating systems.
   b. In mathematics: calculus (2 semesters), linear algebra, and discrete structures.

The department welcomes applications to the master’s program from strong students who do not have a computer science undergraduate degree but have completed at least two calculus courses and two programming courses at the university level prior to applying.
An applicant may be given conditional admission and asked to complete with a grade of “B” or better designated undergraduate courses from the following list:

- CS 1110 Computer Science I
- CS 1120 Computer Science II
- CS 2230 Computer Organization and Assembly Language
- CS 2240 Systems Programming Concepts
- CS 3310 Data and File Structures
- CS 4310 Design and Analysis of Algorithms
- CS 4540 Operating Systems
- CS 4800 Theory of Computation I: Automata
- ECE 2500 Digital Logic I
- MATH 1220 Calculus I
- MATH 1230 Calculus II
- MATH 1450 Discrete Mathematical Structures
- MATH 2300 Elementary Linear Algebra

Due to the sequential order in which some of the prerequisite courses must be taken, students admitted on a conditional basis might not initially be able to take a full-time course load in only computer science courses.

3. While Graduate Record Examination scores are not required for admission to the master’s program, applicants are encouraged to submit them.

4. The TOEFL examination result is required for international students.

Financial Assistance
Students accepted into the master’s program may apply for one of the department’s graduate teaching and research assistantships. Graduate internship opportunities with local industries are also available. Applications for teaching and research assistantships should be sent directly to the Department of Computer Science. The forms and instructions for applying for financial assistance can be obtained from the department. Information about non-departmental assistantships and fellowships, tuition remission, special assistance for minority graduate students, general research funds, and tuition grants is available from the Graduate College. Information about student loans and other federal, state, and University need-based financial aid programs is available from the Office of Student Financial Aid and Scholarships.

Program Requirements
A successful candidate of the Master’s in Computer Science is responsible for all the general requirements for a master’s degree as stated in the Graduate Catalog. The remainder of this section restates some of the general requirements and includes additional requirements specific to the master’s program in computer science.

At least 50 percent of the course hours counted toward the master’s degree must be at the 6000-level or higher and be taken in computer science at Western Michigan University.

Prerequisite requirements
A student having prerequisite requirements as a condition of admission must complete all prerequisites:
- Before registering for any 6000-level computer science courses, and
- Before being considered to have entered the master’s program.

Options
There are three options for completing the master’s degree in computer science. Each option allows a maximum of three credit hours of CS 7120: Professional Field Experience to be counted toward the master’s program. Note: CS 7120 requires prior approval of the department, and credit will not be given for past experience. Each option also requires one course chosen from each of the groups listed below in the Group Requirement section.

Thesis Option (30 hours)
The program of study will include:
1. A total of 30 credit hours, at least 15 of which are at the 6000 or higher level.
2. Six hours of CS 7000: Master’s Thesis
3. No more than six hours of any independent study course such as CS 5990, CS 7100, or CS 7350.
4. No more than six hours of classes taken outside of the Computer Science department. Such credit requires prior approval by the advisor and the graduate committee.
5. One course from each of the groups specified below.

In the thesis option, a master’s thesis, which is the culmination of a guided research or design effort by the student, must be completed and publicly defended.

Thesis study is done under the supervision of a thesis director and thesis committee. A thesis director will be appointed by the department upon petition by the student. A master’s thesis committee is approved by the Graduate College based on the petition of the student, the agreement of the proposed committee members, and the appointment and recommendation of the department chair. The master’s thesis committee is comprised of the thesis director and at least two other members of the graduate faculty in computer science.

Committee members facilitate and guide the student’s academic and research development.

Before a student is awarded the master’s degree, each member of the master’s thesis committee must approve the thesis. The completed thesis is presented by the students at a public seminar and oral defense.

Project option (30 hours)
The program of study will include:

1. A total of 30 credit hours, at least 15 of which are at the 6000 or higher level.
2. Three hours of CS 6970: Master’s Project.
3. No more than three hours of any independent study course such as CS 5990, CS 7100, or CS 7350.
4. No more than six hours of classes taken outside of the Computer Science department. Such credit requires prior approval by the advisor and the graduate committee.
5. One course from each of the groups specified below.

In the project option a master’s project, which is the culmination of a guided research or design effort by the student, must be completed, documented in a technical report and publicly defended.

Project study is done under the supervision of a project director.

Before a student is awarded the master’s degree, the project director and the department chair must approve the technical report. The completed project is presented by the student at a public seminar and oral defense.

All three options will allow for a maximum of three credit hours of CS 7120 - Professional Field Experience to be counted toward the degree program. In all options students will fulfill a breadth/depth requirement by completing at least one course in each of the following groups with a grade of B or better:

Course-Only Option (33 hours)
The program of study will include:

1. A total of 33 hours, at least 17 of which are at the 6000 or higher level.
2. No more than three hours of any independent study course such as CS 5990, CS 7100, or CS 7350.
3. No more than six hours of classes taken outside of the Computer Science department. Such credit requires prior approval by the advisor and the graduate committee.
4. One course from each of the groups specified below.

In all options students will complete at least one course, at WMU, in each of the following groups with a grade of “B” or better:

Group Requirement

In all options students will complete at least one course, at WMU, in each of the following groups with a grade of “B” or better.

Group I: Select at least one of the following
CS 6250 - Advanced Computer Architecture Credits: 3 hrs.
CS 6550 - Advanced Operating Systems Credits: 3 hrs.
CS 6610 - Software Engineering II: Verification and Validation of Software Systems Credits: 3 hrs.
CS 6810 - Compiling Theory and Practice Credits: 3 hrs.

**Group II; Select at least one of the following:**
CS 6400 – Advanced Design of User Interfaces Credits: 3 hours
CS 6430 – Advanced Data Base Management Systems Credits: 3 hours
CS 6720 - Pattern Recognition Credits: 3 hrs.
CS 6820 - Advanced Artificial Intelligence Credits: 3 hrs.

**Group III; Select at least one of the following:**
CS 6260 - Parallel Computations II Credits: 3 hrs.
CS 6310 - Advanced Data Structures Credits: 3 hrs.
CS 6320 - Analysis of Computer Algorithms Credits: 3 hrs.
CS 6800 - Theory of Formal Computation III: Computability and Complexity Credits: 3 hrs.

**Doctor of Philosophy in Computer Science**
The doctoral program is designed to develop computer scientists with research expertise in computer science. Specific areas of emphasis include algorithmic complexity theory, artificial intelligence, computational geometry, computer architecture, computer graphics, computer networking, data warehousing and mining, distributed and mobile data bases, expert systems, formal specifications, human-computer interaction and visualization, knowledge-based systems, language and automata theory, mathematical and computer modeling, multimedia databases and systems, neural networks, parallel and sequential algorithms, pattern recognition and image processing, scientific computing and numerical analysis, simulation, and software engineering. The program also permits a student to acquire expertise in closely related fields such as computer engineering and mathematics.

Students completing the program are typically well qualified for teaching and research positions with colleges and universities as well as with national and international industries and laboratories.

The doctoral program is designed to allow a full-time student entering with a Master of Science in Computer Science to complete all degree requirements within three years. However, it is not uncommon for doctoral programs to take somewhat longer.

**Admission Requirements**
A successful applicant to the doctoral program in computer science must satisfy:
1. All of the general admission criteria identified in the Graduate Catalog.
2. Submission of transcripts of prior education.
   (a) Applicant should have earned or expect to earn a master’s degree in computer science. An applicant with a master’s degree in electrical or computer engineering, mathematics or a related field will also be considered.
   (b) An outstanding student who has not completed a master’s degree but who has met all other entrance requirements may be considered for admission to the Ph.D. program.
3. Submission of the results of the verbal, analytical, and quantitative portions of the Graduate Record Examination (GRE).
4. Submission of three letters of reference from persons able to assess the student’s qualifications for doctoral-level study and likelihood of success; the student and referees would use the forms and procedures available from the department.
5. Submission of a resume that includes a description of academic background and professional experience.
6. Submission of an essay describing the applicant’s academic and professional objectives.
7. For international students, the submission of the TOEFL examination result.

**Financial Assistance**
Students accepted into the doctoral program may apply for one of the department’s graduate teaching and research assistantships. In addition, advanced Ph.D. students may apply for one of a limited number of doctoral
associateships. Graduate internship opportunities with local industries are also available. Applications for teaching and research assistantships should be sent directly to the Department of Computer Science. The forms and instructions for applying for financial assistance can be obtained from the department. Information about non-departmental assistantships and fellowships, tuition remission, special assistance for minority graduate students, general research funds, and tuition grants is available from the Graduate College. Information about student loans and other federal, state, and University need-based financial aid programs is available from the Office of Student Financial Aid and Scholarships.

Program Requirements
The plan of study allows for considerable variety of emphasis; student can take advantage of the strengths of the department in matching their interest in professional development.

A successful candidate for the Ph.D. in Computer Science is responsible for all the general requirements for a doctoral degree as stated in the Graduate Catalog. The remainder of this section restates some of the general requirements and includes additional requirements specific to the doctoral program in computer science

1. Pre-requisites
A student having prerequisite requirements as a condition of admission must complete all prerequisites before being considered to have entered the doctoral program.

2. Take at least 30 hours beyond the master's degree
CS 5250 - Computer Architecture Credits: 3 hrs.
CS 5260 - Parallel Computations I Credits: 3 hrs.
CS 5810 - Compiler Design and Implementation Credits: 3 hrs.
CS 6250 - Advanced Computer Architecture Credits: 3 hrs.
CS 6260 - Parallel Computations II Credits: 3 hrs.
CS 6310 - Advanced Data Structures Credits: 3 hrs.
CS 6320 - Analysis of Computer Algorithms Credits: 3 hrs.
CS 6550 - Advanced Operating Systems Credits: 3 hrs.
CS 6800 - Theory of Formal Computation III: Computability and Complexity Credits: 3 hrs.
CS 6810 - Compiling Theory and Practice Credits: 3 hrs.
CS 7350 - Graduate Research Credits: 2-10 hrs. During the student's first year in the program, they will be required to complete two to three credit hours on this course accompanied by the production of a technical report.

3. Computer Seminar Courses
Each doctoral student will be required to complete two computer science seminar courses for one to three credit hours each, with at least one during the first year in the program.

4. Demonstrate competency in two research skills.
Each Ph.D. candidate must obtain departmental approval and demonstrate mastery of two of the following three research skills:
a. A foreign language other than English, with competency equivalent to a 4000-level course at WMU;
b. Statistics or probability at the level of MATH 3620 or MATH 3640.

5. General Qualifying Examination
Before admission to candidacy for the doctoral degree, the student must pass a general qualifying examination in computer science. Students admitted with a master’s degree must take one qualifying examination no later than the first time offered after completion of 15 credit hours and must take a second examination no later than the first time offered after completion of 30 credit hours. All students must take all their qualifying examinations no later than the first time offered after completion of 45 credit hours. A student has one opportunity to repeat the qualifying examination. There are five examination topic areas in two categories as follows:
a. Systems: Computer architecture (CS 5250, CS 6250); Compiler design (CS 5810, CS 6810); Operating systems (CS 6550).
b. Theory: Design and analysis of algorithms (CS 6310); Theory of computation (CS 5800, CS 6800)
The student must select three of the five areas for his or her qualifying examination, with at least one exam from each category. The student will have the opportunity to repeat a portion of the qualifying examination once, but may not change the selected areas. The department will determine what area(s) of the examination, if any, the student must repeat.

The qualifying examination may be satisfied by taking the 6000-level courses of the three selected areas (i.e., three of CS 6250, 6310 and/or 6320, 6550, 6800, 6810). To satisfy the qualifying examination requirements, three of these courses must be passed with at least a “B” grade.

6. Preliminary Examination
Each doctoral candidate must obtain approval from his or her dissertation committee for a dissertation topic and research plan. This approval process is called the preliminary examination and is structured by each dissertation committee to fit each candidate’s program. The preliminary examination must be completed within one year after passing the qualifying examination and at least one year in advance of the dissertation defense. A candidate has one opportunity to repeat the preliminary examination.

7. Complete and successfully defend a dissertation (12 - 24 hrs)
A doctoral dissertation, which is the culmination of an original and substantive research effort by the candidate, must be completed and publicly defended. This study is done under the supervision of a dissertation director and dissertation committee. A dissertation director is appointed by the department, typically within the candidate’s first two years in the doctoral program and based on the candidate’s interests.

The doctoral dissertation committee is appointed by the Graduate College based on the petition of the candidate and the approval and recommendation of the department chair. The doctoral dissertation committee is comprised of the dissertation director and at least two other members of the graduate faculty, at least one of whom shall be from outside the department.

Committee members facilitate and guide the candidate’s academic and research development.

Before a candidate is awarded the Ph.D. degree, each member of the doctoral dissertation committee must approve the dissertation. The completed dissertation is presented by the candidate at a public seminar and oral defense.

CS 7300 - Doctoral Dissertation Credits: 15 hrs.
Electrical and Computer Engineering

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Janos Grantner  
Dean Johnson  
Daniel Litynski  
Damon Miller  
Frank Severance  
Ralph Tanner

Master's Programs:
The Department of Electrical and Computer Engineering offers graduate programs leading to a Master of Science in Engineering (Computer) and to a Master of Science in Engineering (Electrical).

These programs are designed to prepare students for advanced-level graduate study in electrical and computer engineering or professional practice. They provide opportunities for engineering graduates to enhance their background in engineering science analysis and design. Courses are offered in the areas of digital design, control systems and signal processing, real-time embedded systems, instrumentation, communications, computer architecture, and power electronics.

Admission Requirements
Applicants must:
1. Satisfy the general admission requirements of the Graduate College.
2. Possess a Bachelor of Science in Electrical Engineering or Computer Engineering from an ABET accredited program in the U.S. or a reputable overseas school as certified by the WMU office of International Student Services.
3. Have a grade point average of 3.0 or better (A=4) in the last two years of undergraduate work.
4. Submit results of the GRE General Test.

A student with a bachelor's degree in computer science, engineering, mathematics, physics, or science can be considered for probationary admission into the M.S.E. (Electrical) or the M.S.E. (Computer) program with full admission granted after completing undergraduate courses in electrical engineering or computer engineering specified by the department.

Doctoral Program:
The department offers the Doctor of Philosophy in Electrical and Computer Engineering. A student’s doctoral program of study will consist of approved graduate course work, independent research, examinations, and dissertation preparation and defense. The admission and program requirements are listed below.

Master of Science in Engineering (Computer)
Advisor: Jim Gesink, Room B-236 CEAS (Parkview Campus)

Program Options
This program has two options – a thesis option and a coursework option.

**Thesis Option** – The thesis option is open to selected students interested in research or project work. Students interested in this option must petition the department chair, and each student’s thesis committee must be approved by the department chair and the graduate dean. In addition to taking at least twenty-four (24) hours of approved courses students will elect six (6) hours of ECE 7000 Master’s Thesis and successfully defend the thesis.

**Course Work Option** – Students will take at least thirty-three (33) hours of approved courses.

**Program Requirements**

The program (course work option) consists of thirty-three hours:
1. At least three hours selected from Computer Engineering Core Foundation courses.
2. At least three hours selected from Elective Concentration Areas Foundation courses.
3. A minimum of twelve hours of courses selected from the Computer Architecture and Digital Design concentration area.
4. A minimum of nine hours of courses selected from one of four concentration areas:
   - Power Electronics and Systems
   - Communications and Signal Processing
   - Control Systems
   - Circuit and System Design
5. The remaining elective hours of additional graduate courses may be selected from any listed ECE courses, or from the list of graduate courses approved by the department from the following disciplines: computer, electrical, other engineering disciplines, computer science, mathematics, or physics.

**OR**

The program (thesis option) consists of 30 credit hours:
1. At least three hours selected from Computer Engineering Core Foundation courses.
2. At least three hours selected from Elective Concentration Areas Foundation courses.
3. A minimum of twelve hours of courses selected from the Advanced Computer Architecture and Digital Design concentration area.
4. The remaining elective hours of additional graduate courses may be selected from any listed ECE courses, or from the list of graduate courses approved by the department from the following disciplines: computer, electrical, other engineering disciplines, computer science, mathematics, or physics.
5. Six hours of ECE 7000: Master’s Thesis.

**Computer Engineering Core Foundation Courses** (3 hours)
- ECE 5150 – Real-Time Computing Credits: 3 hours
- ECE 5510 – Application Specific Integrated Circuit Design Credits: 3 hours
- ECE 5520 – Switching and Finite Automata Theory Credits: 3 hours
- ECE 5530 – Microcontroller Applications Credits: 3 hours
- ECE 5570 – Design of Reconfigurable Digital Machines Credits: 3 hours
- ECE 5950 – Digital Electronics Credits: 3 hours

**Elective Concentration Areas Foundation Courses** (3 hours)
- ECE 5550 – Digital Signal Processing Credits: 3 hours
- ECE 5710 – State Space Control Systems Credits: 3 hours
- ECE 5800 – System Modeling and Simulation Credits: 3 hours

**Concentration Areas**

**Advanced Computer Architecture and Digital Design**
- ECE 5150 – Real Time Computing Credits: 3 hours
- ECE 5240 – Introduction to VLSI Technology Credits: 3 hours
- ECE 5510 – Application Specific Integrated Circuit Design Credits: 3 hours
ECE 5520 – Switching and Finite Automata Theory  Credits: 3 hours
ECE 5530 – Microcontroller Applications  Credits: 3 hours
ECE 5570 – Design of Reconfigurable Digital Machines  Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Digital Electronics)  Credits: 3 hours
ECE 6050 – Advanced Microprocessor Applications  Credits: 3 hours
ECE 6500 – Advanced Computer Architecture  Credits: 3 hours
ECE 6510 – Objects, Architectures, and Parallel Computation  Credits: 3 hours
ECE 6800 – Design Factors for Distributed Systems  Credits: 4 hours

Circuit and System Design
ECE 5240 – Introduction to VLSI Technology  Credits: 3 hours
ECE 5410 – Electronic Instrumentation  Credits: 3 hours
ECE 5510 – Application Specific Integrated Circuit Design  Credits: 3 hours
ECE 5520 – Switching and Finite Automata Theory  Credits: 3 hours
ECE 5530 – Microcontroller Applications  Credits: 3 hours
ECE 5800 – System Modeling and Simulation  Credits: 3 hours
ECE 6410 – Advanced Electronic Instrumentation  Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Micro-electro Mechanical Systems (MEMs) II)  Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Saw Devices for Telecommunications Applications)  Credits: 3 hours

Communications and Signal Processing
ECE 5550 – Digital Signal Processing  Credits: 3 hours
ECE 5730 – Foundations of Neural Networks  Credits: 3 hours
ECE 5800 – System Modeling and Simulation  Credits: 3 hours
ECE 6550 – Digital Image Processing  Credits: 3 hours
ECE 6640 – Digital Communications  Credits: 3 hours
ECE 6650 – Medical Imaging Systems and Analysis  Credits: 3 hours
ECE 6660 – Mobile Communications  Credits: 3 hours
ECE 6730 – Artificial Neural Networks  Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Saw Devices for Telecommunications Applications)  Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Multirate Signal Processing)  Credits: 3 hours

Control Systems
ECE 5700 – Digital Control Systems  Credits: 3 hours
ECE 5710 – State Space Control Systems  Credits: 3 hours
ECE 5730 – Foundations of Neural Networks  Credits: 3 hours
ECE 5800 – System Modeling and Simulation  Credits: 3 hours
ECE 5850 – Mechatronics  Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Mechanical Control Robot Manipulator)  Credits: 3 hours
ECE 6700 – Modern Control Theory  Credits: 3 hours
ECE 6710 – Optimal Control Systems  Credits: 3 hours
ECE 6720 – Fuzzy Control Systems  Credits: 3 hours
ECE 6730 – Artificial Neural Networks  Credits: 3 hours
ECE 6740 – Nonlinear Control Systems  Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Modeling and Simulation II)  Credits: 3 hours

Power Electronics and Systems
ECE 5200 – Power Electronics: Dynamics and Control  Credits: 3 hours
ECE 5410 – Electronic Instrumentation  Credits: 3 hours
ECE 5700 – Digital Control Systems  Credits: 3 hours
ECE 5710 – State Space Control Systems  Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Power Electronics)  Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Electric Drives)  Credits: 3 hours
ECE 6410 – Advanced Electronic Instrumentation  Credits: 3 hours
Other Available Courses
ECE 5210 – Surface Mount Technology Design Credits: 3 hours
ECE 5600 – Time-Varying Fields Credits: 3 hours
ECE 5900 – Electrical and Computer Engineering Seminar Credits: 1 hour
ECE 5950 – Introduction to Advanced Topics (Biomedical Engineering I) Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Virtual reality Technologies) Credits: 3 hours
ECE 6360 – Applied Optics and optical System Design Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Modeling and Simulation II) Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Projects in Virtual Reality) Credits: 3 hours
ECE 6970 – Problems in Electrical and Computer Engineering Credits: 1 to 6 hours
ECE 6990 – Practical Training Credits: 1 to 2 hours

Master of Science in Engineering (Computer – Accelerated)

The Accelerated Degree Program (ADP) allows qualified undergraduate students in the Computer Engineering program to complete requirements for the Master’s degree at an accelerated pace. Currently, earning 129 undergraduate credit hours is required to receive a Bachelor’s degree. The Master’s degree requirement is 33 graduate credit hours with the non-thesis option, or 30 hours with the thesis option. In either case, at least 15 hours must be taken at the 6000-level. Having enrolled in the ADP program a student may count up to 12 credit hours of 5000-level courses taken during their undergraduate studies at WMU toward a Master’s degree in Computer Engineering. Full-time students may be able to complete both the Bachelor’s and Master’s degrees in a five-year time period.

Application to the Accelerated Degree Program

A prospective student who meets the eligibility requirements (see Criteria for Admission below) must set up a meeting with the ECE undergraduate advisor and the ECE graduate advisor to complete the Accelerated Degree Program form for the Master’s degree program.

Before admission to an ADP program can be finalized, a student must submit the standard application for admission to the Office of Admissions/Graduate Admissions including:

1. Application
2. Application fee
3. Copy of all college transcripts
4. Graduate Record Exam (GRE) scores

Criteria for Admission to the Accelerated Program:

The student must apply through the Office of Admissions/Graduate Admission and must also apply for admission to the Electrical and Computer Engineering Department. After admission into the ADP, the student’s record will indicate the ADP status. Admission to the accelerated program is contingent on meeting the following eligibility requirements at the time of entering the graduate program:

1. A student must have at least junior standing and earned a minimum of fifteen (15) hours from the Electrical and Computer Engineering Department with a major GPA of 3.2/4.0 or better.
2. A student must have a minimum accumulated GPA of 3.4/4.0 based upon credit hours earned at WMU. The GPA is based on at least 30 credit hours at WMU.

Requirements for Participation and Graduation

Students must complete the Bachelor’s degree prior to entering the Master’s program. Students in the ADP may not elect to bypass the Bachelor’s degree.
The Accelerated Degree Program Planning form for the Master’s degree must clearly indicate the 5000-level courses (a maximum of 12 credit hours) that will be counted for both the Bachelor’s and Master’s degrees.

Students will only be allowed to count to a maximum of twelve (12) 5000-level credits taken during their undergraduate studies toward their Master’s degree. No more than twelve (12) hours of graduate work may be counted towards the requirements of both degrees.

Students must receive a grade of “B” (3.0/4.0) or better in the 5000-level courses taken during their undergraduate studies. Students who do not meet this criterion will have the earned grade applied to their undergraduate program only, and must apply for readmission into the graduate program.

Continuing Eligibility

It is the responsibility of the student to recognize his/her eligibility status.

A student completing the Bachelor’s degree requirements with an accumulated GPA of less than 3.0/4.0 is no longer eligible to count the 5000-level credit hours specified on the ADP Planning form towards the Master’s degree.

A student who does not follow the approved ADP Planning form may become ineligible to participate in the ADP program.

A student who is ineligible to participate in (or withdraws from the ADP program cannot count any of the courses specified on the Accelerated Degree Program Planning form for both Bachelor’s and Master’s degrees. These courses, however, may be counted toward the student’s Bachelor’s degree upon the discretion of the ECE undergraduate advisor.

A student who becomes ineligible to participate in the accelerated degree program must be informed by the ECE undergraduate advisor in writing of his/her ineligibility. A copy of this letter to the student must be sent to the Graduate College.

Withdrawal

A student may, at any time, withdraw from the accelerated degree program by informing both the ECE undergraduate advisor and the ECE graduate advisor, in writing. A copy of this request to withdraw must be sent to the Graduate College and the Registrar’s Office.

Eligible ECE 5000-Level Courses
ECE 5150 – Real-Time Computing Credits: 3 hours
ECE 5200 – Power Electronics: Dynamics and Control Credits: 3 hours
ECE 5240 – Introduction to VLSI Technology Credits: 3 hours
ECE 5410 – Electronic Instrumentation Credits: 3 hours
ECE 5450 – Micro Electro Mechanical Systems Credits: 3 hours
ECE 5510 – Application Specific Integrated Circuit Design Credits: 3 hours
ECE 5520 – Switching and Finite Automata Theory Credits: 3 hours
ECE 5530 – Microcontroller Applications Credits: 3 hours
ECE 5550 – Digital Signal Processing Credits: 3 hours
ECE 5570 – Design of Reconfigurable Digital machines Credits: 3 hours
ECE 5600 – Time-Varying Fields Credits: 3 hours
ECE 5640 – Communication Systems Credits: 3 hours
ECE 5700 – Digital Control Systems Credits: 3 hours
ECE 5710 – State Space Control Systems Credits: 3 hours
ECE 5730 – Foundations of Neural Networks Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics Credits: 3 hours

Example
The following is an example of a computer engineering student’s schedule in the ADP program during their senior year:

**Seventh Semester (16 hours)**
- ME Engineering Science Elective  Credits: 3 hours – See the Electrical and Computing Engineering advisor for a list of approved electives.
- General Education   Credits: 3 hours
- ECE 3710 – Linear Systems   Credits: 3 hours
- ECE 5530 – Microcontroller Applications   Credits: 3 hours
- ECE 4810 – Electrical/Computing Engineering Design I   Credits: 2 hours
- Departmental Approved Technical Electives   Credits: 2 hours – See the Electrical and Computing Engineering advisor for a list of approved electives.

**Eighth Semester (15 hours)**
- Departmental Approved Technical Electives   Credits: 3 hours – See the Electrical and Computing Engineering advisor for a list of approved electives. One of the ECE 5000-level courses listed above with approval of the undergraduate and graduate advisors.
- CS 4540 – Operating Systems   Credits: 3 hours
- ECE 5950 – Digital Electronics  Credits: 3 hours
- ECE 5550 – Digital Signal Processing   Credits: 3 hours
- ECE 4810 – Electrical/Computer Engineering Design II   Credits: 3 hours

This sample schedule would allow twelve (12) credits of the 5000-level courses to be counted towards the student’s Master’s degree if all terms and conditions of the ADP program are met.

**Master of Science in Engineering (Electrical)**
- Advisor: John Gesink,
  Room B-236 CEAS (Parkview Campus)

The program is structured along five concentration areas which are listed below. The program has two options – a thesis option and a course work option.

**Program Requirements**

The program (course work option) consist of 33 credit hours:
1. At least three hours selected from Electrical Engineering Foundation Courses below.
2. At least three hours selected from Additional Concentration Areas Foundation Courses below.
3. A minimum of 12 hours of courses selected in one concentration area from area 2 to 5.
4. A minimum of nine hours of courses selected from an additional area 1 to 5.
5. The remaining elective hours of additional graduate courses may be selected from any listed ECE courses, or from the list of graduate courses approved by the department from the following disciplines: computer, electrical, other engineering disciplines, computer science, mathematics, or physics.

OR

The program (thesis option) consists of 30 credit hours. The thesis option is open to selected students interested in research or project work. Students interested in this option must petition the department chair, and each student’s thesis committee must be approved by the department chair and the graduate dean.

1. At least three hours selected from Electrical engineering Foundation Courses below.
2. At least three hours selected from Additional Concentration Areas Foundation Courses below.
3. A minimum of 12 hours of courses selected in one concentration area from 2 to 5.
4. The remaining elective hours of additional graduate courses may be selected from any listed ECE courses, or from the list of graduate courses approved by the department from the following disciplines: computer, electrical, other engineering disciplines, computer science, mathematics, or physics.
5. Six hours of ECE 7000: Master’s Thesis.

Electrical Engineering Foundation Courses

ECE 5550 – Digital Signal Processing Credits: 3 hours
ECE 5710 – State Space Control Systems Credits: 3 hours
ECE 5800 – System Modeling and Simulation Credits: 3 hours

Additional Concentration Areas Foundation Courses

ECE 5200 – Power Electronics Dynamics and Control Credits: 3 hours
ECE 5530 – Microcontroller Applications Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Digital Electronics) Credits: 3 hours

Concentration Areas

1. Advanced Computer Architecture and Digital Design
ECE 5150 – Real Time Computing Credits: 3 hours
ECE 5240 – Introduction to VLSI Technology Credits: 3 hours
ECE 5510 – Application Specific Integrated Circuit Design Credits: 3 hours
ECE 5520 – Switching and Finite Automata Theory Credits: 3 hours
ECE 5530 – Microcontroller Applications Credits: 3 hours
ECE 5570 – Design of Reconfigurable Digital Machines Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Digital Electronics) Credits: 3 hours
ECE 6050 – Advanced Microprocessor Applications Credits: 3 hours
ECE 6500 – Advanced Computer Architecture Credits: 3 hours
ECE 6510 – Objects, Architectures, and Parallel Computation Credits: 3 hours
ECE 6800 – Design Factors for Distributed Systems Credits: 4 hours

2. Circuit and System Design
ECE 5240 – Introduction to VLSI Technology Credits: 3 hours
ECE 5410 – Electronic Instrumentation Credits: 3 hours
ECE 5450 – Introduction to Micro-Electro Mechanical Systems (MEMs) Credits: 3 hours
ECE 5510 – Application Specific Integrated Circuit Design Credits: 3 hours
ECE 5520 – Switching and Finite Automata Theory Credits: 3 hours
ECE 5530 – Microcontroller Applications Credits: 3 hours
ECE 5800 – System Modeling and Simulation Credits: 3 hours
ECE 6410 – Advanced Electronic Instrumentation Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Micro-electro Mechanical Systems (MEMs) II) Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Saw Devices for Telecommunications Applications) Credits: 3 hours

3. Communications and Signal Processing
ECE 5550 – Digital Signal Processing Credits: 3 hours
ECE 5730 – Foundations of Neural Networks Credits: 3 hours
ECE 5800 – System Modeling and Simulation Credits: 3 hours
ECE 6550 – Digital Image Processing Credits: 3 hours
ECE 6640 – Digital Communications Credits: 3 hours
ECE 6650 – Medical Imaging Systems and Analysis Credits: 3 hours
ECE 6660 – Mobile Communications Credits: 3 hours
ECE 6730 – Artificial Neural Networks Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Saw Devices for Telecommunications Applications) Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Multirate Signal Processing) Credits: 3 hours

4. Control Systems
ECE 5700 – Digital Control Systems Credits: 3 hours
ECE 5710 – State Space Control Systems Credits: 3 hours
ECE 5730 – Foundations of Neural Networks Credits: 3 hours
ECE 5800 – System Modeling and Simulation Credits: 3 hours
ECE 5850 – Mechatronics Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Mechanical Control Robot Manipulator) Credits: 3 hours
ECE 6700 – Modern Control Theory Credits: 3 hours
ECE 6710 – Optimal Control Systems Credits: 3 hours
ECE 6720 – Fuzzy Control Systems Credits: 3 hours
ECE 6730 – Artificial Neural Networks Credits: 3 hours
ECE 6740 – Nonlinear Control Systems Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Modeling and Simulation II) Credits: 3 hours

5. Power Electronics and Systems
ECE 5200 – Power Electronics: Dynamics and Control Credits: 3 hours
ECE 5410 – Electronic Instrumentation Credits: 3 hours
ECE 5700 – Digital Control Systems Credits: 3 hours
ECE 5710 – State Space Control Systems Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Power Electronics) Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Electric Drives) Credits: 3 hours
ECE 6410 – Advanced Electronic Instrumentation Credits: 3 hours
ECE 6700 – Modern Control Theory Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Transmission Systems Control) Credits: 3 hours

Outside of concentration area
ECE 5210 – Surface Mount Technology Design Credits: 3 hours
ECE 5600 – Time-Varying Fields Credits: 3 hours
ECE 5860 – System Identification Credits: 3 hours
ECE 5900 – Electrical and Computer Engineering Seminar Credits: 1 hour
ECE 5950 – Introduction to Advanced Topics (Biomedical Engineering I) Credits: 3 hours
ECE 5950 – Introduction to Advanced Topics (Virtual Reality Technologies) Credits: 3 hours
ECE 6360 – Applied Optics and optical System Design Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Modeling and Simulation II) Credits: 3 hours
ECE 6950 – Topics in Electrical Engineering (Projects in Virtual Reality) Credits: 3 hours
ECE 6970 – Problems in Electrical and Computer Engineering Credits: 1 to 6 hours
ECE 6990 – Practical Training Credits: 1 to 2 hours

Master of Science in Engineering (Electrical Engineering – Accelerated)

The Accelerated Degree Program (ADP) allows qualified undergraduate students in the Electrical Engineering program to complete requirements for the Master’s degree at an accelerated pace. Currently, earning 129 undergraduate credit hours is required to receive a Bachelor’s degree. The Master’s degree requirement is 33 graduate credit hours with the non-thesis option, or 30 hours with the thesis option. In either case, at least 15 hours must be taken at the 6000-level. Having enrolled in the ADP program a student may count up to 12 credit hours of 5000-level courses taken during their undergraduate studies at WMU toward a Master’s degree in Electrical Engineering. Full-time students may be able to complete both the Bachelor’s and Master’s degrees in a five-year time period.

Application to the Accelerated Degree Program

A prospective student who meets the eligibility requirements (see Criteria for Admission below) must set up a meeting with the ECE undergraduate advisor and the ECE graduate advisor to complete the Accelerated Degree Program form for the Master’s degree program.
Before admission to an ADP program can be finalized, a student must submit the standard application for admission to the Office of Admissions/Graduate Admissions including:

5. Application
6. Application fee
7. Copy of all college transcripts
8. Graduate Record Exam (GRE) scores

Criteria for Admission to the Accelerated Program:

The student must apply through the Office of Admissions/Graduate Admission and must also apply for admission to the Electrical and Computer Engineering Department. After admission into the ADP, the student’s record will indicate the ADP status. Admission to the accelerated program is contingent on meeting the following eligibility requirements at the time of entering the graduate program:

3. A student must have at least junior standing and earned a minimum of fifteen (15) hours from the Electrical and Computer Engineering Department with a major GPA of 3.2/4.0 or better.
4. A student must have a minimum accumulated GPA of 3.4/4.0 based upon credit hours earned at WMU. The GPA is based on at least 30 credit hours at WMU.

Requirements for Participation and Graduation

Students must complete the Bachelor’s degree prior to entering the Master’s program. Students in the ADP may not elect to bypass the Bachelor’s degree.

The Accelerated Degree Program Planning form for the Master’s degree must clearly indicate the 5000-level courses (a maximum of 12 credit hours) that will be counted for both the Bachelor’s and Master’s degrees.

Students will only be allowed to count to a maximum of twelve (12) 5000-level credits taken during their undergraduate studies toward their Master’s degree. No more than twelve (12) hours of graduate work may be counted towards the requirements of both degrees.

Students must receive a grade of “B” (3.0/4.0) or better in the 5000-level courses taken during their undergraduate studies. Students who do not meet this criterion will have the earned grade applied to their undergraduate program only, and must apply for readmission into the graduate program.

Continuing Eligibility

It is the responsibility of the student to recognize his/her eligibility status.

A student completing the Bachelor’s degree requirements with an accumulated GPA of less than 3.0/4.0 is no longer eligible to count the 5000-level credit hours specified on the ADP Planning form towards the Master’s degree.

A student who does not follow the approved ADP Planning form may become ineligible to participate in the ADP program.

A student who is ineligible to participate in (or withdraws from the ADP program cannot count any of the courses specified on the Accelerated Degree Program Planning form for both Bachelor’s and Master’s degrees. These courses, however, may be counted toward the student’s Bachelor’s degree upon the discretion of the ECE undergraduate advisor.

A student who becomes ineligible to participate in the accelerated degree program must be informed by the ECE undergraduate advisor in writing of his/her ineligibility. A copy of this letter to the student must be sent to the Graduate College.

Withdrawal
A student may, at any time, withdraw from the accelerated degree program by informing both the ECE undergraduate advisor and the ECE graduate advisor, in writing. A copy of this request to withdraw must be sent to the Graduate College and the Registrar’s Office.

**Eligible ECE 5000-Level Courses**

- ECE 5150 – Real-Time Computing Credits: 3 hours
- ECE 5200 – Power Electronics: Dynamics and Control Credits: 3 hours
- ECE 5240 – Introduction to VLSI Technology Credits: 3 hours
- ECE 5410 – Electronic Instrumentation Credits: 3 hours
- ECE 5450 – Micro Electro Mechanical Systems Credits: 3 hours
- ECE 5510 – Application Specific Integrated Circuit Design Credits: 3 hours
- ECE 5520 – Switching and Finite Automata Theory Credits: 3 hours
- ECE 5530 – Microcontroller Applications Credits: 3 hours
- ECE 5550 – Digital Signal Processing Credits: 3 hours
- ECE 5570 – Design of Reconfigurable Digital machines Credits: 3 hours
- ECE 5600 – Time-Varying Fields Credits: 3 hours
- ECE 5640 – Communication Systems Credits: 3 hours
- ECE 5700 – Digital Control Systems Credits: 3 hours
- ECE 5710 – State Space Control Systems Credits: 3 hours
- ECE 5730 – Foundations of Neural Networks Credits: 3 hours
- ECE 5950 – Introduction to Advanced Topics Credits: 3 hours

**Example**

The following is an example of an electrical engineering student’s schedule in the ADP program during their senior year:

**Seventh Semester (17 hours)**

- General Education Credits: 3 hours
- ECE 4810 – Electrical/Computing Engineering Design I Credits: 2 hours
- IME 3100 – Engineering Economy Credits: 3 hours
- ME 2580 – Dynamics Credits: 3 hours
- Electrical and Computer Engineering Elective Group Credits: 6 hours – Choose from the above listed 5000-level ECE courses with the approval of the undergraduate and graduate advisors.

**Eighth Semester (15 hours)**

- Departmental Approved Technical Electives Credits: 3 hours – Choose from the ECE 5000-level courses listed above with approval of the undergraduate and graduate advisors.
- General Education Credits: 3 hours
- ME Engineering Science Elective Credits: 3 hours
- ECE 4820 – Electrical/Computer Engineering Design II Credits: 3 hours
- Electrical and Computer Engineering Elective Group Credits: 3 hours – Choose from the ECE 5000-level courses listed above with approval of the undergraduate and graduate advisors.

This sample schedule would allow twelve (12) credits of the 5000-level courses to be counted towards the student’s Master’s degree if all terms and conditions of the ADP program are met.

**Doctor of Philosophy in Electrical and Computer Engineering**

Advisor: John Gesink,
B-236 CEAS (Parkview Campus)

The Doctor of Philosophy in Electrical and Computer Engineering is designed to provide students advanced electrical/computer engineering education and research opportunities. The program will engage doctoral students in independent research in the field of electrical/computer engineering which will prepare them for research and development positions in the rapidly growing information and electronics sectors.
Current research areas in the department include real-time embedded systems, biomedical engineering, signal processing, image processing, communications and networking, and control systems. The department has seven instructional laboratories in electric circuits, digital logic, energy conversion systems, microcomputer systems, and digital/analog electronics. In addition, there are seven labs for student and faculty research. These labs include radio frequency shield rooms, a digital signal-processing lab, an image processing lab, a RF communications and RFID lab, and a smart sensors and structures lab.

Admission Requirements
To be admitted to the Ph.D. program, a student must satisfy the following requirements:
1. Satisfy the general admission requirements of the Graduate College.
2. Possess an M.S. in electrical or computer engineering, with a minimum 3.0 grade point average. Exceptional applicants with a master’s degree in other closely related quantitative fields such as engineering, mathematics, physics, or computer science will be considered on a case by case basis, after completing a prescribed set of prerequisite courses.
3. Submit results of the GRE General Test.
4. Three (3) recommendation letters from faculty familiar with the student’s work.
5. A personal statement of academic goals and research interests, written by the applicant.

All requirements for the Ph.D. must be completed within seven (7) years preceding the date on which the degree is conferred.

Program Requirements
The credit hour, course work, and general program requirements include:
1. Minimum of 50 credit hours beyond the master’s degree to include:
   a. 15 hours of:
      ECE 7300 - Doctoral Dissertation Credits: 15 hrs.
   b. A maximum of 12 hours of:
      ECE 6970 - Problems in Electrical and Computer Engineering Credits: 1-6 hrs. or
      ECE 7100 - Independent Research Credits: 2-6 hrs.
   c. A minimum of 2 hours of:
      ECE 7250 - Doctoral Research Seminar Credits: 2-6 hrs.
   d. A minimum of 21 hours of graduate course work approved by the doctoral dissertation committee at least 12 hours of which should be ECE courses.
2. Ph.D. Qualifying Examination, to be taken within the first year after admission.
3. Comprehensive Examination administered by the doctoral dissertation committee to be taken before a student becomes a doctoral candidate.
4. The general graduation requirements of the Graduate College.
5. Presentation/publication requirements as specified by the doctoral dissertation committee.
6. Research Tools:
The required tools are (1) simulation and modeling and (2) statistics. Competency will be based on successful completion (with a “B” or better grade) of the following:
   ECE 5800 - System Modeling and Simulation Credits: 3 hrs. or
   ME 5800 - System Modeling and Simulation Credits: 3 hrs.
   STAT 6600 - Statistical Inference I Credits: 4 hrs.
7. A one-year residency during which the student will conduct research.
8. Final dissertation defense and approval by committee.
Industrial and Manufacturing Engineering

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Pavel G. Ikonomov
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Leonard R. Lamberson
David M. Lyth
Larry A. Mallak
Sam N. Ramrattan
Jorge Rodriguez
Bob E. White

The Department of Industrial and Manufacturing Engineering offers a Master of Science in Engineering (Industrial), a Master of Science in Engineering Management, a Master of Science in Manufacturing Engineering, and a Doctor of Philosophy in Industrial Engineering.

Master of Science in Engineering (Industrial)
Advisor: Abdolazim Houshyar
Room E-219 Parkview Campus

Graduates of the Master of Science in Engineering (Industrial) program can look forward to career opportunities with various higher levels of responsibility. Areas of opportunity include: advanced computer integrated manufacturing, total quality management, analysis and design of experiments, ergonomics and human factors, engineering management, facilities planning and design, financial and cost analysis, reliability engineering, operations research, simulation modeling, and project management.

Opportunities for industrial engineers continue to grow with the rapid expansion of the service/information sectors of the economy. Graduates of the program have taken positions with higher levels of responsibility and remuneration.

All required classes are offered in the evening and are arranged so that people employed full time can complete the program in three years.

Admission Requirements
1. Possess a baccalaureate degree in engineering or a related discipline. Students without an engineering degree but with appropriate background in mathematics and science will be required to take IME 5010: Survey of Industrial Engineering Topics (3 hours).
2. Meet Graduate College admission requirements.

Program Options and Requirements

Thesis Option
1. An approved integrated program with a minimum of 30 hours of graduate work distributed as follows:
a. Eighteen (18) hours, six (6) courses, of core requirements:
IME 5160 - Design of Experiments and Regression Analysis Credits: 3 hours
IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hours
IME 6110 - Deterministic Methods in Operations Research Credits: 3 hours
IME 6120 - Production/Operations Management Credits: 3 hours
IME 6300 - Advanced Simulation Modeling and Analysis Credits: 3 hours
IME 6420 - Ergonomics and Occupational Biomechanics Credits: 3 hours

b. Six (6) hours of:
IME 7000 - Master's Thesis Credits: 6 hours

c. Six (6) hours of electives.
The specified number of electives may be taken from 5000- or 6000-level courses offered within the Department of Industrial and Manufacturing Engineering. The elective courses must be compatible with the overall program and the career objectives of the student, and must be approved by the program advisor prior to registration. No more than half of the credit hours needed for graduation can be at the 5000 level.

2. A written thesis that meets The Graduate College requirements and an oral examination in defense of the thesis.

3. An overall 3.0 grade point average.

Non-Thesis Option
1. An approved integrated program with a minimum of 30 hrs of graduate work distributed as follows:
   a. Eighteen (18) hours, six (6) courses, of core requirements:
      IME 5160 - Design of Experiments and Regression Analysis Credits: 3 hours
      IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hours
      IME 6110 - Deterministic Methods in Operations Research Credits: 3 hours
      IME 6120 - Production/Operations Management Credits: 3 hours
      IME 6300 - Advanced Simulation Modeling and Analysis Credits: 3 hours
      IME 6420 - Ergonomics and Occupational Biomechanics Credits: 3 hours
   
   b. Twelve (12) hours of electives
At least 9 of the 12 credit hours must be from the Department of Industrial and Manufacturing Engineering. The remaining 3 credit hours can be any graduate course offered at WMU. The specified number of electives may be taken from 5000- or 6000-level courses offered within the Department of Industrial and Manufacturing Engineering. The elective courses must be compatible with the overall program and the career objectives of the student, and must be approved by the program advisor prior to registration. Included in the approved electives are IME 6970 which allows students to pursue independent projects and research, and IME 6990 which allows students to receive credit for practical training. No more than half of the credit hours needed for graduation can be at the 5000 level.

2. An overall 3.0 grade point average.

Master of Science in Engineering (Industrial – Accelerated)

The Accelerated Master’s degree program allows undergraduate students in the Industrial and Entrepreneurial Engineering Program an opportunity to complete the requirements for the Master’s degree at an accelerated pace. Undergraduate students may count up to 12 (but no less than six) credit hours of 5000 level courses taken during their undergraduate studies at WMU toward a Master’s degree in Industrial Engineering within 30 months of completing their Bachelor’s degree in Industrial and Entrepreneurial Engineering. Students may choose to pursue a Master’s degree in Industrial Engineering under either the Thesis Option or the Non-Thesis Option. This program will allow an undergraduate student majoring in Industrial and Entrepreneurial Engineering at WMU to complete an accelerated Master’s in Industrial Engineering by completing 146 to 152 combined graduate/undergraduate credit hours. The total credit hours will depend on the number of 5000 level courses taken during their undergraduate studies.

Criteria for Admission to the Accelerated Master’s degree program
Permission to pursue the Accelerated Master’s degree program does not guarantee admission to the Graduate College. Admission is contingent on meeting the following eligibility requirements at the time of entering the graduate program:

1. Students must have junior standing and a minimum of fifteen (15) IME credit hours.
2. Students must have a minimum accumulated grade point average (GPA) of 3.5/4.0 at WMU.
3. Exceptions can be approved by the IE Accelerated Master Committee upon written request by the applicant.

Application to the Accelerated Master’s degree program

1. A prospective student, who meets the eligibility requirements (see Criteria for Admission), must set up a meeting with the IEE Undergraduate Advisor and IE Graduate Advisor to develop the Accelerated Degree Program Planning form for the Bachelor’s and Master’s degree programs.

2. Before admission to the accelerated master’s degree program can be finalized, students must submit the standard application for admission to the Office of Admissions including:
   a. an application
   b. application fee
   c. a copy of all transcripts
   d. Graduate Record Exam (GRE) scores
   e. An Accelerated Degree Program (ADP) Planning form, signed by the prospective student, the Undergraduate Advisor and the Graduate Advisor.

3. The Accelerated Degree Program Planning form for the master’s degree must clearly indicate:
   a. the 5000 level courses (a maximum of 12 credit hours) that will be counted towards the accelerated Master’s degree.
   b. the graduation date for the Master’s degree that meets the time limit (i.e. obtaining the Master’s degree in Industrial Engineering within 30 months of completing the Bachelor’s degree). Any changes to the ADP form must be submitted, in writing, and approved by the Graduate Advisor and Graduate Dean.

Requirement for Participation and Graduation

1. Students must complete the Bachelor’s degree prior to entering the Master’s program. Students may not elect to by-pass the Bachelor’s degree.

2. Students will only be allowed to count a maximum of twelve (12) 5000 level credits taken during their undergraduate studies toward their Master’s degree.

3. Students must receive a grade of “B” or better (3.0/4.0) in the 5000 level courses taken during their undergraduate studies. Courses with a grade of “CB” or below cannot be counted toward their Master’s degree.

4. No more than 12 hours of work may be counted towards the requirements for both the Bachelor’s and Master’s degree.

5. Students must complete the Master’s degree within 30 months from the completion of the Bachelor’s degree. If the Master’s program is not completed within these time limits, none of the 5000 level courses used for the Bachelor’s degree may count towards the Master’s degree.

Continued Eligibility

1. It is the responsibility of the student to recognize his/her eligibility status.
2. A student completing the Bachelor’s degree requirements with an accumulated GPA of less than 3.0/4.0 is no longer eligible to count the 5000 level credit hours specified toward the Master’s degree and is automatically terminated from the accelerated degree program.

3. A student who does not follow the program, as laid out in the approved Accelerated Degree Program Planning form may become ineligible to participate in the accelerated degree program.

4. A student who is ineligible to participate in (or withdraws from) the accelerated program may not count any of the 5000 level courses specified in the ADP Planning form towards a Master’s degree. These courses, however, may be counted toward the student’s Bachelor’s degree upon the discretion of the Undergraduate Advisor.

5. A student who becomes ineligible to participate in the accelerated Master’s degree program must be informed by the Graduate Advisor, in writing, of his/her ineligibility. A copy of this letter to the student must be sent to the Graduate College.

Withdrawal

A student may, at any time, withdraw from an approved accelerated program by informing the Director of Undergraduate programs and the Graduate Advisor in writing. A copy of this request to withdraw must be sent to the Graduate College and the Registrar’s Office.

Sample of IME 5000-Level Eligible Courses

The following is a sample list of the IME 5000 level courses that can be taken by students:
IME 5050 - Continuous Improvement in Operations
IME 5070 - Computer Integrated Manufacturing
IME 5080 - Advanced Quality Management
IME 5120 - Management of Service Operations
IME 5160 - Design of Experiments and Regression Analysis
IME 5420 - Human Factors Engineering
IME 5460 - Concurrent Engineering
IME 5500 - Advanced Plastic Processing

Master of Science in Engineering Management
Advisors: David M. Lyth
Room E-222 Parkview Campus

The Master of Science in Engineering Management was developed to meet the need for professional leaders in manufacturing and service operations. Its objectives are:
1. To enhance the capabilities to deal with resources available in commerce and industry to managing people, money, and projects.
2. To develop the leadership capabilities based on the student’s strong technical background and significant managerial skills.
3. To allow students to develop analytical and managerial skills and to acquire knowledge in related fields.
4. To develop their ability to integrate technical, managerial and systems skills to improve the performance of the enterprise.
5. To prepare students for further study in post-master’s and doctoral programs as their interest and professional growth require.

The scope of the graduate program includes studies in the areas of engineering, technical resource management, and industrial leadership. The program requires completion of a minimum of 30 semester hours beyond the entry level prerequisites in the student's program.

Admission Requirements
1. Possess a baccalaureate degree with a major in a technical field, such as engineering, technology, mathematics, computer science, or the physical sciences. For other majors, see item 2.
2. Show evidence of completion of at least eight semester hours of mathematics and eight semester hours of physics and/or chemistry with a minimum overall grade point average of 2.5 in these areas.
3. Submit GRE (Graduate Record Examination) scores for the General Test.
4. Undergraduate courses should have been completed in calculus, statistics, computer programming, work methods analysis, operations planning and control, and quality control. Where the student's background is deficient, foundation courses will be required. Students may take IME 5010 to acquire an understanding of work methods analysis, operations planning and control, and quality control.

Program Requirements
The Master of Science in Engineering Management requires a minimum of thirty (30) hours: 18 hours of core courses and 12 hours of electives.

1. Core courses (18 hours):
IME 5050 - Continuous Improvement in Operations Credits: 3 hrs.
IME 5080 - Advanced Quality Management Credits: 3 hrs.
IME 6000 - Concepts and Principles of Engineering Management Credits: 3 hrs.
IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hrs.
IME 6120 - Production/Operations Management Credits: 3 hrs.
IME 6140 - Project Management Credits: 3 hrs.

2. Elective courses (12 hours at minimum)
To be selected from a set of approved graduate courses available in the Department of Industrial and Manufacturing Engineering, and other departments within the University. The elected courses must be compatible with the overall program and the career objectives of the student, and must be approved by the program advisor prior to registration. Included in the electives is IME 6970: Problems in Industrial and Manufacturing Engineering which allows for students to pursue independent projects and research and IME 6990: Practical Training where students can receive credit for practical training.

3. An overall 3.0 grade point average.

Master of Science in Manufacturing Engineering
Advisor: David M. Lyth
Room E-222 Parkview Campus

The Master of Science in Manufacturing Engineering is designed to provide advanced competencies in the areas of computer-aided manufacturing, computer-aided design and analysis, and integrated processing of polymers, metals, and composite materials. This program is designed for decision-makers in manufacturing engineering, engineering graphics and design, process engineering, quality assurance, and tooling design.

Admission Requirements
1. A candidate for admission must possess a baccalaureate degree from a recognized program in engineering, physics, mathematics, or other field related to engineering.
2. Possess a grade point average of 3.0 or better during the last two years of undergraduate work.
3. Submit GRE (Graduate Record Examination) scores from the General Test.
4. Have completed undergraduate courses in computer-aided design, computer-aided manufacturing, properties of materials, metrology, quality control, and manufacturing processes or equivalent experience. Students who lack this background should consult with an advisor as specialized programs (usually involving additional credit hours over basic requirements) can be provided.

Program Requirements
The Master of Science in Manufacturing Engineering requires a minimum of thirty (30) hours: Fifteen (15) hours of core courses and fifteen (15) hours of electives.

1. Core courses (15 hours):
IME 5070 - Computer Integrated Manufacturing Credits: 3 hrs.
IME 5460 - Concurrent Engineering Credits: 3 hrs.
IME 6060 - Capital Budgeting and Cost Analysis Credits: 3 hrs.
IME 6810 - Process Monitoring and Control Credits: 3 hrs.
and either:
STAT 5650 - Design of Experiments for Quality Improvement
or
IME 5160 - Design of Experiments and Regression Analysis Credits: 3 hrs.

2. Elective courses (15 hours) are chosen in consultation with the academic program advisor. Electives may include a project (IME 6970) with a written report and oral presentation and are listed online at www.wmich.edu/ime. Students may also take IME 6990: Practical Training which allows students to receive credit for practical training.

3. An overall 3.0 grade point average.

Doctor of Philosophy in Industrial Engineering
Advisor: Bob White
Room E-216 Parkview Campus

The Doctor of Philosophy in Industrial Engineering is designed to intensify the student's knowledge and comprehension in the various disciplines of the subject with emphasis on original research in a chosen area of specialty. It will assist individuals wishing to pursue a career as a research practitioner in industry and government or teaching and research careers in industrial engineering in colleges and universities. The program emphasizes breadth and depth of knowledge and requires students to complete a dissertation research project.

Admission Requirements
Application materials may be obtained from the Office of Admissions, Graduate Admissions and from the Department of Industrial and Manufacturing Engineering. International students must contact the Office of International Services and Student Affairs for admission information and to obtain application materials. Admission decisions will be made by the department doctoral committee. All students must meet the general requirements for a doctoral degree specified elsewhere in this Graduate College Catalog. In addition to these requirements, the student must fulfill either of two educational requirements: a bachelor's degree in engineering or related discipline from an Accreditation Board for Engineering and Technology (ABET/EAC), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: (410) 347-7700, accredited engineering program, including at least three courses in industrial engineering, or a master's degree in engineering from a department offering an ABET accredited undergraduate program, including at least five courses in industrial engineering. Three letters of recommendation must be submitted. Students not having these requirements may be conditionally admitted, with full admission granted upon completion of additional prerequisites.

Applicancy Requirements
The applicancy requirements are those stated in the general requirements of the Graduate College. The student should establish a dissertation committee by the end of the first year. The committee will be composed of at least three members of the Department of Industrial and Manufacturing Engineering, and one or more outside member.

Candidacy Requirements
The applicant should seek candidacy by the end of the third calendar year after enrollment in the Ph.D. program. By this time the student should have completed the course work and have a preliminary plan for the dissertation endorsed by the chair of his/her dissertation committee. To be admitted to candidacy, the student must successfully complete the comprehensive examination. This exam, administered by the doctoral committee, will be composed of both a written and an oral component. The written portion will include questions submitted by the student's doctoral committee and those drawn from the departmental pool of questions relating to the core courses. The oral component will be administered and evaluated by the doctoral committee. If student fails the comprehensive exam, the student can apply to retake the exam in the next semester. A second failure results in dismissal from the
program. Candidacy will be approved or denied based upon the student's performance in the course work, successful completion of the comprehensive examination, and a positive recommendation of the dissertation committee.

Financial Assistance
The Department of Industrial and Manufacturing Engineering offers opportunities for financial support of doctoral students through doctoral associateships, graduate assistanship, and fellowships. Information is available from the department or the Graduate College.

Program Requirements
In addition to the Graduate College requirements, the following requirements must be fulfilled:

1. Eighty-four (84) credit hours of courses beyond the baccalaureate. A student with a master's degree may be able to transfer up to 36 credit hours, with this decision being made by the doctoral committee at the time of admission:
   a. The determination of how the master's level credits can be used to fulfill the requirements listed below is made at the time of admission.
   b. For a student entering the program with a bachelor's degree, a maximum of 21 credit hours of 5000-level, post-baccalaureate graduate courses can be applied to the Ph.D. program; for a student entering the program with a master's degree, a maximum of six credit hours of 5000-level courses beyond the master's degree can be applied to the Ph.D. program.

2. The credit hours are grouped into seven areas as follows:
   a. Eighteen hours of core courses with three hours of IME 7250 required.
   b. Twelve hours from the engineering management concentration area.
   c. Nine hours from one of the area of specialization course groups.
   d. Eighteen hours of electives chosen from the graduate offerings of Industrial and Manufacturing Engineering or other departments appropriate to the student's research interest as mutually agreed upon by the student and the dissertation committee.
   e. Six hours of electives related to teaching methodology.
   f. Six hours of IME 7120, Professional Field Experience.
   g. Fifteen hours of IME 7300, Doctoral Dissertation.

3. Successful completion of the comprehensive examination.

4. Successful oral defense of the dissertation and approval of the dissertation by the committee and the Graduate College.

5. Successful completion of the teaching internship requirement.

6. Residency Requirement: Enrollment on campus in four consecutive semesters or sessions.

7. Research Tool: The required research tools are computer programming and statistics. Competency will be based on successful completion of STAT 6600 or equivalent with a grade of "B" or better.


Mechanical and Aeronautical Engineering

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William W. Liou
Tianshu Liu
Koorosh Naghshineh
Kapseong Ro
Iskender Sahin
Rameshwar P. Sharma
Bade Shrestha
Dennis J. VandenBrink

Master of Science in Engineering (Mechanical)

Advisor: Koorosh Naghshineh
Room G-226 Parkview Campus

Graduates with the Master of Science in Engineering (Mechanical) look forward to career opportunities at higher levels of responsibility. The areas of opportunities include, but are not limited to, mechanical system and structural dynamics, system design and controls, materials, mechanics of composite materials, experimental stress analysis, tribology, vehicle dynamics, experimental and computational fluid dynamics, thermal and power systems, alternate and renewable energy, fuel cells, noise and vibrations, finite element analysis, and micro and nano-technology. Opportunities for mechanical engineers continue to develop with the rapid expansion of the knowledge base.

Class sequencing and scheduling (in the evening hours) are arranged so that a working engineer can complete the program in three years while maintaining full-time employment.

Admission Requirements
1. Bachelor of Science in Mechanical Engineering from an institution with an ABET/EAC accredited program.
2. Submit results of the Graduate Record Examination (GRE).

Applicants with degrees in other engineering fields or related disciplines may be considered for admission after they have satisfactorily completed the necessary undergraduate prerequisite courses prescribed by the department's graduate advisor. Based on Graduate Advisor’s discretion, these courses can be all or a subset of ME 2320, 2500, 2560, 2570, 2580, 3560, 3650, 4310, 4320, MATH 2720, 3740.

Conditional admission may be granted to a student with a baccalaureate degree and less than the required academic record or anyone having a baccalaureate degree from a non-accredited college or anyone needing more than three prerequisite courses. A student admitted on non-degree conditional status may establish eligibility for regular
admission by completing the specified prerequisite courses, and securing grades of "B" or better in each course in the first nine hours of graduate work.

A student with a baccalaureate degree who wishes to enroll in courses but does not plan to pursue a program leading to a master's degree, or is not eligible for regular admission may enroll in courses for which prerequisite requirements are satisfied with Guest status. If the student later decides to apply for regular admission, no more than nine hours of work taken under Non-degree status will be considered part of a degree program.

Program Options and Requirements
Students may choose the Thesis Option or the Non-Thesis Option as described below. A specific program of study for each student is determined in conjunction with and subject to approval of the student’s advisor.

Thesis Option
This option of the Master of Science in Engineering (Mechanical) consists of 30 hours, of which six must be taken as thesis.

1. A minimum of 30 semester hours of credit
   Including 18 hours of approved courses in the area of mechanical engineering, six hours of electives, and six hours of: ME 7000 - Master's Thesis Credits: 6 hrs.

2. A minimum of six hours must be mathematics oriented.
   The mathematics-oriented courses may include mechanical engineering courses (e.g., ME 5600, 5610, 5620, 6370, and 6610) or electives selected from any engineering department in the College of Engineering and Applied Sciences, or in mathematics, computer science, and the physical sciences. Students who choose to take a class outside the ME approved list of graduate courses must obtain the approval of the ME graduate advisor prior to registering for such classes.

3. Satisfactory completion of six hours of the following course under the guidance of the thesis advisor and committee

Non-Thesis Option
This option of the Master of Science in Engineering (Mechanical) consists of thirty-six (36) hours, of which up to six may be taken as project.

1. A minimum of 36 semester hours of credit including 30 hours of approved courses in the area of mechanical engineering plus six hours of electives.

2. A minimum of six hours must be mathematics oriented.
   The mathematics-oriented courses may include mechanical engineering courses (e.g., ME 5600, 5610, 5620, 6370, and 6610) or electives selected from any engineering department in the College of Engineering and Applied Sciences, or in mathematics, computer science, and the physical sciences. Students who choose to take a class outside the ME approved list of graduate courses must obtain the approval of the ME graduate advisor prior to registering for such classes.

3. Up to six hours of project as seen below may be taken as part of the 30 hours of approved courses in the area of mechanical engineering for research conducted under the supervision of a department faculty member
   ME 6970 - Problems in Mechanical Engineering Credits: 1-6 hrs.

Practical Training
As part of their coursework, Master’s students who have had less than 6 months of prior industrial work experience in the U.S. may choose to register in up to 3 credits of ME 5990 in order to pursue practical training off-campus in industrial and/or other settings. To be eligible, students must be registered in the MAE department, must have completed at least 6 credits towards their graduate degree, and must have approval of the Graduate Program Director or Department Chair. Students may choose to register for 1 credit of ME 5990 at a time, up to 3 semesters. These students will be classified as having full-time status for the purpose of loan deferments and insurance eligibility.
International students must contact the International Services and Student Affairs Office before requesting departmental approval in order to enroll in ME 5990.

Master of Science in Engineering (Mechanical -Accelerated)

The Accelerated Master’s degree program allows undergraduate students in Mechanical and Aeronautical Engineering an opportunity to complete the requirements for the Master’s degree at an accelerated pace. Undergraduate students may count up to 12 (but not less than six) credit hours of 5000-level courses taken during their undergraduate studies towards a Master’s degree in Mechanical Engineering within 24 months of completing their Bachelor’s degree in Mechanical Engineering or Aeronautical Engineering. Students may choose to pursue a Master’s degree in Mechanical Engineering under either the Thesis Option or the Non-Thesis Option.

This program allows an undergraduate student, majoring in Mechanical Engineering, to complete an accelerated Master’s degree in Mechanical Engineering by completing either 147 combined undergraduate/graduate credit hours (if choosing the Thesis Option), or 153 combined undergraduate/graduate credit hours (if choosing the Non-Thesis Option). Similarly, an undergraduate majoring in Aeronautical Engineering can complete an accelerated Master’s degree in Mechanical Engineering by completing either 146 combined undergraduate/graduate credit hours (if choosing the Thesis Option), or 152 combined undergraduate/graduate credit hours (if choosing the Non-Thesis Option).

Criteria for Admission
Permission to pursue the accelerated degree program does not guarantee admission to the Graduate College. Admission is contingent on meeting the following eligibility requirements at the time of entering the graduate program:

1. Students must have completed a minimum of eighty (80) and a maximum of ninety-six (96) credit hours in their undergraduate programs, including credits earned from advanced placement.
2. Transfer students must have completed a minimum of 30 credit hours as a full-time student at WMU.
3. Students must have a minimum accumulated grade point average (GPA) of 3.5/4.0 at WMU.

Admission Requirements

1. A prospective student, who meets the eligibility requirements (see Criteria for Admission), must set up a meeting with the MAE Undergraduate Advisor and Graduate Advisor to develop the Accelerated Degree Planning form for the Bachelor’s and Master’s degree programs.
2. Before admission to the accelerated master’s degree program can be finalized, students must submit the standard application for admission to the Office of Admissions following their standard procedures.
3. The Accelerated Degree Program (ADP) Planning form for the master’s degree must clearly indicate:
   a. the 5000-level courses (a maximum of 12 credit hours) that will be counted towards the accelerated Master’s degree.
   b. the graduate date for the Master’s degree that meets the time limit (obtaining the Master’s degree within 24 months of completing the Bachelor’s degree).
   c. Any changes to the ADP form must be submitted, in writing, and approved by the Graduate Advisor and Graduate Dean.

Requirements for Participation and Graduation

1. Students must complete the Bachelor’s degree prior to entering the Master’s program.
2. Students will only be allowed to count a maximum of twelve (12) 5000-level credits taken during their undergraduate studies toward this Master’s degree.
3. Students must receive a grade of “B” (3.0/4.0) or better in the 5000-level courses taken during their undergraduate studies.
4. No more than twelve (12) hours of work may be counted towards the requirements for both the Bachelor’s and Master’s degree.
5. Students must complete the Master's degree within 24 months from the completion of the Bachelor's degree. If the Master's degree is not completed within these time limits, none of the 5000-level courses used for the Bachelor's degree may be counted toward the Master's degree.

Continuing Eligibility

1. It is the responsibility of the student to recognize his/her eligibility status.
2. A student completing the Bachelor's degree requirements with an accumulated GPA of less than 3.25/4.0 is no longer eligible to count the 5000-level credit hours specified toward the Master's degree and is automatically terminated from the accelerated Master's degree program.
3. A student who does not follow the program, laid out in the approved ADP form, may become ineligible to participate in the accelerated degree program.
4. A student who is ineligible to participate in (or withdraws from) the accelerated program may not count any of the 5000-level courses specified in the ADP form towards a Master's degree.
5. A student who becomes ineligible to participate in the accelerated Master's degree program must be informed by the Graduate Advisor, in writing, of his/her ineligibility. A copy of this letter must be sent to the Graduate College.

Withdrawal

A student may, at any time, withdraw from an approved accelerated program by informing the Graduate Advisor in writing. A copy of this request to withdraw must be sent to the both the Graduate College and the Registrar's Office.

Doctor of Philosophy in Mechanical Engineering

Advisor: Koorosh Naghshineh
Room G-226 Parkview Campus

The Doctor of Philosophy in Mechanical Engineering is designed to intensify the knowledge and comprehension of the student in the various disciplines of the subject, with emphasis on original research in a chosen area of specialty.

Admission Requirements

In addition to the general admission requirements for a doctoral degree at Western Michigan University, a Master of Science in Mechanical Engineering or a related engineering discipline will be required. Students with a Master of Science in mathematics or in a natural science discipline may also be admitted if they have a Bachelor of Science in Mechanical Engineering or a related engineering discipline. The Master of Science should be from a university recognized and approved by the Graduate Committee of the department. Evidence of scholarship and potential for independent research in mechanical engineering must be presented to the Graduate Committee. The level of achievement in mathematics, physics, and chemistry courses, which are prerequisites for success in doctoral studies in engineering, will also be considered in evaluating the application. The applicant must also submit the results of the verbal, analytical, quantitative, and engineering portions of the Graduate Record Examination. Prior to being admitted, the student must identify a member of the department's graduate faculty who has agreed to advise the student's research.

Program Requirements

The main accomplishment of the Ph.D. student should be an original, high quality research. The program is oriented toward that achievement. The course work and number of credit hours that a student will be required to take depend on the individual qualifications, level of preparation for independent research, and the needs for successful accomplishment of the dissertation.

The doctoral student must acquire through course work and demonstrate in a qualifying examination a broad knowledge and understanding of mathematics and two of the following core areas of mechanical engineering: thermodynamics and heat transfer; fluid mechanics; structural mechanics; materials; control systems; and dynamics and vibrations. Intensive and successful use of a required area of competency in the research work must be approved by the dissertation committee.
A minimum of 45 graduate credit hours beyond the Master of Science is required, including a minimum of 30 credit hours of course work and 15 credit hours of dissertation (ME 7300). At least 18 of the 30 non-dissertation credit hours must be taken from the graduate courses of the Department of Mechanical and Aeronautical Engineering. To ensure adequate preparation for the graduate research subject, enrollment in courses from other programs must be approved by the dissertation faculty advisor. A minimum grade point average of 3.25 is required in the doctoral studies. These graduation requirements complement the general university requirements.

Details of the Ph.D. study process may be obtained from the Department Graduate Advisor or on the web page of the Department of Mechanical and Aeronautical Engineering located at [http://www.wmich.edu/mae](http://www.wmich.edu/mae).

**Practical Training**

As part of their 30 credit hours of course work, doctoral students who have had less than 6 months of prior industrial work experience in the US may choose to register in up to 3 credits of ME 6990 in order to pursue practical training off-campus in industrial and/or other settings. To be eligible, students must be registered in the MAE department, must have completed at least 6 credits toward their doctoral degree, and must have approval of their faculty advisor and Graduate Programs Director or Department Chair. Students may choose to register for 1 credit of ME 6990 at a time, up to 3 semesters. These students will be classified as having full-time status for the purpose of loan deferments and insurance eligibility. International students must contact the International Services and Student Affairs Office before requesting department approval in order to enroll in ME 6990.
The Master of Science in Paper and Imaging Science and Engineering is designed to provide theoretical, laboratory, and pilot plant experiences which are basic to the development of professional competence in pulp, paper, and printing science and engineering. The department has leadership in the areas of pulping and bleaching, recycling and deinking, papermaking, coating, and printing, and it is internationally recognized in the fields of paper coating and coating rheology. Its laboratories and equipment are the most complete of any similar academic institution featuring a semicommercial-sized thermomechanical pulper, complete recycled fiber pilot plant, papermachine, coater, and printing presses.

A Thesis Option and a Non-thesis Option are available. While the program requirements for each option differ, the admission requirements for both options are identical. Students without a sufficient background in engineering will be required to take PAPR 5000 and CHEG 2960.

Admission Requirements
1. Applicants with science, engineering, and related baccalaureate degrees may qualify for admission based upon demonstrated competence at an accredited college or university.
2. At least one semester of college chemistry and two semesters of calculus are required.

After admission, the student's graduate advisor will approve a plan of study, which may include courses not eligible for graduate credit.

Applicants are encouraged to submit results of the Graduate Record Examination to support their application for admission.

Program Options and Requirements

Thesis Option
1. A minimum of 30 semester hours of credit.

2. A minimum of 15 semester hours of Paper and Printing Science and Engineering courses including the following required courses, but excluding the thesis research credits.
   IMAG 6200 - Paper, Printing, and Ink Credits: 3 hrs.
   PAPR 6500 - Advanced Paper Processes Credits: 3 hrs.
3. A minimum of three semester hours of course work outside the Department of Paper Engineering, Chemical Engineering, and Imaging.

4. Satisfactory completion of the following course based on either an experimental or theoretical topic, under the guidance of a Thesis Committee.
PAPR 7000 - Master's Thesis Credits: 6 hrs.

Non-Thesis Option
1. A minimum of 36 semester hours of credit.

2. A minimum of 24 semester hours of Paper and Printing Science and Engineering courses including:
IMAG 6200 - Paper, Printing, and Ink Credits: 3 hrs.
PAPR 6500 - Advanced Paper Processes Credits: 3 hrs.

3. A minimum of six semester hours of course work outside the department approved by the graduate advisor.

Doctor of Philosophy in Paper and Imaging Science and Engineering
Advisor: Andrew Kline
Room A-220 Parkview Campus

The Doctor of Philosophy in Paper and Imaging Science and Engineering is designed to prepare engineers and scientists for performing advanced research or for teaching at the university level. The emphasis of the program is on paper making processes, paper coating, paper recycling, and imaging technologies.

This is a research-intensive degree, based on fundamental scientific, chemical, and engineering principles; the emphasis is on learning techniques for advanced research, the production of such advanced research, and the reporting of the research. Close supervision of the research will be maintained by the student's Dissertation Advisory Committee and, particularly, by the chair of that committee. Some formal course work, much of it possibly accepted from course work completed to achieve a master's degree, is required to prepare for and support an original research problem chosen by the student in consultation with the Dissertation Advisory Committee. However, the degree is awarded for the attainment of knowledge of the paper and imaging science and engineering disciplines and for original research; the degree is not awarded for accumulation of course credits. Thus, the key component of the program is the Dissertation Advisory Committee's careful and continuous mentoring of the student to develop necessary skills and knowledge to support advanced research.

Admission Requirements
Application materials may be obtained from the Office of Admission and Orientation, Graduate Admissions or from the Department of Paper Engineering, Chemical Engineering, and Imaging. International students should contact the Office of International Student Services for the appropriate materials and information.

All applicants must meet the general admissions requirements for the Ph.D. specified by the Graduate College. In addition, the applicant must have completed a master's degree in a discipline relevant to paper and imaging science with a minimum 3.25 grade point average. The Graduate Record Examination, General Test, is required of all applicants, as are at least three letters of recommendation and a letter describing the applicant's research interest. International students must also submit the TOEFL scores.

Admission determinations will be made by the department's Doctoral Studies Committee and will take into consideration the student's previous academic training and record of achievement, the GRE score, the recommendations provided in letters from three referees, and the information about the proposed area of study described in the letter of interest.
Financial Assistance
The Department of Paper Engineering, Chemical Engineering, and Imaging offers opportunities for financial assistance of doctoral students through graduate assistantships and fellowships. Information concerning these opportunities is available from the department's Graduate Advisor or from the Graduate College.

Program Requirements
Following a student's admission to the program, the department's Graduate Advisor will be the student's temporary advisor until the Dissertation Advisory Committee is formed, typically within one year of the student's commencement of the program. With the assistance of the Graduate Advisor, the student will select a Chair of the Dissertation Advisory Committee and, in consultation with the Chair, the student will form an entire Dissertation Advisory Committee, comprising at least three members. After the Chair of the Dissertation Advisory Committee is chosen, primary responsibility for the student will be transferred from the Graduate Advisor to the Chair. The Graduate Advisor, however, will continue to monitor the student's progress and assist the Chair of the Dissertation Advisory Committee to ensure prompt compliance with all University and program requirements.

Graduate College policy requires that all doctoral students complete at least 30 hours of course work, exclusive of the dissertation, at WMU after admission to the doctoral program. However, in this research-based degree program, if an exceptionally well prepared student enters the program having satisfied one or more of the research tools and/or has completed IMAG 6200 and PAPR 6500, the student may be able to satisfy all the requirements and competencies with fewer than thirty hours. Upon formal petition by the Chair of the Dissertation Advisory Committee and the Graduate Advisor and with the Chair's submission of a program of study that indicates the student's satisfaction of all requirements and competencies, the Dean of The Graduate College may waive that requirement. Such waivers must be sought and approved on a case-by-case basis.

In addition to the requirements of the Graduate College, the following requirements for the Doctor of Philosophy in Paper and Imaging Science and Engineering must be fulfilled:

1. 30 hours of course work beyond the master's degree
Since applicants must have a master's degree, it is expected that applicants will have finished at least 24 hours of foundation course work at the graduate level, exclusive of seminars and research. At the discretion of the Doctoral Studies Committee, applicants may receive credit toward the doctoral course requirements for up to 24 hours of course work germane to paper science and engineering at the time of admission to the program. Such graduate level foundation course work may include, as examples, paper physics (PAPR 6600), papermaking (PAPR 6500), pulping and bleaching (PAPR 6980), environmental engineering (PAPR 6930), and nonimpact printing (IMAG 6210).

The required courses IMAG 6200 (Paper, Printing, and Ink) and PAPR 6500 (Advanced Paper Processes) must be completed with at least a grade of "B," if not previously elected in a master's program as described above.

Additional course work required will be determined at the time of admission by the Doctoral Studies Committee to ensure readiness for graduate level course work or the research program, or after admission by the Dissertation Advisory Committee in cooperation with the Doctoral Studies Committee to remedy deficiencies revealed by the Level I qualifying exams.

2. Demonstrate competency in two research tools
Two research tools chosen in consultation with the Dissertation Advisory Committee. All students will select a statistics or experimental design course (item a), plus at least one other research tool from the remaining options:
   a. Statistics and experimental design at the level of STAT 5650, STAT 5670, or IME 5160 (with a grade of "B" or better).
   b. Reading proficiency in one foreign language other than English at the course level of 4010 (with a grade of "B" or better).
   c. Computer modeling and simulation expertise at the level of CS 5810 (with a grade of "B" or better).
   d. One or more courses in biology, physics, chemistry, or engineering at the 5000-level or above and approved by the student's dissertation committee.

3. Qualifying Examinations
All students seeking a doctoral degree in paper and imaging sciences from Western Michigan University must successfully complete the Level I and Level II qualifying exams, following the qualifying exam guidelines developed by the Department of Paper Engineering, Chemical Engineering, and Imaging. In preparation for the qualifying exams, students without a sufficient background in engineering will be required to take PAPR 5000 and CHEG 2960. In addition, students in the doctoral program will need to be familiar with unit operations topics included in CHEG 3110, CHEG 3120, and CHEG 3300. The Level I qualifying exam is a written exam that will test a doctoral student’s general knowledge of paper and imaging science at the level of a person who has completed a master’s degree in Paper and Imaging Science. The Level I qualifying exam will include information and topics related to paper chemistry and processing, inks and imaging, unit operations, and experimental design. A student must successfully complete the Level I qualifying exam by the end of their first year of enrollment in the doctoral program. A student who does not successfully complete the Level I qualifying exam after two attempts will be dismissed from the doctoral degree program.

The Level II qualifying exam is an oral defense on the proposed dissertation research topic area, the dissertation proposal itself, and questions on graduate-level course materials. During the Level II qualifying exam, the student will demonstrate through oral discussion that they possess an acceptable knowledge of their area of chosen research and other graduate-level topics, in addition to defending their dissertation proposal. A student must complete the Level II qualifying exam within twelve calendar months of their successful completion of the Level I qualifying exam. A student must complete the Level II qualifying exam within two attempts and within the specified time limit or the student will be dismissed from the doctoral degree program.

4. Full-time enrollment
Full-time enrollment on campus for at least four semesters.

5. Workshop (6 hrs)
Completion of at least one University-sponsored TA training workshop and completion of six hours of PAPR 7130, Teaching Practicum. The first three credits of PAPR 7130 will be earned by observing a faculty member teach a class and by preparing to teach that course under the guidance of a graduate faculty member. The second three credits will be earned by having primary responsibility for teaching one course under the guidance and supervision of a member of the department's graduate faculty. In consultation with their dissertation advisory committee, students may substitute six credit hours of graduate level courses in place of PAPR 7130.
PAPR 7130 - Practicum in Teaching in the Discipline Credits: 3 hrs.

6. Research Seminar (6 hrs)
Completion of at least six hours of PAPR 7250, Research Seminar. The objective of this requirement is to participate in discussion of recent research findings that may be used in the student's research and to gain practice in the presentation of research results. Students may elect to enroll in ENGR 7250 (3 hours) in place of the 3 credit hours of PAPR 7250.
PAPR 7250 - Doctoral Research Seminar Credits: 1-6 hrs.

7. Graduate Research (6 - 10 hrs)
Completion of six to ten hours of PAPR 7350, Graduate Research. The objective of this requirement is to ensure that the student prepares a thoughtful, coherent research plan for the dissertation under the guidance of the Dissertation Advisory Committee.
PAPR 7350 - Graduate Research Credits: 2-10 hrs.

8. Complete and successfully defend a dissertation.
Completion of at least twelve hours of PAPR 7300, Doctoral Dissertation. The objective of this requirement is to ensure that the student carries out the research and prepares the dissertation under the guidance of the Dissertation Advisory Committee. The student must successfully defend the dissertation and have the dissertation approved by the Dissertation Advisory Committee and by the graduate dean. The student, with approval of the Dissertation Advisory Committee, may choose between two dissertation options.

Option 1: The student will present a traditional comprehensive dissertation and two journal papers based on the doctoral research and judged by the Dissertation Advisory Committee to be ready for submission to an identified,
refereed journal. These must be submitted with an introduction, review of relevant literature, and a summary explaining the significance of the research.

*Option 2:* The student will present at least four journal papers based on the doctoral research and judged by the Dissertation Advisory Committee as ready for submission to an identified, refereed journal. These must be submitted with an introduction, review of relevant literature, and a summary explaining the significance of the research.

PAPR 7300 - Doctoral Dissertation Credits: 12 hrs.
College of Fine Arts

Margaret Merrion
Dean

Jim Hopfensperger
Associate Dean

Academic Units
Art
Dance
Music
Theatre

Mission

The mission of the College of Fine Arts is to provide scholarly activity, creative experiences and research that inform and support instruction, performance and exhibitions. In addition, the College must provide the resources that will allow students to become effective performers, artists, educators, practitioners, scholars, researchers and specialists in their chosen disciplines. These professionals will be sensitive and experienced in working with diverse populations in schools, arts organizations, communities and families. Critical to the mission are the constant evolution of effective instruction for students; the exploration of meaningful and ever-changing aesthetic issues; educational and artistic partnerships throughout the region; and national and international outreach that enriches the lives of all. Further, the College of Fine Arts embraces a public purpose to elevate the human condition through the arts.

Goals

- to graduate students who will be artist-practitioners in the various art forms;
- to train teachers who will perpetuate the strong traditions of the arts;
- to train therapists to use the arts in a healing capacity;
- to prepare scholars who will continue to disseminate historical and theoretical information;
- to foster an appreciation of the arts among general university students, who will constitute the growing body of people whose lives are enriched by the arts;
- to contribute to the cultural life of the university and the greater Kalamazoo community; and
- to expand our outreach nationally and internationally.
Art, Gwen Frostic School of

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Karen Bondarchuk
William Charland
Daniel Connolly
Cat Crotchett
William Davis
Richard dePeaux
David Gall
Caroline Gore
Edward Harkness
Tricia Hennessy
Jim Hopfensperger
Richard J. Keaveny
Albert LaVergne
Nichole Maury
Bruce Naftel
Ginger Owen
Paul Solomon
Jeffrey Thompson
Vince Torano
Mary-Louise Totton

The philosophy underlying the Gwen Frostic School of Art's courses and programs is to establish an awareness and understanding of the visual arts to gain a liberal arts education, and likewise, that a liberal education is a necessary part of a professional artist's training. To that end, programs in Art seek to meet the objectives of three different types of students: those who have an interest in simply taking courses in the field for personal enjoyment and growth, those with professional ambitions in the various areas of practice and teaching, and those liberal arts oriented persons who seek a major in the general field of the visual arts.

The various programs offered by the Gwen Frostic School of Art are designed to promote the education of good artists and artists-teachers and to increase the artistic awareness among students in other areas. Extracurricular activities include many exhibitions, lectures by visiting artists, and a student-operated gallery.

The purpose of graduate study in the Gwen Frostic School of Art is to advance: Individual studio and scholarly talents, interests, and philosophies, used creatively both to expand and preserve our cultural heritage; professional studio competence exemplified by a significant body of work; the student's potential to solve contemporary problems in all aspects of the visual arts and to explore and address new questions and issues; professional competence in the dissemination of knowledge, including logical, clear verbal and written presentation of aesthetic ideas in teaching and other contexts; scholarly competence in the organization, evaluation, and interpretation of knowledge.

Both the Master of Arts, an initial graduate degree, and the Master of Fine Arts, which is the terminal studio degree, are offered in the following practice oriented areas of emphasis: Sculpture, ceramics, printmaking, photography, painting/watercolor, and graphic design. These programs have the same admission requirements. The Master of Arts in Art Education is designed to address the needs of art educators for advanced preparation in their discipline.

Western Michigan University is an accredited member of the National Association of Schools of Art and Design and subscribes to the recommendations of this organization.
The Master of Arts in Art Education is designed to address the needs of art educators for advanced preparation in their discipline. Required courses include credit hours in art education, art studio, and art history.

Art education courses are designed to combine emphasis on research and curriculum development, and also provide strong foundations in theory and practice related to teaching art in various professional contexts. Topical seminars focus on recent issues and new developments in art education. Research in art education focuses on qualitative and quantitative research methods. Students will prepare and defend a written thesis. Advanced studio courses will provide students with opportunities to develop as artists and achieve individual goals for excellence in a range of art media. Advanced course work in art history will focus on western and non-western sources of art. Course work will be offered during Summer II sessions, and online. Students who follow the outlined program can complete degree requirements over four summers.

Admission Requirements
1. An undergraduate degree with a major in art or its equivalent.
2. A completed application for admission (the blue sheets of the graduate self-managed application).
3. A portfolio of 20 slides or CD (10 slides of personal work and 10 slides of student work).
4. A statement of intent outlining the reasons for seeking admission to a graduate program in art education.
5. Three letters of recommendation for admission.
6. A current resume.

Program Requirements
1. Sixteen hours in Art Education:
   ART 6510 - Art Education Theory Credits: 3 hrs.
   ART 6520 - Recent Topics in Art Education Credits: 3 hrs. (to be repeated once)
   ART 6530 - Research in Art Education Credits: 3 hrs.
   ART 6550 - Graduate Project in Art Education Credits: 2-4 hrs.
2. Six hours in advanced art history:
   ART 6210 - Graduate Topics in Art History Credits: 3 hrs. (to be repeated once)
3. Eight hours in studio art including four hours at ART 6900. Choose from among:
   ART 5900 - Drawing and Painting Studio Credits: 2 hrs.
   ART 5920 - Photography Studio Credits: 2 hrs.
   ART 5930 - Digital Imaging Studio Credits: 2 hrs.
   ART 5940 - Ceramics Studio Credits: 2 hrs.
   ART 5950 - Sculpture Studio Credits: 2 hrs.
   ART 5960 - Printmaking Studio Credits: 2 hrs.
   ART 5970 – Metals/Jewelry Studio Credits: 2 hrs.
   ART 6900 - Advanced Studio Credits: 2 hrs.

The 60-hour Master of Fine Arts program is recommended as a terminal degree for practicing artists and for prospective higher education art professors. It is intended for artists who have a clear notion of their artistic purposes and are primarily interested in continuing their personal and artistic development.

Admission Requirements
1. An undergraduate degree with a major in art or its equivalent.
2. A completed application for admission.
3. A portfolio of slides must be submitted directly to the Graduate Coordinator of the School of Art. It should include twenty slides in the applicant's area of concentration. The slides must be submitted in a plastic sleeve with artist's name, size of work, year, and medium.
4. A statement of intent outlining the reasons for seeking admission to a graduate program in a specific area of concentration.
5. Three letters of recommendation for admission.
6. A current resume.

Program Requirements
1. Twenty-four hours in the major area of concentration.

2. Nine hours in art history.

3. Eighteen hours in electives, chosen in consultation with the student's faculty advisor.

4. Three hours in the following course.
   ART 6100 - Advanced Drawing Credits: 1-6 hrs.

5. Four hours in the following course.
   ART 6250 - Graduate Art Seminar Credits: 1 hrs.

6. Required reviews:
   At the end of each student's first and second semester, a formal review by the Graduate Program Committee will: (a) determine continuation of the degree program; (b) delay review for one semester; (c) drop the student from further degree status in the program; (d) drop the student from the M.F.A. degree status and offer the option to pursue M.A. degree status. The 45th hour review will be performed by the student's Graduate Committee who are also responsible for supervision of the remainder of the student's program of study, including the final exhibition presentation.

7. Minimum of one year residence on campus required.

8. Two hours in the following course. This course includes a final exhibition and oral presentation which must be approved by the student's Graduate Committee before the Master of Fine Arts is granted.
   ART 6130 - Graduating Presentation Credits: 2 hrs.
Dance

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Stephen Jones
Renata Artman Knific
Thomas Knific
Trent P. Kynaston
David Little
John A. Lychner
Margaret Merrion
Michael Miller
David Montgomery
Judy Moonert
Stanley Pelkey
Kenneth Prewitt
Carl Ratner
Robert J. Ricci
Silvia Roederer
Wendy Rose
Edward Roth
Lori Sims
Christine Smith
David S. Smith
Kenneth Smith
Robert Spradling
Matthew Steel
Deanna Swoboda
Scott W. Thornburg
Bruce Uchimura
Karen Wicklund
Brian Wilson
Steve M. Wolfinbarger
Bradley Wong
Stephen Zegree
Master of Arts in Music

The Master of Arts in Music degree is a graduate research degree which culminates with a written thesis and a public presentation (lecture or lecture/recital). Possible areas of focus for the thesis include (but are not limited to) music history, music theory, ethnomusicology, historical performance practice, music technology, and interdisciplinary subjects relating to music with other fields. The program is intended for students with a strong interest in scholarly research and should not be considered a substitute for a Master of Music in Performance degree. The benefits include a stronger preparation for graduate studies after Western and a more diverse portfolio for future teaching positions. The M.A. in Music degree is primarily intended as part of a 5 year accelerated degree program combined with a Bachelor of Music degree, but it may be completed as a stand-alone 2 year graduate degree.

General degree requirements for M.A. in Music:
MUS 6100 – Research Methods Credits: 3 hours
Music History – 2 courses, at least 1 at the 6000-level Credits 4–6 hours
Music Theory – 2 courses, at least 1 at the 6000-level Credits 4–6 hours
Music Ensemble – 5000-level Credits: 2 hours
Professional Electives – must be approved for admission to candidacy Credits: 7–9 hours
MUS 7000 – Master’s Thesis, see options below Credits: 6 hours

Professional Electives:
The Professional Electives are expected to support the thesis topic and should generally include at least two additional 6000-level courses in music history and/or theory beyond the general requirement above. Other types of graduate-level music courses and even courses from other departments are possible if they can be justified as relevant to the thesis topic. Reading ability in at least one foreign language may also be required depending on the nature of the subject. All electives must be approved by the School of Music faculty before they can be applied toward the degree.

Thesis Options:
All thesis options involve a written document and some kind of public presentation. The thesis committee will consist of an advisor, who serves as chair of the committee, and two other committee members. The thesis defense will include an oral comprehensive exam.

A) Written Thesis + Lecture
This thesis option has two parts. Part I is a substantial written thesis dealing with some historical, theoretical, or other scholarly aspect of music, written under the guidance of a faculty member. Part II is a public lecture presenting some portion of the written thesis.

B) Composition + Thesis Essay
This thesis option has two parts. Part I is an extended composition for instrumental, vocal, and/or computer-implemented media, approved by the department, and written under the guidance of a faculty member. Part II is a significant essay dealing with some historical, theoretical, or analytical aspect of music related to the composition. Part I or Part II (or both) must be presented in a public recital or lecture.

Candidates selecting this thesis option must be accepted by the composition faculty into MUS 6620 – Seminar in Music Composition and are subject to additional composition area requirements. This option is not regarded as equivalent to a Master of Music in Composition degree; it is a research degree with a composition component as part of the scholarship.

C) Lecture/Recital + Thesis Essay
This thesis option has two parts. Part I is a full-length lecture/recital with accompanying program notes. Part II is a significant essay dealing with some historical, theoretical, or analytical aspect of music, related to the recital.

Candidates selecting this option must be accepted by the studio area faculty into MUS 6000 – Applied Music and are subject to additional studio area requirements. This option is not regarded as equivalent to a Master of Music in Performance degree; it is a research degree with a performance component as part of the scholarship.
D) Creative Project + Thesis Essay
This thesis option has two parts. Part I is a substantial creative project (e.g., multi-media project, computer program, CD recording, or web site) approved by the department, and written under the guidance of a faculty member. Part II is a significant essay dealing with some historical, theoretical or analytical aspect of music related to the project. Part I or Part II (or both) must be presented in a public lecture.

Admission requirements for the M.A. in Music Program:
1. Successful completion of Bachelor of Music degree (or Bachelor of Arts in Music).
2. A minimum undergraduate GPA of 3.00.
3. A minimum GPA of 3.25 for all music theory, history, and aural skills courses, with no grade less than a “C” at the 1000-level and no grade less than a “B” at the 2000-level or above.
4. A portfolio of three scholarly papers which demonstrate the ability to conduct research and write at a level appropriate for a Master’s Thesis.

Master of Arts in Music (Accelerated)
This is an accelerated degree program (ADP) which combines a Bachelor of Music degree (or a Bachelor of Arts in Music) with a Master of Arts in Music. To begin the program, qualified undergraduate music students can be admitted into the accelerated degree program and take approved graduate-level coursework in history and theory. These courses count as advanced placement toward the M.A. degree and can be used to substitute for Theory/History and Professional Music elective requirements in the B.M. In addition, undergraduates admitted to dual enrollment status with the Graduate College, may take additional graduate-level courses for graduate credit only (i.e. counting toward the M.A., but not toward the B.M.). Following completion of the Bachelor’s degree, the student can apply for admission into the Master’s program and typically complete the remaining graduate coursework in their fifth year.

Admission Requirements for ADP Status:
Applicants to the accelerated degree program may be submitted by students meeting the following requirements:

1. A minimum GPA of 3.0 based on at least 30 undergraduate credit hours earned at Western Michigan University.
2. A minimum GPA of 3.25 in core music theory, history, and aural skills courses completed at the time of application, with no grade less than a “C” at the 1000-level and no grade less than a “B” at the 2000-level.
3. A Personal Statement in which the student discusses their reasons for choosing the program and their primary area of interest (e.g. history, theory, etc.). Also, outline career goals, and identify those skills and knowledge areas they feel must develop in order to achieve those goals.

Application must be submitted to the Chair of the Academic Area. The deadline is February 15 to be eligible to enroll in graduate courses in the following fall semester; October 15 to be eligible to enroll in graduate courses in the following spring semester. Applicants who are in their final semester of completing the core may apply for provisional admission pending successful completion in accordance with requirement 2 above.

Students may also apply through the Office of Admissions-Graduate Admissions. After admission, the student’s record will indicate the ADP status. Please note that acceptance by the university does not guarantee admission into the ADP program.

Continuation of ADP Status:
Students admitted to ADP status can continue to enroll in approved graduate-level courses provided that they continue to meet the following requirements:

1. A minimum undergraduate GPA of 3.0 overall (music and non-music) courses.
2. A minimum GPA of 3.25 for all core music theory, history, and aural skills, with no grade less than a “C” at the 1000-level and no grade less than a “B” at the 2000-level.
3. Completion of any stated prerequisites for the specific courses.
4. No grade less than a “B” earned for all graduate-level courses to be applied to the Master’s degree.

Eligibility will be verified by the submission of WMU transcripts following each semester.

Dual-Enrollment Admission:

A senior may also apply to Admissions for dual-enrollment admission if they meet the following requirements:

1. A minimum GPA of 3.0 or better for the two years prior to admission date.
2. No more than 15 credit hours remaining for completion of the Bachelor’s degree.

Once granted dual-enrollment status, the student may enroll in approved graduate-level coursework which would apply toward the Master’s degree only. No graduate credit earned in this way may be used to meet undergraduate requirements.

Application to Candidacy in the M.A. in Music Program:

The following are the application requirements for the final year of the Master's degree:

1. Successful completion of the Bachelor of Music degree (or Bachelor of Arts in Music).
2. A minimum GPA of 3.0.
3. A minimum of 12 graduate credit hours in music, including MUS 6100 (or equivalent), with no grade less than a “B”.
4. A portfolio of three scholarly papers (from previous coursework) which demonstrate the ability to conduct research and write at a level appropriate for a Master’s thesis.
5. A Master’s thesis proposal which discusses the thesis topic and outlines the coursework completed to date and the remaining courses to be taken to prepare for the thesis and complete the degree.

Applications must be submitted to the Chair of the Academic Area by February 15 of the senior year. It is recommended that a student seek out a thesis advisor in the fall of the senior year to ensure adequate time to prepare the proposal.

Master of Music
Advisors: David S. Smith (music-grad@wmich.edu), Room 2132, Dalton Center
Brian Wilson (brian.wilson@wmich.edu), Room 2305, Dalton Center

The Master of Music is designed to enhance the student's teaching, performing, research, and creative abilities in music. The School of Music offers course work leading to a Master of Music degree in five different areas of concentration: Composition, Conducting, Music Education, and Music Therapy, Performance. Western’s School of Music is accredited by the National Association of Schools of Music and all areas of concentration carry curriculum approval from that accrediting association. The Music Therapy program is approved by the American Music Therapy Association.

Admission Requirements
A Bachelor of Music degree, or its equivalent, including 60 semester hours of acceptable work in music, is required for admission. Students are admitted to graduate study in music on the basis of transcripts. Exceptions to admission requirements may be granted if competency can be demonstrated through Proficiency Examinations. Admission to
the School of Music does not imply that the student will be permitted to pursue a specific area of concentration (performance, composition, etc.). Program of study will not be determined until Proficiency Examinations are taken and the student has completed 6-10 semester hours of course work. At that time a recommendation for degree candidacy will be approved if the student has demonstrated a sufficient level of scholarship and musicianship.

Proficiency Examinations are administered prior to entry to the graduate music program. Areas of examination include performance, music history/literature, music theory, music therapy, functional piano, and conducting (including aural skills). The areas in which the student will be tested are determined by the choice of area of concentration.

Program Requirements
The Graduate Coordinator/Advisor in the School of Music works closely with each student in planning and implementing a degree program which will accommodate the student's professional needs and interests and, at the same time, will realize the full value and depth of the University's graduate offerings. The student's needs are determined by an evaluation of the results of Proficiency Examinations and a review of the first 6-10 semester hours of course work taken. After this evaluation and review, the Graduate Coordinator/Advisor provides information to the student regarding probable success in the degree program and any time limitation that may apply to the student's completion of degree requirements. The program of study in each of the five areas of concentration is as follows:

Composition (Minimum of 30 hours)

Admission Requirements/Procedures
Proficiency Examinations in theory, history/literature, and placement interview-auditions in piano, composition, electronic composition, musical acoustics, and counterpoint. Before the student will be admitted to this area of concentration, the composition faculty must review and approve the student's prior compositional work.

Concentration requirements
1. Required courses:
   MUS 6100 - Introduction to Research in Music Credits: 3 hrs.
   MUS 6620 - Seminar in Composition Credits: 6 hrs.
   MUS 7000 - Master's Thesis Credits: 6 hrs. Including oral exam.

2. Cognate music studies:
   Applied music, music education, history/literature, theory, jazz studies (9-12). Must include at least one 6000-level course.

3. Electives to make a total of at least 30 semester hours. Must include a 6000-level music theory and a 6000-level music history course, unless already required in the program

4. Proficiency in keyboard must be demonstrated, but course work may not apply to degree.

Conducting (Minimum of 31 hours)

Admission Requirements/Procedures
1. Bachelor's degree in music or its equivalent including sixty (60) semester hours of acceptable work in music.

2. Two years of conducting experience in public school or equivalent experience recommended.

3. A DVD or videotape (VHS) demonstrating the applicant's conducting skill must be received on or before February 1. Applicants who pass this initial screening will be invited for a conducting audition prior to March 15.

4. A live audition will be administered on the Western Michigan University campus by three full-time members of the conducting faculty, with one being outside the applicant's conducting area. Applicants will a) conduct an appropriate University ensemble on a work or on works to be selected in consultation with the appropriate conducting faculty member; b) demonstrate aural perception and score reading skills; and c) Choral applicants must
demonstrate keyboard competency, singing proficiency, and diction proficiency (English, French, Italian and German).

~ Applicants will be informed of their audition results within ten (10) days of their audition date by the Coordinator of Graduate Studies in Music. Applicants must be accepted to the conducting program prior to their first semester of enrollment.

5. The Proficiency Examinations in music history/literature and theory must be completed prior to the applicant's first semester of enrollment. Applicants must achieve a passing score in each area of the examination. Remediation may be prescribed as a result of deficiencies in any of the audition/Proficiency Examination areas. Undergraduate courses prescribed to remedy deficiencies will not count toward degree requirements.

Concentration Requirements
1. Core Requirements:
   - MUS 6100 - Introduction to Research in Music: 3 hrs.
   - MUS 6640 - Form in Music: 2 hrs.
   - MUS 6700 - Seminar in Musicology: 2 hrs. or MUS 6790 - Composers: 2 hrs.
   - MUS 6900 - Graduate Recital: 2 hrs. Including oral exam.

2. Area Requirements:
   - MUS 5300 - Advanced Choral Conducting: 2 hrs.
   - MUS 5310 - Advanced Instrumental Conducting: 2 hrs.
   - MUS 5670 - Orchestration: 2 hrs.
   - MUS 5810 - Choral Music Literature: 2 hrs. or MUS 5820 - Wind Music Literature: 2 hrs.
   - MUS 6000 - Applied Music: 1-4 hrs. 2 semesters
   - MUS 6070 - Conducting Master Class: 1 hr. 4 semesters

3. Cognate:
   Six (6) hours of course work in a secondary area of specialization to be determined in consultation with the candidate's major professor and graduate coordinator. To be chosen from the applied, composition, theory, history/literature, jazz, or music education areas. Cognate must include at least one 6000-level course.

Music Education (Minimum of 30 hours)

Admission Requirements/Procedures
A Bachelor of Music degree, or its equivalent, with a major in music education, and a teaching certificate are required for admission. Proficiency Examinations in theory and history/literature.

Concentration Requirements
1. Required courses:
   - MUS 6110 - Introduction to Empirical Research in Music: 3 hrs.
   - MUS 6420 - Philosophy of Music Education: 2 hrs.
   - MUS 6500 - Seminar in Music Education: 2 hrs.
   And Either:
   Culminating option (choose a, b, or c)
   a) MUS 6810 - Research in Musical Behavior: 2 hrs. Every student is required to register for one of these culminating projects, each of which includes an oral exam. For students anticipating doctoral studies, a thesis is strongly recommended.
   or
   MUS 6910 - Special Project in Music Education: 2 hrs. Every student is required to register for one of these culminating projects, each of which includes an oral exam. For students anticipating doctoral studies, a thesis is strongly recommended.
   b) MUS 7000 - Master's Thesis: 6 hrs.
   c) Eight (8) hours of pre-approved graduate courses, including written comprehensive exam.

2. Electives in music education (5-8).
3. Cognate music studies:
Theory, history/literature (8-10).

4. Electives to make a total of 30-36 semester hours. Must include a 6000-level music theory and a 6000-level music history course, unless already required in the program.

Music Therapy (Minimum of 30 hours)

Admission Requirements/Procedures
A Bachelor of Music degree or its equivalent (60 hours of music courses) and a major in music therapy are required for admission. Students who have a Bachelor of Music degree, but do not have a major in music therapy, may complete the required undergraduate courses, including the six-month internship, for Board Certification while the graduate program is in progress. This undergraduate credit, however, will not apply to the graduate degree. Equivalency requirements may be obtained from the Director of Music Therapy in the School of Music.

Upon entrance to the program, the student will take Proficiency Examinations in theory, history/literature, and functional piano. Information derived from these examinations plus that derived from the audition, transcripts, and initial interviews will be used to determine the program of study.

Concentration Requirements
1. Required courses:
MUS 6110 - Introduction to Empirical Research in Music Credits: 3 hrs.
MUS 6800 - Seminar in Music Therapy Credits: 2 hrs.
MUS 6810 - Research in Musical Behavior Credits: 2 hrs.
MUS 7000 - Master's Thesis Credits: 6 hrs. The student must have completed the six-month internship required for Board Certification prior to enrolling in MUS 7000, Master's Thesis, and MUS 7120, Professional Field Experience.)
MUS 7120 - Professional Field Experience Credits: 2-12 hrs.

2. Elective music courses (Credits: 6 – 9 hours).

3. Non-music electives (Credits: 6 - 9 hours)
Electives must be selected from one of the following departments and including at least one course in statistics:

Performance (Minimum of 30 hours)

Admission Requirements/Procedures
Proficiency Examinations in theory, history/literature. The performance Proficiency Examination will determine if the student will be permitted to pursue this major area of concentration. Sight-reading may be requested. Vocal majors must demonstrate piano skills and a proficiency in French, German, and Italian diction. Deficiency course work will not apply toward the degree.

Concentration Requirements
1. Required courses:
MUS 6000 - Applied Music Credits: 1-4 hrs. (4 semesters)
MUS 6100 - Introduction to Research in Music Credits: 3 hrs.
MUS 6900 - Graduate Recital Credits: 2 hrs. Including oral exam.

2. Cognate music studies:
Composition, music education, history/literature, theory, jazz studies (9-12). Must contain at least one 6000-level course.
3. Ensemble requirements:
A minimum of two (2) credits of chamber ensembles and two (2) credits of conducted ensembles. (Keyboard majors are required a minimum of two (2) credits of chamber ensembles.) A maximum of six (6) credits of ensembles may be applied toward the Performance degree requirements.

4. Electives to make a total of at least 30 semester hours. Must include a 6000-level music theory and a 6000-level music history course, unless already required in the program.
Theatre

Joan Herrington, Chair
Main Office: 1105 Gilmore Theatre Complex
Telephone: (269) 387-3224
Fax: (269) 387-3222

Cheryl Bruey
Jay Berkow
James Daniels
Micha Espinosa
Matthew A. Knewtson
Mark Liernmann
Gwen Nagle
Greg D. Roehrick
Von H. Washington
College of Health and Human Services

Earlie Washington
Dean

Richard Long
Associate Dean

Jeanine Bartholomew
Director of Academic and Student Services

Academic Units:
College of Health and Human Services
   Evaluation
   Interdisciplinary Health Services
   Interdisciplinary Health Sciences
Blindness and Low Vision Studies
Bronson School of Nursing
Occupational Therapy
Physician Assistant
   Alcohol and Drug Abuse
   Clinical Trials Administration
   Holistic Health Care
Social Work
   Gerontology
Speech Pathology and Audiology
Blindness and Low Vision Studies

James Leja, Chair
Main Office: 4464 CHHS Bldg.
Telephone: (269) 387-3455
Fax: (269) 387-3567
URL: http://www.wmich.edu/hhs/BLVS/index

Robert Wall Emerson
David Guth
Helen Lee
Richard Long
Paul Ponchillia
Susan Ponchillia
Annette Skellenger
Jennipher Wiebold

The Department of Blindness and Low Vision Studies offers four master's degree programs. The programs in Orientation and Mobility and in Vision Rehabilitation Therapy are approved by the Association for Education and Rehabilitation of the Blind and Visually Impaired. The program in Rehabilitation Counseling is accredited by the Council on Rehabilitation Education.

It is the vision of the department to strengthen our leadership positions in personnel preparation and research in order to enhance the seamless integration of individuals with visual impairments into their desired roles in society and to facilitate their socio-economic and vocational equality.

Our mission is to provide instruction, conduct research, and offer professional service in an effort to prepare students to serve individuals with visual impairments. We are dedicated to the science of best practice, the responsible use of human and economic resources, the advancement of people with disabilities in society, and the delivery of quality rehabilitation and education services worldwide.

The programs are designed to prepare individuals for entry-level positions in Orientation and Mobility, Rehabilitation Teaching, Rehabilitation Counseling/Teaching, and Teaching Children Who Are Visually Impaired/Orientation and Mobility in public and private blindness agencies, in schools, and in rehabilitation facilities. The Orientation and Mobility and the Vision Rehabilitation Therapy programs require 37 and 39 semester hours of course work respectively. The Rehabilitation Counseling/Teaching program requires 76 semester hours of course work. The Teaching Children Who Are Visually Impaired/Orientation and Mobility with a Concentration in Teaching Children program requires 65 semester hours. Curriculum guides for the four programs are available from the Department office.

The professional preparation for students entering any of the four degree programs described below includes academic study on campus, simulated disability experiences, a research project, field practice or comprehensive examination, and an off-campus supervised clinical field experience. Federal grants from the United States Department of Education provide students enrolled in most masters' programs with tuition assistance and stipend awards.

Admission Requirements
Admission to a Master of Arts program in the department is based upon undergraduate academic record, appropriate goals, related experience, interpersonal and communication skills, emotional maturity, and functional independence. Prior to consideration by the M.A. Admissions Committee, applicants are required to complete a departmental application obtained from the Department of Blindness and Low Vision Studies and a Graduate Self-Managed Application obtained from the Office of Admissions. Upon admission, an applicant is assigned an advisor who will assist in preparing a Program of Study.
Not every applicant who meets minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants.

The department strives to create an atmosphere conducive to the concerns of diverse populations, to integrate these concerns into programs and course offerings.

**Admission Procedures**
1. Complete the “Graduate Admission Application” available from WMU Admissions or online at the www.wmich.edu website.
2. Complete the “Blindness and Low Vision Studies Department Application” available online at http://www.wmich.edu/hhs/blvs/graduate/MA%20option%20form.doc or by contacting the department.
3. Submit a two-page biographical essay that includes reasons for pursuing a degree in blindness and low vision studies, professional goals, an assessment of personal assets and liabilities, and one’s life experiences that might be useful in a helping professional.
4. Submit Departmental Recommendation Forms completed by three professionals knowledgeable of the applicant’s academic and/or the applicant’s professional experience.
5. WMU Graduate Admission require two copies of all university transcripts. Minimum grade point average for regular admission is a 3.00 in the last 60 credit hours of undergraduate study.

**Distance Education**
The department offers the opportunity for pursuing some of its degrees via distance education format. Currently, the programs in Teaching Children with Visual Impairments, Orientation and Mobility, and Vision Rehabilitation Therapy are available. Most didactic lecture-based courses are presented in alternative format, while the experiential skills courses are compressed into one or two summertime sessions. All distance education offerings require off-campus clinical field experience. Admission requirements for students pursuing distance education include providing assurances of agency or school support. Contact the respective program advisor for details.

**Master of Arts in Orientation and Mobility**
Advisor: David Guth,
The 37 hour Orientation and Mobility (OMOM) degree program prepares specialists who teach adults who have blindness or low vision to travel independently, safely, and efficiently in their homes and communities. One may also earn dual degrees in Orientation and Mobility and in Vision Rehabilitation Therapy, which can be accomplished in two additional semesters.

**Master of Arts in Orientation and Mobility with Children**
Advisor: Annette Skellenger
The 37 hour Orientation and Mobility degree program prepares Orientation and Mobility specialists to work with children (OMCM). This program includes instruction in the typical O&M curriculum to prepare children to move independently, safely, and efficiently in their homes and communities. In addition, this degree provides focus on areas such as body image, sensory-motor skills, and concept development. Graduates are eligible to become certified orientation and mobility specialists. Students may choose to combine this degree program with preparation as a teacher of children with visual impairments to attain dual competency.

**Master of Arts in Vision Rehabilitation Therapy**
Advisor: Susan Ponchillia
The 39 hour Vision Rehabilitation Therapy degree program prepares a practitioner to offer instruction to people who have blindness or low vision in the following skills for employment and independent living including communications, adapted computer technology, personal management, home management, minor household repairs,
and leisure time activities. One may also earn dual degrees in Orientation and Mobility and in Vision Rehabilitation Therapy, which may be accomplished in two additional semesters.

*Leads to eligibility for national certification
Bronson School of Nursing

Linda Zoeller, Director
3468 CHHS Bldg.
Telephone: (269) 387-8150
Fax: (269) 387-8170

Faculty teaching in the M.S.N. program
Sharie Falan
Patricia Fuehr
Eva Jerome
Joni Jones
Mary D. Lagerwey
Juanita Manning-Walsh
Judith Sadler
Kimberly Searing
Mary Stahl
Mary Ann Stark
Sally Sutkowi
Joyce Thompson

The Western Michigan University Bronson School of Nursing offers a Bachelor of Science in Nursing (BSN) and a Master of Science in Nursing (MSN).

Master of Science in Nursing
Advisor: Joyce Thompson
3470 CHHS Bldg.

The graduate program in nursing builds upon the baccalaureate entry into professional nursing, providing both academic and practice experiences basic to obtaining competencies for advanced professional nursing. The purpose of the Master of Science in Nursing (M.S.N.) program is to prepare nurses with advanced education in the discipline of nursing, in scholarship, and in a selected area of study. The purposes of the program are timely in the local and national context are 1) the preparation of nurse teachers who are able to serve as faculty, practice preceptors, and teachers of other health professionals in a variety of settings, and 2) the preparation of nurse leaders/managers who can function in complex health care systems.

The graduate program in advanced professional nursing has been designed to meet accreditation requirements of the national accreditation nursing bodies. The M.S.N. program received initial accreditation from the Commission on Collegiate Education in Nursing (CCNE) in September 2008. Emphasis on learning within an interdisciplinary environment is included in keeping with recommended competencies for health professionals from the Institute of Medicine (IOM).

The master’s degree program requires a minimum of 36 credit hours taken within 12 courses (three hours each). There are eight core courses required of every student and four courses within the selected area of study, and two electives. The thesis option is also available, but not required, and would require an additional 6 graduate credits for completion. The program is designed to offer two courses per semester over a 2-1/2 year time period. Practicum experiences with an assigned faculty or community mentor will be chosen to best meet the needs of individual learner’s career plans.

Admission Requirements
Applicants must complete both the university’s Graduate College application and the School of Nursing application forms. Applications must be complete before the personal interview is scheduled. Individuals are admitted for study beginning only in the Fall semester. Admissions decisions are announced on a continuous basis beginning March 15, though applicants are encouraged to apply as early as possible. Not every applicant who meets the minimum
admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants. Specific admission requirements are outlined below.

1. Evidence of an earned B.S.N. or B.S. degree with a major in nursing from an accredited baccalaureate program in nursing. Nurses with a baccalaureate degree in another discipline will be considered on an individual basis.
2. A grade point average of at least 3.0 out of 4.0 in the last 60 credit hours of the undergraduate nursing program;
3. Completion of the following Prerequisites:
   - An undergraduate course in descriptive and beginning inferential statistics
   - An undergraduate course in informatics
4. Current license to practice nursing in one of the 50 states, territories, or country of origin;
5. Submission of scores on TOEFL for international students with minimum score of 600;
6. Evidence of personal and professional qualifications for graduate study, as reflected in
   - Three letters of reference from individuals able to comment on the applicant’s most recent nursing employment, academic record, and potential for success in advanced professional nursing
   - Responses on written essay related to advanced professional nursing
   - Current resume or curriculum vitae
   - Evidence of proficient nursing practice (e.g., certification)
   - Responses during personal interview, including professional and behavioral characteristics required for nursing practice
7. Other assessment procedures as indicated.

Program Requirements
Specific program requirements are as follows:
1. At the time of admission, the individual must declare the selected area of study desired (teaching or leadership/management).
2. Completion of a minimum of 12 graduate courses, including eight core graduate courses and four specialty courses.
3. As an option, a master’s thesis (NUR 7000) may be completed for an additional 6 graduate credits by students who demonstrate research aptitude and interest.
4. The student must manifest behavioral and professional characteristics which, in the judgment of the school faculty, will support the development of her/his professional competence.
The Department of Occupational Therapy offers three graduate programs which lead to the Master of Science: The 4+1 program for entering freshman and transfer students, the graduate professional program (entry level) for non-therapists—i.e., those with a post-professional baccalaureate degree in an area other than occupational therapy—and the graduate program for certified therapists (advanced level).

Master of Science in Occupational Therapy

The Graduate–Professional Program
This twenty-eight month program of combined academic and clinical education is intended for the student who has a baccalaureate degree in an area of study other than occupational therapy. It consists of 70 semester hours with 40 semester hours in professional undergraduate courses and 30 semester hours of graduate courses. The Graduate Professional Program is offered through the main campus in Kalamazoo, Michigan and through the WMU Grand Rapids, Michigan campus.

Accreditation Status
The Kalamazoo entry-level occupational therapy master’s degree program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. ACOTE’s telephone number c/o AOTA is (301) 652-AOTA. Graduates of this program will be eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of the exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination. Note that a felony conviction may affect a graduate’s ability to sit for the NBCOT certification examination or attain state licensure.

The Grand Rapids entry-level occupational therapy master’s degree program has applied for accreditation and has been granted Developing Program Status by the Accreditation Council for Occupational Therapy Education (ACOTE), of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. ACOTE’s telephone number c/o AOTA is (301) 652-AOTA. Once accreditation of the program has been obtained, its graduates will be eligible to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of the exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination. Note that a felony conviction may affect a graduate’s ability to sit for the NBCOT certification examination or attain state licensure.
Admission Requirements
To be eligible for regular admission to this program, each applicant must present evidence of the following criteria:

1. An earned bachelor's degree from an accredited college or university.
2. A cumulative grade point average of 3.0 or better in the most recent 60 hours of undergraduate and graduate academic course work.
3. Official transcripts for all relevant college work.
4. All prerequisite courses must be completed prior to the first enrollment in the program.

Because admission is considered competitive, the academic criteria listed above should be considered as minimum standards.

Please note the following:

1. In the admission process, a formula is employed that assigns points to grades and to the completed essays. Admission to the program is based on the compilation of all points.
2. Admission to the University does not guarantee admission to the professional occupational therapy curriculum. Official transcripts from all colleges and universities attended must be sent to the University Admissions Office in time to be processed prior to the department deadline.
3. Occupational therapy is a profession that is regulated on national and state levels, and everyone who wishes to practice as an occupational therapist is required to pass the NBCOT Certification Exam after graduating from an accredited program.
4. Individuals who have been convicted of a felony or who have been charged with a felony and convicted of a misdemeanor, while not prohibited from taking the NBCOT certification examination, may not be able to practice based on state laws.

Prerequisite Course Work
The following courses (with the WMU equivalent noted in parentheses) are required prerequisites for enrollment in the professional occupational therapy courses; some prerequisites may be elected as self-instructional courses (*).

All prerequisite course work must be completed before the first semester of the occupational therapy program. All prerequisite courses must be completed with a grade of “C” (2.00) or better. Students are allowed to repeat only one course. For the course that is repeated, only one repeat is allowed.

1. Human Growth and Development through the Life Span (OT 2250* or equivalent).
2. A course in orientation to occupational therapy (OT 2020*).
4. Eight credit hours of biological sciences, including human anatomy and physiology (BIOS 1910, or BIOS 2110 and 2400).

Program Requirements
The graduate professional program consists of 7 semester hours in the following areas:

1. Completion of 40 hours of professional occupational therapy education. This 40-hour sequence of undergraduate professional education is designed to prepare the student to treat clients with various disabilities, and to be eligible for certification.

2. Completion of 30 hours of graduate courses. This 30-hour component includes the following:
   OT 5730 - Assistive Technology  Credits: 3 hrs.
   OT 6000 - Advanced Clinical Practice in Occupational Therapy  Credits: 3 hrs.
   OT 6330 - Administration of Occupational Therapy  Credits: 3 hrs.
   OT 6400 - Theory in Occupational Therapy  Credits: 3 hrs.
   OT 6600 - Research in OT I  Credits: 3 hrs.
   OT 6610 - Research in OT II  Credits: 3 hrs.
   OT 6860 - Graduate Seminar  Credits: 3 hrs.
   OT 6900 - Fieldwork Level II  Credits: 3-12 hrs.
   OT 6910 - Fieldwork Level II  Credits: 3-12 hrs.
   Elective  Credits: 3 hrs.
Fieldwork requirement
Six months of full-time fieldwork is required as a student therapist in two clinical practice sites (one being the medical model site and one being a community model site). Western Michigan University utilizes fieldwork sites primarily in Michigan and the mid-west states with some sites throughout the United States. All fieldwork must be completed within 24 months following the completion of academic course work.

Benchmarks for all students admitted to the Occupational Therapy Graduate Professional Program

1. Students will complete all required OT courses with a grade of "C" or better.
2. Students may repeat only one required professional course, and that course only once, to attain a grade of "C" or better. Note that a withdrawal from a course is considered an enrollment.
3. Students who fail to attain a grade of "C" or better in a professional course will be placed on departmental probation.
4. Students who do not successfully complete departmental probation will be dismissed from the program.
5. A second unsuccessful enrollment will result in dismissal from the program.

Fieldwork Remediation and Continuance Policy

1. Successful completion of OT 4750 is a prerequisite for OT 4820.
2. Students who receive a failing grade in fieldwork:
   The following courses are subject to the academic policy for remediation and continuance, and will repeat the experience in a similar setting.

   level I
   (OT 4750, OT 4820)
   OR

   level II
   (OT 6900, OT 6910) are subject to the academic policy for remediation and continuance, and will repeat the experience in a similar setting.

3. Successful completion of all professional and prerequisite course work is required for:
   OT 6900

4. Successful completion of all undergraduate course work required for graduation is required for:
   OT 6900 and OT 6910.

5. Students who fail fieldwork, or who are asked to withdraw are subject to review in accordance with the departmental remediation and continuance policy.

The Graduate Post Professional Program
This advanced level program for the certified occupational therapist leads to the Master of Science in Occupational Therapy and is designed to enhance growth in professional leadership potential by developing skills in administration, program development, theories and practice, professional issue identification and resolution, and research.

Admission Requirements
To be eligible for regular admission to this program, each applicant must present evidence of the following criteria:

1. An earned bachelor's degree from an accredited college or university.
2. A cumulative grade point average of 3.0 or better. (By policy of the Graduate College, students admitted with less than a 3.0 GPA are admitted on probation.)
3. Certified as an occupational therapist by NBCOT.
Because admission is considered competitive, the academic criteria listed above should be considered minimum standards.

**Admission Procedure**
To apply, the applicant must complete both the Graduate College application for admission and the departmental application. Admission is on a rolling basis.

**Program Requirements**
This 30-hour component includes the following:

- **OT 5730** – Assistive Technology Credit: 3 hrs.
- **OT 6000** - Advanced Clinical Practice in Occupational Therapy Credits: 3 hrs.
- **OT 6400** - Theory in Occupational Therapy Credits: 3 hrs.
- **OT 6600** - Research in OT I Credits: 3 hrs.
- **OT 6610** - Research in OT II Credits: 3 hrs.
- **OT 6860** - Graduate Seminar Credits: 3 hrs.

**Grade Requirements**
An overall grade point average of at least 3.0 (A=4.0) is required for graduation from the graduate program. Students will complete all required departmental courses with a grade of "C" or better. Subsequent courses cannot be taken until prerequisites are completed successfully. Honor point deficiencies acquired in credits earned at Western Michigan University cannot be made up by any credits earned at another university.

Please read the WMU Graduate College Catalog for information on other requirements for the completion of a master's degree.
Physician Assistant

Eric Vangsnes, Chair
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Denise Bowen
Sherrill Busboom
Amy Curtis
William Fenn
Dennis Simpson
Philip Walcott

Master of Science in Medicine in Physician Assistant

Advisor
3434 CHHS Bldg.

The Department of Physician Assistant offers a professional entry-level program leading to the Master of Science in Medicine in Physician Assistant. This program is solely intended as a full-time professional education curriculum, accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), allowing graduates to sit for the Physician Assistant National Certifying Examination (PANCE) administered by the National Commission on Certification of Physician Assistants (NCCPA), required by all states for licensure to practice.

Admission Requirements
To be eligible to apply for admission, prospective applicants must present evidence of the following:
1. Earned academic bachelor’s degree from an accredited institution, with a grade point average of 3.0 or better in the most recent 60 hours.
2. Completion of one course in developmental psychology (lifespan).
3. Completion of one upper division course in biochemistry.
4. Completion of one course in microbiology.
5. Completion of one course in human anatomy.
6. Completion of one upper division course in human physiology.
7. Completion of one course in introductory statistics.
8. Completion of 1,000 hours of patient contact hours acceptable to the department.

Due to the competitive nature of this program, the above should be viewed as minimum standards.

Admission Procedures
To apply, the applicant must complete both the University's Application for Admission and the application to the Central Application Service for Physician Assistants (CASPA). Applications must be completed not later than December 1 of each year for the full-time class beginning the following fall. Selected candidates will be invited for a personal interview. Admissions decisions will be based on weighted scoring of academic history, healthcare experience, and information gleaned from essays, letters of recommendation, and interviews, and will be limited by available space.

Program Requirements
The graduate professional program consists of 95 semester hours taken in prescribed sequence over a continuous 24-month time period. The first year consists of 48 hours of primarily classroom education, while the second year consists of 47 hours of primarily clinical placement education. Each student must complete all MDSC course offerings (listed elsewhere) and satisfy all the department's professional standards criteria to meet graduation requirements.
Graduate Certificate in Alcohol and Drug Abuse
Advisor:
Jan Dekker, Room 2125, College of Health and Human Services

Western Michigan University’s Specialty Program in Alcohol and Drug Abuse (SPADA) provides professional education for all those who are interested in the substance abuse field. Multidisciplinary in nature, SPADA provides a balanced orientation to theory and practice, considers a breadth of contemporary issues, and emphasizes a variety of methods for dealing with the problems of substance abuse.

SPADA offers a graduate certificate in alcohol and drug abuse which can be earned as an independent certificate or can be used to supplement graduate education in related fields such as biological sciences, counseling psychology, occupational therapy, psychology, public administration, social work, and sociology, as well as other related disciplines. Specifically, the graduate certificate may be earned in one of three ways: as a post-baccalaureate certificate, in conjunction with a graduate degree, or to complement an earned graduate degree. Courses are offered at the main campus as well as the regional sites of Grand Rapids, Battle Creek, Lansing and Traverse City. For more information about which courses are being offered, please visit the websites for these perspective regional sites.

Graduates of SPADA are prepared to serve the profession in ways that address the personal, social and economic costs of the use and abuse of psychoactive substances.

Required Courses: 21 credit hours
ADA 6110 – Physical Aspects of Addictive Drugs Credits: 3 hours
ADA 6115 – Applied Neuropsychopharmacology of Addictive Drugs Credit: 3 hours
ADA 6330 – Special Populations in Addiction Credits: 3 hours
ADA 6700 – Field Practicum Credits: 3 hours

Select one of the following:
ADA 6060 – Causes of Substance Abuse Credits: 3 hours
or
CECP 6340 – Causes of Substance Abuse Credits: 3 hours
or
SWRK 6530 – Causes of Substance Abuse Credits: 3 hours

Select one of the following:
ADA 6340 – Recovery Oriented Systems of Care Credit: 3 hours
or
CECP 6360 – Recovery Oriented Systems of Care Credit: 3 hours
or
SWRK 6550 – Recovery Oriented Systems of Care Credit: 3 hours

Complete one of the following three course options:
ADA 6400 – Co-Ocurring Disorders and Addictions Credit: 3 hours
ADA 6410 – Addiction in Family Systems Credits: 3 hours
ADA 6420 – Clinical Supervision of Addiction Services Credits: 3 hours
Social Work, School of

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Barbara Barton
Donald Cooney
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Gary Mathews
Robin McKinney
Sandra Murphy
John Nielsen
Linda Reeser
Mary Ellen Sartoris
Yvonne Unrau
Karen VanDeusen
Earlie Washington
Ineke Way
Susan Weinger
Donna Weinreich
Robert Wertkin

Master of Social Work
Director of Admissions and Student Services
Nancy McFadden
Room 4424, CHHS Building
(269) 387-3201

The Master of Social Work program in professional social work is designed to prepare students for direct service and leadership positions in the field of social welfare. The program is accredited by the Council on Social Work Education. The curriculum is structured as an integrated and sequential set of conceptual and practicum educational experiences. In preparing students for practice, the School of Social Work recognizes a variety of theoretical paradigms and values and welcomes the challenge and benefits of intellectual and philosophical diversity. It supports students in their personal synthesis of these paradigms and values. In addition, the School stresses development and dissemination of social work knowledge and practice skills.

The graduate program prepares students for specialized and advanced levels of practice. It also incorporates a foundation curriculum, built on a liberal arts base. The foundation has two goals: To provide students with the knowledge, values, and skills leading to an informed perspective on the profession of social work and its service delivery systems, and to prepare students for entry into the concentrations.

There are two concentrations in the graduate program: 1. Interpersonal Practice and 2. Policy, Planning, and Administration. These concentrations build on the foundation curriculum and are the vehicles through which students learn the specific advanced skills of their chosen area of concentration.

The Interpersonal Practice concentration prepares students to become informed practitioners and leaders in working with individuals, families, and groups. Practice courses in the concentration are designed to provide expert competencies in interpersonal practice. Such competencies include the ability to assess situations, carry out
appropriate interventions, and evaluate one's own practice framework, strategies, and results when working with clients.

The Policy, Planning, and Administration concentration has four essential components: Organizational leadership and management, program planning, analytic tools and technology, and policy practice. The desired outcome of the Policy, Planning, and Administration concentration is the empowerment of practitioners to facilitate changes in organizational, community, and societal structures and processes that contribute to a just distribution of opportunities and resources.

In addition, graduate social work students have an opportunity to participate in social work-related graduate certificate programs. Included are Alcohol and Drug Abuse (SPADA), Holistic Health Care, Nonprofit Leadership and Administration, and School of Social Work.

Admission Requirements
Applicants for graduate study in social work must complete two applications---one for the WMU Office of Admissions (the Graduate Self-Managed Application) and one for the School of Social Work. Both applications can be obtained from the Office of Admissions or the School of Social Work on the main campus and the Southwest and Grand Rapids regional sites. Admission is granted for the Summer I session only for applicants to the Kalamazoo full-time advanced standing program; for Summer II session only for applicants to the Grand Rapids part-time advanced standing program; and for the Fall semester only for applicants to the full-time and extended study programs. The deadline for filing applications is January 15 for advanced standing and March 15 for full-time or extended-study programs each year. In addition to the University’s requirements for admission to a master’s degree program, the following criteria will be considered:

1. Evidence of adequate academic preparation for graduate study in social work. This includes consideration of both undergraduate performance and area of study, liberal arts academic background, and proficiency in professional writing.
2. Evidence of personal qualifications considered desirable for successful social work practice. These include motivation for a human service profession, social work related volunteer or employment experience, personal maturity, and leadership ability.
3. Students who have earned a Bachelor of Social Work from a CSWE accredited program within six years of application may apply to the 39-hour, 12-month Advanced Standing Program. Applicants must meet the following criteria:
   - B.S.W. degree from a CSWE accredited program that is not more than six years old
   - Overall grade point average of 3.0
   - No more than one B.S.W. course below a “B.” Any B.S.W. course below a “B” will require retaking an equivalent course in the M.S.W. curriculum
   - One year of full-time post-B.S.W. human service work experience is recommended
   - One of the three letters of recommendation must be from the applicant’s B.S.W. program field instructor or faculty liason.

Students will be admitted each spring into the Interpersonal Practice concentration and the Policy, Planning, and Administration concentration. Applicants may seek admission to either the campus program or the Grand Rapids Regional Site (off-campus) program. The application deadline for the Kalamazoo full-time, advanced standing program and the part-time Grand Rapids program is January 15. Kalamazoo advanced-standing students begin their program in the Summer I session and proceed for one full year. Grand Rapids advanced-standing students begin their program in the Summer II session and proceed for two calendar years. All classes at the Grand Rapids campus convene during evening hours. Due to the rigorous demands of this program, those who plan to be employed full-time should apply to the Grand Rapids part-time advanced standing program.

Program Requirements
1. The successful completion of 60 hours of credit is required for the conventional master's degree in social work. The degree program includes the following course credits:
   - Required Foundation Courses in the School of Social Work (21 hours)
   - Required Concentration Courses in the School of Social Work (15 hours)
   - Elective Courses in Social Work or in other University departments (6 to 9 hours)
• Field Education (12 hours: 6 in the Foundation and 6 in the Concentration)
• Advanced Social Work Research (SWRK 6420 for 3 hours or SWRK 6860 for 6 hours)

2. Students admitted to the advanced standing program complete a minimum of 39 credit hours of required graduate courses.

3. Field Education: Graduate field education is an essential component of social work education and provides students with an opportunity to integrate classroom learning with practice in the field. All full-time and extended-study students are required to complete two field placements for a total of 900 hours over a two-year period during the fall and spring semesters. All advanced-standing students are required to complete one field placement for a total of 596 hours starting in the summer II session and continuing through the fall and spring semesters. The field placement is considered a required course and is taken concurrently with required course work according to the advanced-standing, full-time or extended plan of study. Students are also encouraged to explore the certificate programs, some of which have concurrent field placement requirements.

4. First-year students with a B.S.W. may elect to take proficiency exams in SWRK 6100, 6300, 6310, 6330 and 6400 during the summer prior to the start of the graduate program. Students have the option of receiving full credit for those courses in which proficiency exams are passed. To obtain information regarding exam eligibility criteria, contact the Director of Admissions and Student Services in the School of Social Work.

5. One academic year of full-time study (up to 30 credit hours), including first-year field education, may be accepted for transfer from other accredited graduate schools of social work if the credits were earned with degree status. Anyone seeking admission as a second-year student should request an application packet and complete all application procedures. Transfer credit and equivalency will be reviewed by the student’s advisor and the School’s curriculum committee upon the student’s request.

6. Students may take up to 9 hours of credit under Non-degree Guest status before admission is offered. An additional 3 hours of credit under non-degree status (up to a maximum total of 12 non-degree hours) may be taken and transferred in after the student receives an offer of admission. Please contact the Director of Admissions and Student Services in the School of Social Work for information regarding available classes for Guest Students.

Program Options

Kalamazoo Full-time and Tri-County (Grand Rapids) Part-time Advanced-standing Program

Students who have earned a Bachelor of Science of Social Work degree from a CSWE accredited program within six years of application may apply to the 39 credit hour, 12 month full-time or 24 month part-time advanced-standing program.

The full-time advanced-standing program was established in 1996 and the part-time advanced-standing program in 2006. Both programs consist of 39 credit hours. In the advanced-standing programs, all foundation courses are waived. However, students take two specially designed bridge courses that prepare them for entry into the advanced concentrations. They also take an advanced standing field education course consisting of 96 practicum hours during the summer II session.

Kalamazoo Full-time Program

The 60 credit hours graduate program requires 20 months of study. Depending on the concentration chosen, students take 12-15 credit hours during each semester and six credit hours in the summer I session. Due to the rigorous demands of this program, those who plan to be employed full time should apply to the extended-study program.

Sequentially ordered, the courses are scheduled to complement and build upon field education experiences. Students must follow the program schedule as written by the School of Social Work. Variations are possible only with advisor approval.
Kalamazoo Extended-study Program

Financial and other considerations may make full-time study difficult for some students. To meet this need, the school offers an extended-study program whereby students may complete the M.S.W. degree with course work in 32-34 months. Students attend evening classes and are expected to meet the same course and degree requirements as full-time students. Applicants may seek admission to either the Kalamazoo campus or the Tri-county Regional Site program.

Field education takes place fall and spring semesters in the second and third years of the program. For those employed in a human service agency, it may be possible to arrange for work-study field practicum in the location that would satisfy one of the two required placements.

Tri-county (Grand Rapids) Extended-study Program

Classes at this location, offered in the evening, are primarily foundation and interpersonal practice courses. Grand Rapids students who wish to pursue a Policy, Planning and Administration concentration must travel to the Kalamazoo campus for the five concentration classes. Field placement is available in the Grand Rapids area.

Financial aid is available to a limited number of qualified students. Information regarding the various types of available assistance may be obtained by contacting the Office of Student Financial Aid or the Director of Admissions and Student Services in the School of Social Work.
Speech Pathology and Audiology

Ann A. Tyler, Chair
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Jan Bedrosian
Teresa Crumpton
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Yvette Hyter
Jerrold Jackson
Bharti Katbamna
Gary D. Lawson
Lisa LeBlanc
Nickola W. Nelson
Donna Oas
Mary Peterson
Helen Sharp
Stephen M. Tasko
Heidi Vogley

Master of Arts in Speech Pathology and Audiology

Jerrold Jackson,
Room 4489, CHHS Bldg.

Ann A. Tyler,
Room 4470, CHHS Bldg.

The Master of Arts in Speech Pathology and Audiology, which is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association (ASHA), provides academic and practicum experiences basic to the development of clinical competence in the evaluation and treatment of language, speech, and hearing disorders. Students are generally expected to meet the standards for certification of clinical competence by ASHA. The master's degree program consists of a minimum of fifty credit hours. Supervised clinical practice is required during every term of full-time registration and includes at least two assignments to off-campus practicum sites, in addition to regular evaluation and therapy responsibilities in the Charles Van Riper Language, Speech and Hearing Clinic.

Admission Requirements
Students are admitted for full-time study beginning only in the fall semester. The application deadline is February 1 of the year in which the student wishes to enroll for the fall semester; applicants are advised to complete the application process as early as possible. Not every applicant who meets minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants. Specific admission requirements are outlined below:
1. A grade point average of at least 3.0 in the last 60 credit hours of undergraduate study.
2. Completion of an undergraduate major, or equivalent undergraduate course sequence, in Speech-Language Pathology and Audiology. The student who has not completed these requirements as an undergraduate will need to do so before enrolling in departmental graduate courses.
Undergraduate preparation must include courses that provide information on basic human communication processes. There should be at least one course in phonetics, one course in speech and language development, and one course in the science of speech and hearing.

Undergraduate preparation must also include at least twelve semester hours (or equivalent) in courses that provide basic information on speech, language, and hearing disorders.

3. Completion of course work or transcript credit in each of the following areas: (a) biological science, (b) mathematics, (c) physical sciences; and (d) behavioral sciences. The student who has not completed this course work as an undergraduate will need to do so as a graduate student in order to meet ASHA standards for clinical certification.

4. A grade point average of at least 3.00 in all undergraduate speech pathology and audiology course work.

5. Submission of scores on the General Test of the Graduate Record Examination.

6. Evidence of personal and professional qualifications considered necessary for successful professional practice, as reflected in:
   a. Three letters of recommendation from individuals able to comment on the applicant's academic and practicum achievements and potential for successful graduate work.
   b. Statement of purpose for seeking graduate degree.

Program Requirements
Specific program requirements are as follows:
1. Completion of a core of required graduate courses specified by the department. The usual sequence of courses takes one calendar year plus two semesters (six terms of enrollment).
2. ASHA certification requirements are normally a part of the master's degree program. The student must complete at least 375 hours of supervised clinical practicum plus 25 hours of observation for a total of 400 hours. Under certain circumstances a student may have reason to seek the master's degree without qualifying for ASHA clinical certification; students interested in such an arrangement must consult with their graduate advisors.
3. The student must manifest emotional and behavioral characteristics which, in the judgment of the departmental faculty, will support development of his/her professional competence. Behavior to the contrary may lead to dismissal from the program.
4. As an option, a Master's thesis (six hours) or one or more independent research registrations may be applied toward degree requirements by students who demonstrate research aptitude and interest. Students anticipating study toward a doctoral degree are expected to evidence the ability to conduct a research project.

Doctor of Audiology
Advisor: Gary D. Lawson
Room 4488, CHHS Bldg.

A four-year post baccalaureate program in audiology provides academic and practicum experiences leading to the Doctor of Audiology (Au.D.) Degree. The program prepares practitioners in audiology and meets the accreditation standards of the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA). Students who complete the program will meet the standards for certification of clinical competence by ASHA. The Au.D. program consists of a minimum of 118 credit hours. Supervised clinical practice is required during every term of full-time registration and includes at least four assignments to off-campus sites in addition to assignments in the Charles Van Riper Language, Speech and Hearing Clinic. Assignments to at least one off-campus site is for full-time clinical practice.

Admission Requirements
For applicants with a bachelor’s degree from an accredited college or university. Students are typically admitted for full-time study beginning only in the fall semester. The application deadline is February 1 of the year in which the student wishes to enroll for the fall semester; applicants are advised to complete the application process as early as possible. Not every applicant who meets minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants. Specific admission requirements are outlined below:

1. A grade point average of at least 3.0 in the last 60 credit hours of undergraduate study
2. Undergraduate preparation including completion of:
a. course work or transcript credit in each of the following areas: the life sciences, the physical sciences, mathematics, and the behavioral and/or social sciences;
b. course work or transcript credits that provides information on basic human communication processes (course work or transcript credit in speech and language development and the science of speech and hearing); and
c. course work or transcript credit in speech, language and hearing disorders.

Note: The course work noted above is typically included in undergraduate degree programs in audiology and speech-language pathology. Students with undergraduate degrees in other disciplines are encouraged to apply and may be able to include some of this preliminary course work in their graduate programs. Previous volunteer or practicum experience in a healthcare setting is recommended.

3. A grade point average of at least 3.0 in all undergraduate audiology and speech-language pathology course work.
4. Competitive scores on the General Test of the Graduate Record Examination.
5. Evidence of personal and professional qualifications considered necessary for successful completion of a doctoral program and for successful professional practice, as reflected in:
   a. three letters of recommendation from individuals able to comment on the applicant’s achievements and potential; and
   b. statement of purpose for seeking graduate degree.

For applicants holding a graduate degree with emphasis in audiology from an accredited college or university.
1. Grade point average of at least 3.00 in the previous graduate work.
2. Competitive scores on the General Test of the Graduate Record Examination.
3. Evidence of personal and professional qualifications considered necessary for successful professional practice, as reflected in:
   a. three letters of recommendation from individuals able to comment on the applicant’s achievements and potential for successful graduate work and professional practice in audiology; and
   b. the applicant’s responses to a departmental questionnaire-application.

Applicancy Requirements
Applicants must submit official transcripts of all previous undergraduate and graduate work, scores on the General Test of the Graduate Record Examination, three letters of recommendation, evidence of any professional certification or licensure, and written responses to a departmental questionnaire-application. Admission is based on evaluation of the requested credentials, the availability of doctoral committee members, and availability of practicum. Not every applicant who meets minimum admission requirements can be admitted; the department reserves discretion in admission of the most highly qualified applicants.

Although applicancy status is typically determined before students begin graduate study at Western Michigan University, the audiology faculty will conduct regular reviews all doctoral students in audiology to monitor progress toward completion of the program. Any student not making satisfactory progress may be dropped from the program with the approval of the department’s Academic and Clinical Education Committee. The faculty review will consider grades, practicum performance, progress toward completion of the scholarly project, and demonstration of personal and professional characteristics suitable for professional practice in audiology.

Candidacy Requirements
For applicants with a bachelor’s degree from an accredited college or university. Doctoral students should submit a permanent program of study form to their advisor prior to beginning the fourth year externship. At the beginning of the externship the student should have successfully completed the research tools requirement, all required course work, and the scholarly project, including the project defense. Exceptions will be considered on an individual basis. To be admitted to candidacy, the student must have satisfactorily earned or completed the following:
1. An overall grade point average of 3.00 or better;
2. Approval of the scholarly project by the project committee. (The project advisor will award a final grade of credit or no credit for the project based on a majority vote of the committee to approve or disapprove the project. In the event of failure, the project may be revised and re-defended once, and this must be done within one term following the end of the externship;
3. All research tool requirements;
4. All course requirements other than professional field experience, and independent research;
5. A passing score on formative assessments associated with academic courses and practica;
6. A summative examination to be determined by the faculty (Examination for the ASHA Certificate of Clinical Competence in Audiology) and/or an examination administered by the department with a passing score; and
7. A three-year residency (three years of full-time study).

For applicants holding a graduate degree with emphasis in audiology from an accredited college or university. Candidacy requirements will be similar to those for applicants with a bachelor’s degree, but the practicum requirements and the examination for the CCC-A will typically have been completed prior to enrollment in the Au.D. program.

Graduation Requirements
Most students will enter the program with a bachelor’s degree. These students must complete 118-122 semester credit hours, including a minimum of 64 semester hours of classroom instruction, the specified credits in independent research (typically 6 credit hours), and 48-52 semester hours of practicum. Students must successfully complete the academic and practicum requirements and the examination for the ASHA Certificate of Clinical Competence in Audiology as part of the Au.D. program.

A shorter program leading to the Au.D. is possible for students holding a master’s degree earned from an accredited college or university and ASHA’s Certificate of Clinical Competence in Audiology (CCC-A) or state licensure in audiology. Students who hold the master’s degree will already have successfully completed the course and practicum requirements and have received a passing score on the examination for the ASHA CCC-A. The length of this shorter degree program, typically at least 40 and not more than 50 semester hours beyond the master’s degree, will be determined by the advisor in consultation with the student and will depend upon the content and currency of the course work taken for the master’s degree and the needs of the student. The typical program includes credits covering professional practice, research tools, independent research, and at least four credit hours of practicum.
Interdisciplinary Programs – College of Health and Human Services

Doctor of Philosophy in Interdisciplinary Health Sciences
Nickola W. Nelson Ph.D., Director
2584 CHHS Bldg.
Telephone: (269) 387-7990
Fax: (269) 387-8912

The Doctor of Philosophy in Interdisciplinary Health Sciences (I.H.S.) is designed to prepare Health and Human Service professionals for careers in research, teaching, and leadership. Several national commissions, including the Pew Health Professions Commission and the National Commission on Allied Health, have challenged higher educational institutions to respond to fundamental changes in health and related systems by designing more flexible curricula, removing disciplinary boundaries, and increasing research. The College of Health and Human Services has met this challenge by developing a three-strand curriculum, which incorporates an interdisciplinary core curriculum, strong research preparation, and the use of innovative pedagogy. In order to meet the needs of working professionals, the courses are delivered through a hybrid of e-learning modalities and intensive on-campus weekend and summer sessions. Students enter the program as a cohort once every two years (in even years) and can complete the didactic sequence in two years. Comprehensive examinations and dissertation research can be completed in an additional two to three years.

Admission requirements
Students are admitted to the program as a cohort every two years, in even numbered years, based on a competitive written application and face-to-face interview process. Applicants to the program are expected to meet, at a minimum, the entrance requirements of the Graduate College and document:

1. Two years of professional experience in the health and human service field.
2. Master’s degree with a minimum graduate grade point average of 3.25/4.00.
3. Completion of the Graduate Record Examination.
4. Completion of at least one graduate level course in statistical methods, with a minimum of a grade B within the last 10 years (can be completed after acceptance and prior to first enrollment).
5. Computer competency in databases, word-processing, spreadsheets, and Internet use.

Application must be made both to the Office of Admissions—Graduate Admissions and to the I.H.S. program within the College of Health and Human Services. The application form is available at the program’s website http://www.wmich.edu/hhs/IHS/index.htm. It asks for information about the student’s academic and clinical background, and an essay outlining career and research goals. Letters of recommendation from three academic or professional sources also are required. Finalists participate in on-campus interviews. Approximately 12 applicants are invited to enroll with each cohort, including no more that three from any one discipline.

Program Requirements
Required courses are presented in sequential order, so that the didactic portion of the curriculum can be completed in two years. Students are required to:

1. Attend a week-long, on-campus Orientation session in Summer II session of the student’s year of admission during which they are familiarized with the program expectations and the University’s resources and complete their first course.

2. Complete, with a 3.25 grade point average, a total of 63 semester hours of credit as follows:
   a. Interdisciplinary core (12 hours)
   b. Research and statistics module (16 hours)
   c. Research practicum (6 hours)
   d. Pedagogy module (8 hours)
   e. Disciplinary cognate (9 hours) (The student designs the cognate to meet his/her own learning objectives, with advisor input and approval by the Academic Affairs Committee. Cognate courses may be taken at other accredited graduate institutions.)
f. Dissertation research (12 hours)

3. Successfully complete a 4-part Comprehensive Examination. Comprehensives are performance-based and include the submission of (1) a research paper for publication, (2) policy analysis (with oral defense), (3) competitive grant proposal, and (4) teaching portfolio describing development and delivery of a university level course.

4. Maintain residency by registering for coursework at Western Michigan University during at least two sessions per year.

5. Successfully complete a doctoral dissertation. The dissertation entails completion, written documentation, and oral defense of a research project approved by the student’s dissertation committee. Students may elect to use the traditional five-chapter format or prepare three stand-alone journal articles, presented as the dissertation, with additional introductory and conclusions chapters.

Financial Assistance
The College of Health and Human Services offers financial support through half-time doctoral research associateships for a limited number of students during their academic coursework. Contact the program director for details.

Certificate Program in Holistic Health Care (18 hours)
Advisor: Jan Dekker
Main Office: 2132 CHHS (Oakland Drive Campus)
Email: jan.dekker@wmich.edu
Telephone: (269) 387-2656

The Graduate Certificate Program in Holistic Health Care is designed to provide education and experience in holistic approaches to health. Multidisciplinary in nature, it includes eighteen semester hours of study in holistic health care and related topics.

The program introduces students to complimentary and alternative modalities that promote optimal health and healing, at both an academic and experiential level. Students are exposed to a variety of topics in this rapidly growing field and are encouraged to carefully evaluate the research on various evidence-based holistic practices. Students are also presented with a framework for wellness that helps them to make informed lifestyle choices and establish respectful, cooperative relationships with others and the environment.

The Holistic Health Care Graduate Certificate Program offered through the College of Health and Human Services, is intended to supplement graduate education in related fields such as: counseling education and counseling psychology (CECP), psychology, social work, nursing, occupational therapy, healthcare management consultation, physical education and recreation. It also complements many other graduate areas such as business, public administration, theology, and medicine.

Graduates can use their holistic perspective and competencies to enhance their effectiveness in the responsibilities associated with their chosen professional fields or to equip themselves for new job opportunities in health and human service settings that emphasize holistic approaches.

In addition to providing a foundation in current holistic views regarding health care, the curriculum is designed to support the process of integrating knowledge into practice by fostering the cultivation of qualities of self-awareness and sensitivity to others.

Admission Requirements
Admission forms are available online. Please contact the office for additional admission requirements.

Program Core Requirements (18 hours)
1. Required Courses (9 hours)
HOL 5310 - Introduction to Holistic Health Credits: 3 hrs.
HOL 6500 - Seminar in Holistic Methods Credits: 3 hrs
HOL 6700 – Professional Field Experience Credits: 1-6 hrs.
OR
HOL 7120 - Professional Field Experience or equivalent credit from a related graduate degree program with approval of the Holistic Health Faculty Advisor.

2. Electives in Holistic Health (9 hours)
The Graduate College offers a wide variety of programs leading to the master's, specialist, and doctoral degrees.

The Master of Arts is awarded in numerous programs in the following general categories within the College of Education: Career and Technical Education; Counseling Psychology; Counselor Education; Educational Leadership; Educational Technology; Evaluation, Measurement, and Research; Family and Consumer Sciences; Human Resources Development; Literacy Studies; Marriage and Family Therapy; Physical Education; Practice of Teaching; Socio-Cultural Studies of Education; Special Education; and Teaching Children Who Are Visually Impaired.

A number of other programs at Western also lead to the Master of Arts: Anthropology, Applied Economics, Art Education, Communication, Comparative Religion, Earth Science, English, English with an Emphasis on Professional Writing, English with an Emphasis on Teaching, Geography, History, Mathematics, Mathematics Education, Medieval Studies, Orientation and Mobility, Orientation and Mobility with Children, Philosophy, Physics, Political Science, Science Education, Sociology, Spanish, Speech Pathology and Audiology.

The University also offers the Master of Science in Accountancy, Applied and Computational Mathematics, Biological Sciences, Chemistry, Computer Science, Engineering (Civil, Computer, Electrical, Industrial, and Mechanical), Engineering Management, Exercise and Sports Medicine, Geosciences, Manufacturing Engineering, Medicine, Nursing, Occupational Therapy, Paper and Imaging Science and Engineering, and Statistics, as well as the Master of Business Administration, Master of International Development Administration, Master of Fine Arts (in Art and in Creative Writing), Master of Music, Master of Public Administration, and Master of Social Work. An accelerated Master of Science program is offered in Mechanical Engineering. In addition, dual Master of Arts programs (leading to two master's degrees) are available in Rehabilitation Counseling/Teaching and in Teaching Children Who Are Visually Impaired/Orientation and Mobility for Children and joint degree programs are offered in Doctor of Laws and Master of Public Administration and Juris Doctor and Master of Business Administration.

The Specialist in Education is offered in Educational Leadership.

The Doctor of Education is offered in Special Education, and the Doctor of Audiology is also offered.

The Doctor of Philosophy is offered in Applied Economics; Biological Sciences; Chemistry; Computer Science; Counseling Psychology; Counselor Education; Educational Leadership; Electrical and Computer Engineering; English; Evaluation; Evaluation, Measurement, and Research; Geosciences; History; Industrial Engineering; Interdisciplinary Health Sciences; Mathematics; Mathematics Education; Mechanical Engineering; Paper and Imaging Science and Engineering; Physics; Political Science; Psychology; Public Administration; Science Education; Sociology; Spanish; and Statistics.

Please refer to the Graduate Catalog for further information on these programs, as well as on admission and graduation requirements. Or visit the Graduate College website http://www.wmich.edu/grad

Doctor of Philosophy in Evaluation

The Doctor of Philosophy in Evaluation is a collaborative effort of four colleges - Arts and Sciences, Education, Engineering and Applied Sciences, and Health and Human Services - to address society’s growing need for Ph.D.-level evaluation specialists who can serve effectively in a variety of disciplines. Society’s organizations need evaluation to identify and assign priorities to unmet needs; assess progress and identify areas requiring improvement; assess costs and seek ways to make services more efficient and cost-effective, document and assess outcome, provide credible reports to accrediting/oversight bodies, and, in general, maintain accountability.
Graduating students will receive their degree from one of the participating colleges, usually the one where their major advisor resides. Each student will have an advisory committee that will tailor that student’s program of study to meet her or his assessed needs and interests, drawing from all courses and other learning experiences available in the four colleges. While each specific course in a student’s program may vary from another student’s, each student’s curriculum will be designed to ensure that the student meets a common set of core competencies in evaluation.

A major focus of the interdisciplinary program will be to develop thought leaders in evaluation, individuals with deep knowledge of evaluation theory, methodology, and practice, with superior skills in practical and critical thinking, and a knack for seeing opportunities for innovation improvement.

Admission Requirements

1. Go to the WMU Admissions Office website and apply online for the program. Alternatively, you can call the office (269) 387-2000 or e-mail them, tell them you want to apply for the Interdisciplinary Ph.D. in Evaluation, and ask them to send you the self-managed application package.
2. On the admission application form, under "program of study desired," write "IEV" (this is the code for Interdisciplinary Evaluation). Otherwise, just follow all instructions. If you have questions, please direct them to the Admissions Office.
3. The admissions application packet includes instructions for sending materials to TWO locations: the Admissions Office and the department. The application going to the Admissions Office should be completed as stated in the instructions. (Students who are currently at WMU do NOT need to send in transcripts, or GRE scores - if they are already on file.)
4. The application form coming to the department should be addressed to: Ph.D. in Evaluation (interdisciplinary), The Evaluation Center, Western Michigan University, Kalamazoo, MI 49008-5237 (be sure to include this 4-digit zip code extension to ensure timely delivery).
5. The departmental application form should contain:
   - A completed WMU application form (included in the self-managed application packet unless applying online)
   - A completed program application form (available in Word or in PDF)
   - Photocopies or unofficial copies of graduate and undergraduate transcripts—these must indicate any degrees completed (official transcripts are required with the packet to the Admissions Office)
   - A current curriculum vita
   - GRE general scores (if you have taken the GRE in the past and still have an official copy of your scores, you may submit that; scores are not required to be less than 5 years old). Please note that there is no waiver of this requirement even if you already have a graduate degree from a U.S. university. There is no minimum GRE score required; however, entry into the program will be competitive and will be based partially on GRE scores. If you feel that one or more of your scores is not an adequate gauge of your ability, please submit additional supporting evidence (e.g., a writing sample or technical report). Please see the ETS Website for information about scheduling and taking the GRE.
   - A 1000-word essay outlining your career goals and reasons for interest in the program, including any preferences for advisors you would particularly like to work with
   - A recent writing sample on which you are the sole or first author (e.g., a technical report, a publishable paper, or a class project). It is helpful if this provides additional evidence of the abilities we use to judge applications (see the list of selection criteria above)
   - Three letters of recommendation from academic or professional sources (preferably in sealed envelopes with the recommendation writer's signature across the envelope seal; please ask your referees to address the selection criteria)
   - If you are seeking financial support, include a completed doctoral associateship application form and/or a one-page application letter for a research assistantship (please indicate your areas of interest, skills, and knowledge; and availability for work)

Open to Graduate Students Only - Please refer to the Graduate College section for course descriptions

EVAL 7100 Independent Research 2-6 hrs.
EVAL 7110 Readings in Doctoral Specialization 3 hrs.
EVAL 7120 Professional Field Experience 2-9 hrs.
EVAL 7300 Doctoral Dissertation 1-12 hrs.
Program Requirements

General Requirements
In order to graduate, you will need to have:
1. Completed at least 90 hours of course work beyond the baccalaureate, with a GPA of 3.25 or better (up to 36 hours may be transferred in from master's level course work on which the student earned a grade of B or better; in exceptional cases an additional 12 units may be transferred in if the student has completed significant study beyond the master's degree). The course work must include:
   - 18-21 credit hours in an approved cognate area
   - 12-18 credit hours of research methods courses (no more than 3 units at the basic graduate level)
   - 35-39 hours of evaluation courses, including, 5-7 hours of required interdisciplinary evaluation courses; 3-6 hours of program/intervention evaluation; 3-6 hours covering the social, political, and cultural context of evaluation; 12-18 hours of specialized evaluation courses; and 9 hours of practical evaluation experience
2. Passed both written and oral comprehensive exams (covering the competencies listed later on this page).
3. Completed successfully 12 hours of doctoral dissertation study, plus an optional 3 hours of independent study in preparation for oral qualifying exams.
4. Written and successfully defended a dissertation that advances the theory, methodology, and/or practice of evaluation.
5. Demonstrated competency in the two required research tools for this program: needs assessment and evaluation. (Students will fulfill this requirement by completing an entire evaluation of a program, policy, system, organization, intervention, or project according to specifications agreed to with their advisory committee. This requirement will usually be fulfilled as part of the practical experience; however, other options are possible in exceptional cases.)
6. Complied with the program's residency enrollment requirements (i.e., 2 semesters of enrollment in at least 6 units of course work per semester within one 12-month period).
7. Received unanimous agreement by the dissertation committee that you have met all the requirements for achieving the Doctor of Philosophy degree.

Competencies
Each student will be required to demonstrate knowledge of general evaluation theory, methodology, and practice issues, as well as the ability to apply evaluation to his/her chosen area(s) of specialization. The minimum required competencies in evaluation (and brief explanations) are listed below. Specific colleges may have additional requirements.

- Evaluation-Specific Logic and Methodology (definition of relevant values, needs assessment, generation of comprehensive criterion checklists, checklist methodology, setting standards, use of evaluative rubrics, synthesis of findings on multiple criteria, ranking vs. grading vs. scoring, subjectivity/arbitrariness vs. use of expert judgment, bias vs. preference)
- Evaluation Theory and Models/Approaches (descriptive research vs. true evaluation, goal-based/management-oriented vs. goal-free/consumer-oriented, expert judgment-based, participatory/empowerment vs. independent, theory-based/explanatory, evaluative inquiry, CIPP Model)
- Social, Political, and Cultural Context of Evaluation (psychology of evaluation, politics of evaluation, “kill the messenger,” stakeholder analysis, diversity and multicultural issues)
- Evaluation Planning, Budgeting, Contracting, and Management (defining key tasks, estimating costs, market-based pricing, use of contracting checklists, project management)
- Database Design and Management (setting up a database; use of Excel, Access, and SPSS or SAS; merging data files; generating reports; running analyses)
- Evaluation Reporting and Utilization (effective analysis of client information needs, appropriate communication strategies for different audiences, report writing and layering, oral presentation skills, linking evaluation to decision making, maximizing evaluation utility)
- Metaevaluation and Evaluation Standards (use of professional standards and checklists for evaluation and metaevaluation)
- History and Nature of the Evaluation Profession (the roots of the evaluation profession, its development to date, future directions)
**Project Work**

Students must complete 9 credit hours of practical evaluation experience (usually all EVAL 7120; may include 3 units of EMR 6520). This typically involves taking a series of increasingly challenging roles on Evaluation Center projects as the student progresses through his or her degree. Top students will have the experience of directing a nationally significant project before they leave WMU. This hands-on learning will enable students graduating from the program to “hit the ground running” as competent practitioners.
Course Descriptions
By College
College of Arts and Sciences

Africana Studies
AFS 6000 Seminar in Black Studies  In depth study of specific areas of Black American life and culture. Since Black Americans have been involved in the total life of the nation, special study is called for. There are at least two dimensions which lend themselves to special study. The first and most obvious is that of unusual achievement by persons of known and identifiable African ancestry. A second and more elusive dimension is Black “influence”—positively and negatively—in American life and culture.  1-6 hours.

American Studies
AMS 5000 Special Topics in American Studies  This course provides group study of special topics in American Studies. Topics will vary with the training and scholarship of the professor or professors involved.  Prerequisites: At least 18 hours of courses approved in the American Studies Program, including AMS 2000 and AMS 3000, or graduate-student status in any participating department. 3 hrs.

AMS 5900 Interdisciplinary Theory and Methods  This course will allow students to understand the development of American Studies from the early history and literature syntheses to the symbol and myth school to the social and cultural studies approaches that have drawn their techniques from anthropologists and other social and natural scientists.  Prerequisites: At least 18 hours of courses approved in the American Studies Program, including AMS 2000 and AMS 3000, or graduate-student status in any participating department. 3 hrs.

AMS 5980 Independent Study  An individual project is available to advanced students by special permission from the director of American Studies.  Prerequisites: At least 18 hours of courses approved in the American Studies Program, including AMS 2000 and AMS 3000, or graduate-student status in any participating department. 1-3 hrs.

Anthropology
ANTH 5000 Topics in Archaeology  A consideration of the prehistory of a particular geographic area (e.g., the southwestern United States, the Circumpolar) or of selected theoretical problems (e.g., artifact typology, prehistoric ecology). The topic to be studied will be announced each semester.  Prerequisites: Junior/senior status; 12 hours of Anthropology; and ANTH 1100, 2100, or consent of instructor. 3 hrs.

ANTH 5020 The Origins of Agriculture  An intensive study of the human transition from hunting-gathering to cultivation during the post-Pleistocene period. Topics to be treated include: both archaeological and botanical models to explain these processes; the comparison of agricultural systems in various parts of the world; the geographic distribution and biosystematics of selected cultivars; and the cultural systems which have arisen from the economic foundations of plant domestication.  Prerequisites: Junior/senior status; 12 hours of Anthropology; and ANTH 1100, 2100, or consent of instructor. 3 hrs.

ANTH 5050 Social Archaeology  Investigates the mechanisms of social, political, and economic integration within human social groups by analyzing and interpreting the material world. Focus will vary between communal and complex social forms.  Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2100 or consent of instructor. 3 hrs.

ANTH 5060 The Archaeology of Gender  Gender constructs, a critical organizing principle for human interaction, are becoming an important focus for archaeological investigation. This course will explore the multiple ways archaeologists have attempted to use gender relations as a means to gain insights into individual societies. We will follow gender as an archaeological concept historically and conceptually. Participants will explore the attempts
and successes of a gendered understanding of the archaeological record. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2100. 3 hrs.

ANTH 5070 Gender Theories This course examines the dialogue between anthropologists, feminist theorists, and post-structuralists over the course of the 20th century. Beginning with path-breaking works by Margaret Mead and Simone de Beauvoir the course teases out the role that ethnographic scholarship has played in some of the major intellectual debates of the late 20th century, including subjectivity/objectivity and sex/gender. 3 hrs.

ANTH 5100 Human Biology An advanced course in the method and theory involved in the study of the biology of Homo sapiens. Aspects of Human Biology that will be studied from a biocultural perspective include growth and development, infectious disease, nutrition, adaptation to stressful environments, genetics, and demography. Prerequisites: Junior/senior status and 12 hours of Anthropology, including ANTH 2500 or consent of instructor. 3 hrs.

ANTH 5200 Anthropological Theory Students are introduced to anthropological theory as a means of raising questions that are significant to the social sciences in general. The importance of theory to ethnographic research and a critical understanding of the social world will be emphasized. The course will also focus on the historical and political roots of anthropology through comparing select theorists from the early British, French, and American schools. Special attention will be given to current theoretical controversies that continue to define the political and ethical concerns of working with human subjects. Prerequisites: Junior/senior status and 12 hours of Anthropology, including ANTH 2400 or social science equivalent. 3 hrs.

ANTH 5210 Nationalism, Invented Tradition, and Self-Identity This course introduces students to the theoretical debates concerning nationalism by evaluating the works of authors such as Anderson, Hobsbawm, and Gellner and by examining select case studies of nationalism in a number of world areas. Emphasis will be on nationalism as a cultural as well as political process so its relation to invented tradition and self-identity will be highlighted. Prerequisites: ANTH 2400, graduate standing or consent of instructor. 3 hrs.

ANTH 5220 Poverty, Power, and Privilege This course critically explores anthropological approaches to understanding poverty as well as racial, class, and sexual inequalities. The course emphasizes inequalities within the contemporary United States, but situates those dynamics within an analysis of global processes and conditions. Particular emphasis is placed on analyzing ways that everyday practices, neoliberal social policies, economic restructuring, resistance efforts, and institutional practices play in producing, challenging, and maintaining structural violence. Feminist, post-structuralist, Marxist, cultural studies, and hegemony studies approaches are covered. Both ethnographic case studies and theoretical analysis are explored to inform collaborative required applied community based anthropological research on power, race, and class relations within the Kalamazoo region. 3 hrs.

ANTH 5250 Spirits and Medicine This course explores how healing is linked to belief and in turn how beliefs about well-being, illness, and treatment are culturally prefigured. Students will examine healing practices in the United States and cross-culturally as they relate to belief and consciousness, including western medicine and alternatives, spirit possession and trance, and methods of divination. Prerequisite: ANTH 2400. 3 hrs.

ANTH 5300 Research Methods An in depth consideration of the research methods and tools of the modern anthropologist. An emphasis on methods and techniques of data collection, statistical analysis, and graphic presentation of a wide variety of anthropological data. Prerequisites: Junior/senior status and 12 hours of Anthropology. 3 hrs.

ANTH 5310 Medical Anthropology This course starts with the premise that illness is as much cultural as it is a biological phenomena and explores the ways in which different societies, including our own, perceive and manage illness and disease. The primary focus of the course is to understand the intersection of cultural, social, and political variables in the experience of illness and the practices associated with healing. Specific topics include ethnomedicine, spiritual healing, primary health care in the developing world, the symbolism of
modern medicine, the political economy of health care and AIDS, and inequality. Prerequisites: Junior status, 12 hours of anthropology, and ANTH 2400 or consent of instructor. 3 hrs.

ANTH 5350 Ethnohistory and Archaeology of the Caribbean  The Caribbean is a region of some 30 million people living in the islands stretching from the Bahamas to Trinidad, as well as the continental enclaves of Belize, Surinam, Guyana, and French Guiana. Despite its great cultural, racial, and linguistic diversity, the Caribbean exhibits certain broad social and economic similarities born of its history of slavery and colonialism. Using a wide range of archaeological, documentary, and ethnographic sources, this course seeks to identify common themes in the cultural history of the Caribbean. We will explore the way Indian, European, African, and Asian cultures merged in the Caribbean to create distinct Creole societies. We will examine culture contact between Europeans and the native peoples of the Caribbean and look at the social and economic impact of sugar production on the region. Most importantly, we will investigate the rise and fall of Caribbean slavery. In the early session, students will be introduced to the Caribbean region. Students will also be given some rudimentary instruction in ethnohistorical methods, emphasizing archaeological contributions to the ethnohistorical approach. Prerequisites: Junior/senior status and 12 hours of Anthropology. 3 hrs.

ANTH 5400 Ethnographic Research Methods  An exploration of the complexity of ethnographic research methods through a practice oriented approach to training in ethnographic approaches. Students learn a range of qualitative research methods as well as the political, ethical, methodological, and theoretical dilemmas of anthropological fieldwork and writing through supervised fieldwork projects as well as classroom assignments. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2400 or consent of instructor. 3 hrs.

ANTH 5450 Topics in Sociocultural Anthropology  An intensive study of the cultures of an area of the world or selected problems. Topic will be announced each semester. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2400 or consent of instructor. 3 hrs.

ANTH 5500 Human Evolution  This course is designed to provide students with an intensive examination of the human fossil record from the initial divergence of the hominid lineage to the origin of modern Homo sapiens. Emphasized in this course will be paleontological theory, issues relating to species definition and recognition, functional anatomical complexes, adaptive processes, and human morphological variation. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2500. 3 hrs.

ANTH 5550 Topics in Biological Anthropology  A consideration of the biological relationships of specific population groups or general problems in human biology (e.g., human genetics, human growth and constitution, palaeopathology, dental anthropology). Topic will be announced each semester. Prerequisites: Junior/senior status, 12 hours of Anthropology, and ANTH 2500 or consent of instructor. 3 hrs.

ANTH 5830 Anthropology and History  The course evaluates the relationship between anthropology and history through reading selected works in each discipline. Theoretical and methodological similarities and differences will be addressed as well as how each discipline writes about the “other”. Special attention will be given to the rhetorical devices employed to make ethnographic and historical accounts convincing and the potential to critical scholarship that the ongoing exchange between the two disciplines offers. Prerequisites: ANTH 2400, graduate standing or consent of instructor. 3 hrs.

ANTH 6010 Seminar in Cultural Anthropology  Intensive study of contemporary issues in sociocultural theory. May be elected as a graduate cognate course by students in other disciplines. Prerequisite: Consent of instructor. 3-4 hrs.

ANTH 6020 Seminar in Archaeology  Advanced study in the major problem areas of prehistoric research. May be elected as a graduate cognate course by students in other disciplines. Prerequisite: Consent of instructor. 3-4 hrs.

ANTH 6030 Seminar in Biological Anthropology  Advanced instruction and research in the principal problem areas in biological anthropology. May be elected as a graduate cognate course by students in other disciplines. Prerequisite: Consent of instructor. 3-4 hrs.
ANTH 6040 Integrating Anthropology This course provides an integrative introduction to major themes that cross-cut the anthropological sub-disciplines. Topics such as the evolution of language, Marxist thought, or race and racism will be explored through a combination of guest lectures, readings of primary literature, and seminar-style discussions. Students will be encouraged to explore the nature of anthropological inquiry and to find the linkages between cultural, biological, and archaeological anthropology. Prerequisite: Graduate standing in anthropology. 3 hrs.

ANTH 6090 Ethnohistory Seminar Ethnohistory is the study of cultures combining research techniques and theoretical approaches from the fields of history and anthropology. This course will survey ethnohistorical research on a hemispheric level, including the United States, Canada, Mexico, Central and South America. We will read works in the areas of culture contact, colonialism, material analysis, historiography, oral history, gender, historical archaeology, ethnography, tribalization, globalization, and modernization. The core of ethnohistory lies in the realization shared by practitioners of the benefits obtained through the use of multiple lines of evidence to study history and culture. Ethnohistorians recognize that documents, archaeological findings, oral histories, and ethnographies can be profitable compared, contrasted, and integrated to elucidate the histories and cultural contexts of groups that have been ignored in conventional historical accounts. Thus, interdisciplinary study is incumbent in ethnohistory. By juxtaposing multiple lines of evidence, the ethnohistorian can at once examine the distant and the local, the general and the particular, binging human experience into better focus. 3 hrs.

ANTH 6900 Archaeological Field School Archaeological investigation of specific problems relating to the prehistory or history of a particular area (e.g., southwest Michigan, Lower Mississippi Valley). Participants will receive instruction in collecting and evaluating background information, creating a research design, and implementing archaeological fieldwork (i.e., logistics, site location survey, mapping, recovering and recording objects from archaeological contexts), and processing and curating data for analysis and interpretation in the laboratory. Prerequisite: ANTH 2100 or consent of instructor. 3-6 hrs.

ANTH 6980 Independent Readings in Anthropology Students may contact a faculty member to undertake independent readings on a specific topic of interest. The student should have some familiarity with the topic in advance. The purpose of the course is to allow the student to gain a greater depth of knowledge in a topic which is not offered in a formal course. Prerequisite: Graduate standing. 1-3 hrs.

ANTH 6990 Independent Research in Anthropology Students may contact a faculty member to conduct research under the guidance of the faculty member. Before the initiation of the research a literature search and a written proposal must be prepared. At the conclusion of the research project, a written report will be submitted to the guiding faculty member. Prerequisite: Graduate standing. 1-3 hrs.

ANTH 7000 Master's Thesis 6 hrs.

ANTH 7100 Independent Research 2-6 hrs.

ANTH 7120 Professional Field Experience Prerequisites: Completion of master’s degree course work, including one methods class. 3-6 hrs.

Arts and Sciences
A-S 6990 Cooperative Education and Practical Training Cooperative education, internship or practical training experience during a semester involves full-time planned and supervised work related to the student’s major or minor and is performed outside the department, unit or university. This work is to be summarized in a written report. Students enrolled in this course will be classified as having full-time student status for the purpose of loan deferments and insurance eligibility. Students may take up to a maximum of six credit hours in A-S 6990. May be repeated for credit. Prerequisite: Departmental approval. 1 – 6 hours

Biological Sciences
BIOS 5120 Environment and Health Problems Human Activities impact the environment and environmental factors impact health. Human environment interactions are often not optimal or without cost. In this course we seek sustainable solutions to environment and health problems. 3 hrs.
BIOS 5180  Endocrinology  A survey of the hormonal integration of organ-system function, including the chemical nature of these secretions, the cellular and biochemical mechanisms of hormone actions, and the endocrine feedback control mechanisms. The regulatory nature of hormones in developmental processes, in adaptation, and in disease processes will be stressed.  Prerequisite: BIOS 3500; biochemistry is recommended.  3 hrs.

BIOS 5240  Microbial Genetics  A lecture/seminar course emphasizing modern microbial genetics, as well as historic keystone experiments. This course focuses on work carried out with bacteria and bacteriophages. Concepts include mutation and selection, recombination and repair, DNA cloning and mutagenesis procedures, regulation of gene expression, differential gene expression in response to environmental stimuli, and genome organizations.  Prerequisites: BIOS 2500 Genetics and BIOS 3120 Microbiology, or consent of instructor.  3 hrs.

BIOS 5250  Microbial Ecology  The objective of this course is to understand the importance of the role and diversity of microorganisms for life on our planet. Students will integrate concepts from various disciplines, including microbiology, ecology, chemistry, geosciences, evolution, genetics, and health sciences. Lecture/seminar format includes computer usage with the web.  Prerequisites: BIOS 2320 or BIOS 3120 (or equivalent) and junior, senior, or graduate student standing; or consent of instructor.  3 hrs.

BIOS 5260  Molecular Biology Laboratory  This course is designed to expose students to techniques that are currently being used to manipulate and analyze nucleic acids. Student will gain extensive hands-on experience with restriction mapping, ligations, bacterial transformations, eukaryotic gene-replacements, gel electrophoresis, non-isotopic hybridizations, as well as application of the polymerase chain reaction (PCR). Experimental design, use of appropriate controls and handling of acquired data will be stressed.  Prerequisites: BIOS 2500 Genetics, BIOS 3120 Microbiology, CHEM 3750 Organic Chemistry I, CHEM 3760 Organic Chemistry Lab I, and junior, senior, or graduate student standing.  3 hrs.

BIOS 5265  Proteins as Biological Machines  A survey of principles of protein sequence, structure, and biological function. The course will review fundamental aspects of proteins, including evolution of amino acid sequence, structure, function, and biophysical properties such as solubility, stability, interactions with other molecules and catalysis. Individual case studies of model proteins that have medical relevance or applications in diagnostic assays, biopharmaceuticals and nanotechnology, will be presented. This course is approved for the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisites: BIOS 1500 and CHEM 1120 and 1130 or permission of instructor.  3 hrs.

BIOS 5270  Cancer Biology  This course will cover advanced topics in cellular and molecular biology of cancer. Topics to be covered will include oncogenes, tumor suppressor genes, cell cycle, and pathology. New and developing treatments for cancer will also be discussed. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisites: BIOS 1500 or permission of instructor. Recommended: CHEM 3550.  3 hrs.

BIOS 5310  Biology of Aging  This course is designed to provide students with an understanding of the aging process. The lectures will emphasize the anatomical, physiological, and molecular changes which occur in cells and organs with aging. Clinical applications are introduced where they provide additional insight into the aging process.  Prerequisite: BIOS 2400 or 3500.  3 hrs.

BIOS 5340  Virology  This course is designed to provide students with the basic understanding of viruses, their structures and replication strategies. Emphasis is placed on host virus interactions leading to disease processes and cellular alterations in mammalian systems. Viruses are considered as miniature model systems to unify biology at the molecular level. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3120; Biochemistry is recommended.  3 hrs.

BIOS 5360  Immunology  This course is designed to provide students with the basic understanding of the mammalian immune system at cellular and molecular levels. This course also covers the role of the immune system both in health and disease, and explores the applications of immunological concepts in a variety of biological and biomedical sciences.  Prerequisite: BIOS 3120; Biochemistry is recommended.  4 hrs.
BIOS 5440 Global Change Ecology  The causes and consequences of global climate change will be the focus of this course. We will examine the most recent predictions about the rate and magnitude of global warming, the extent to which human activities are responsible, and the likely consequences for plants, animals and other components of natural ecosystems, and for agricultural ecosystems and human health. Each topic will include a detailed illustrated outline that summarizes the current evidence, consensus predictions, conclusions, controversies, and uncertainties. The last several weeks will be devoted to additional global change issues, including loss of biodiversity, introduced species, ozone depletion, and acid precipitation. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors.  Prerequisite: BIOS 3010 or permission of instructor.  3 hrs.

BIOS 5445 Human Ecology  Students will examine patterns of distribution and abundance of Homo sapiens and the ecological processes that generate these patterns, through lectures, reading, multi-media, interactive discussion and dissemination of research and understanding. We will also consider the concept of carrying capacity and the dynamics of human population change in relation to the human niche and changing patterns of resource availability. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors.  Prerequisite: BIOS 3010 or permission of instructor.  3 hrs.

BIOS 5450 Chemical Ecology  In this course we will focus on an interdisciplinary appreciation for the ecology of chemically mediated interactions among organisms at different scales of organization from molecules to ecosystems. Students will engage in lectures, reading, multi-media, interactive discussion and hands-on research projects with presentations. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors.  Prerequisite: BIOS 3010 or permission of instructor.  3 hrs.

BIOS 5455 Plant-Herbivore Interactions  Interactions between plants and herbivores provide the foundation processes for most observable ecological patterns. These processes have organized patterns of species diversity through evolutionary history as well as contemporary space. In this class we will examine interactions between plants and herbivores over a wide range of scales, from thrips to elephants, that often control the dynamics of other exploitative, competitive and mutualistic processes both within and among trophic levels. The class is interactive with computer simulations, presentations, a grant-writing exercise and discussion of relevant literature. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors.  Prerequisite: BIOS 3010 or permission of instructor.  3 hrs.

BIOS 5460 Molecular Phylogenetics and Evolution  Molecular Phylogenetics and Evolution is an advanced undergraduate/graduate course designed to provide students with a rigorous exposure to molecular data analysis and literature review. In this course students will learn the principles behind DNA data analysis for evolutionary studies. This will include phylogenetic analyses and studies of molecular evolution. Phylogenetic studies will involve the acquisition of comparative DNA sequence data, sequence alignment, conceptual models of nucleotide substitution, and tree analysis using parsimony, distance, maximum likelihood, and Bayesian methods of tree inference. For the molecular evolution portion of the course, we will investigate selected examples illustrating the effects of natural selection on DNA sequences. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors.  Prerequisite: BIOS 2500 or permission of instructor.  3 hrs.

BIOS 5470 Ornithology  An introductory course that explores both scientific and popular aspects of bird study. Life history, behavior, ecology, and identification are emphasized.  Prerequisite: BIOS 1510.  3 hrs.

BIOS 5535 Freshwater Ecology  This course provides an introduction to the study of interactions between biological communities and their aquatic environments. Lectures and readings introduce the physical, chemical, and biological dynamics of streams, lakes and wetlands. Emphasis is placed on application of fundamental concepts to problems in conservation and management of aquatic systems and species. Laboratory and fieldwork introduce modern methodological approaches to the study of aquatic ecosystems and the organisms that inhabit them. Two day long Saturday field trips are required. Field exercises will be conducted largely in local streams, lakes, and wetlands. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors.  Prerequisite: BIOS 1510 or ENVS 2250.  4 hrs.
BIOS 5590 Neurobiology The substrate of behavior will be examined in this interdisciplinary survey of neural structure and function across molecular, cellular and system levels. There will be a strong emphasis on underlying mechanisms in different animal models. Lecture and discussion will be integrated and supplemented by demonstrations. Topics covered will include: membrane biophysics, synaptic physiology, transduction and signaling in the visual, auditory, chemical and somatosensory systems, reflexes, simple behavior and plasticity. Prerequisites: BIOS 3500; PHYS 1130 and 1140; PHYS 1150 and 1160; CHEM 3550 and 3560 is recommended. 4 hrs.

BIOS 5593 Biological Basis of Learning and Memory Learning and remembering is mediated by the nervous system and is a fundamental biological phenomenon. The ability to change responses as a result of experience seems to be a prominent feature of all nervous systems and is key for organisms to interact with their environments. Indeed for humans to communicate, think and be who we are requires that we learn and remember our thoughts and representations. This course will explore an overview of learning and memory research with a focus on the biological bases and include studies at the behavioral level, brain and nerve cell levels as well as the molecular foundations of synaptic plasticity thought to underlie both complex and simple learning. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 3500 or permission of instructor. BIOS 5590 or graduate course in Neuroscience is recommended. 3 hrs.

BIOS 5595 Biology of Sensory Systems This course provide an introduction, discussion and analysis of the anatomy, physiology, molecular biology and disease states of developed sensory systems identified in the human body and other animals. Recent sensory systems articles will be utilized to critique, strengthen students scientific reading skills, scientific writing skills and presentation skills. This course is approved to cover the Capstone requirement for the Biology and Biomedical Sciences majors. Prerequisite: BIOS 2400 or 3500 or permission of instructor. 3 hrs.

BIOS 5600 Toxicology Through a lecture/discussion format, the means by which toxicants exert their effects on mammalian, aquatic and ecological systems will be explored. Topics will include bioaccumulation, distribution and excretion of chemicals in the body, the role of metabolism in enhancing or reducing toxicity, mechanisms of toxicity and the effects of toxicants on the major organ systems. Chemodynamic processes which control exposure of organisms will be presented in the context of risk assessment, and the problems inherent in predicting and quantifying risks will be discussed. Prerequisites: BIOS 3500; CHEM 3550 and 3560 recommended. 3 hrs.

BIOS 5610 Pharmacology The study of the mode of action of drugs in the body. Topics may include, but are not limited to pharmacokinetics, pharmacodynamics, autonomic pharmacology, cardiovascular pharmacology, and renal pharmacology. The course will consist of approximately 50 percent lecture and 50 percent student presentations on selected topics. Prerequisites: BIOS 350 and CHEM 3750 and 3760. 3 hrs.

BIOS 5620 Bioethics Bioethics seeks to help students reflect intelligently upon and discuss the nature of modern biology as a science and its impact upon our social and governmental discourse. This occurs through classroom and web based discussions of methods and techniques relevant to applications of Biological Sciences and Biomedical Ethics. We focus on issues that rarely are discussed for fear of offending someone. This includes, but is not limited to, euthanasia, abortion, intelligent design, organ transplants, stem cells and gene therapy. Students learn to appreciate the complexity of bioethical issues and the enormity of the responsibility they will carry while providing an unbiased view to the public. Prerequisites: BIOS 1500, BIOS 1510, BIOS 2300, and BIOS 2500 or instructor approval. 3 hours

BIOS 5700 General Pathology An introduction to pathology which describes the structural and biochemical changes occurring in cells and tissues following injury or disease. Prerequisites: BIOS 350 and CHEM 3750 and 3760. 4 hrs.

BIOS 5740 Developmental Biology Developmental biology is the study of the formation of a complex, multicellular organism from a single cell, the fertilized egg. The course will present this material from both a classical description and an experimental cellular point of view. In addition to the lecture, laboratory
exercises will provide experience in the recognition of the various stages of development and in the culturing and manipulations of embryos. Prerequisite: BIOS 2500. 4 hrs.

BIOS 5970 Topics in Biological Sciences Lectures or seminars in various areas of the biological sciences will be offered. The student's record will indicate the topic studied. Prerequisite: Departmental approval required prior to registration. 3-4 hrs.

BIOS 6010 Special Investigations (various areas) An independent study in one of the various specialties represented by members of the department. The field in which work is offered will be indicated on the student record. Prerequisite: Consent of instructor. Prerequisite: Departmental approval required prior to registration. 2-6 hrs.

BIOS 6050 Biological Sciences Colloquium A series of seminars describing current research in various fields in the Biological Sciences. Reports on these research seminars are required. Prerequisite: Admission to a department degree program. 1 hr.

BIOS 6110 Eukaryotic Cell Biology A study of the structure and function of the organelles and biochemical components of eukaryotic cells. Through lectures and readings in current literature, students will examine the latest information on the working of eukaryotic cells. Prerequisite: A course in biochemistry. 3 hrs.

BIOS 6120 Prokaryotic Cell Biology Bacterial structure-function relationships are examined in a biochemical context. Current and classical concepts of cell biochemistry are organized around the bacterial cell as a model for understanding energetics, synthesis of cell structures, transport, metabolism, and regulatory mechanisms. Readings will be from the literature and substantial use will be made of review articles in biochemistry and microbiology for lecture topics. One paper will be required. Prerequisites: A course in biochemistry and a course in microbiology or consent of instructor. 3 hrs.

BIOS 6130 Animal Physiology Current concepts and molecular details of modern systems physiology will be examined through lecture, readings from the current literature, discussion, and student presentations. Emphasis will be placed on understanding the mechanisms used by the organ systems of animals to maintain homeostasis. Prerequisite: A course in physiology or consent of instructor. 3 hrs.

BIOS 6140 Plant Physiology An advanced topics course covering the current research emphases on the physiology, molecular biology, environmental biology, biochemistry, and cell biology of plants. Prerequisite: Biochemistry. 3 hrs.

BIOS 6150 Ecology The structure and dynamics of plant and animal populations are considered with critical evaluations of current concepts. Emphases include the relative roles of competition and trophic interactions in population dynamics and how communities are structured. Applications of ecological concepts will consider aspects of conservation biology, pest control, agroecosystem function, and risks of genetic engineering. Prerequisite: A course in Ecology or consent of instructor. 3 hrs.

BIOS 6160 Evolution Evolution is approached as the all-encompassing theory of biology. Topics range from genetic and molecular issues to adaptation in life histories and behavior. At least one paper will be required. Course readings will be drawn primarily from journal articles. Prerequisites: A course in genetics and a course in ecology or consent of instructor. 3 hrs.

BIOS 6300 Biological Imaging A technique-oriented course stressing preparatory procedures and use of various biological imaging methods. These will include both transmission and scanning electron microscopy, fluorescence microscopy, laser-scanning confocal microscopy, and image analysis. Prerequisite: Consent of instructor. 3 hrs.

BIOS 6320 Advanced Techniques in Electron Microscopy A laboratory course emphasizing currently developing technology. This course is designed for graduate students who have a working knowledge of electron microscopy and its application to biologic problems. The course will be personalized instruction in techniques of
autoradiography; protein tracer, such as peroxidase, ferritin, lanthanum, etc.; special tissue preparations, such as in vivo perfusion, varied fixatives, varied embedding material, etc.; and particulate materials preparation. The student will conduct detailed examinations of his/her preparations and prepare critical critiques. Prerequisite: Consent of instructor. 4 hrs.

BIOS 6330 Topics in Biological Sciences Courses in which a selected area of biological sciences is studied in depth. Possible topics will reflect the areas of expertise of the biological sciences faculty. The specific topic dealt with in a given semester will be indicated in the Schedule of Course Offerings and on the student's record. Students may take one or all topics offered for credit. Prerequisite: Consent of instructor. 3 hrs.

BIOS 6990 Laboratory Rotations This course provides credit for Laboratory Rotation requirement of the Ph.D. program. Students will carry out directed studies in a research laboratory different from the laboratory where their thesis research is conducted. Prerequisite: Departmental approval required prior to registration. 1-4 hrs.

BIOS 7000 Master's Thesis Prerequisite: Departmental approval required prior to registration. 1-6 hrs.

BIOS 7100 Independent Research Prerequisite: Departmental approval required prior to registration. 2-6 hrs.

BIOS 7120 Professional Field Experience Prerequisite: Departmental approval required prior to registration. 2-12 hrs.

BIOS 7300 Doctoral Dissertation Prerequisite: Departmental approval required prior to registration. 1-15 hrs.

BIOS 7350 Graduate Research Prerequisite: Departmental approval required prior to registration. 2-10 hrs.

Chemistry

CHEM 5070 Ethical Chemical Practice This class addresses ethical standards and professional practice for the conduct of chemists. Students will learn to access and search the scientific literature, develop a set of ethical standards, and maintain a safe laboratory environment in an atmosphere of responsible care. The course will also address responsibilities of the individual professional care. The course will also address responsibilities of the individual professional in group, academic, and industrial settings. Prerequisite: Twenty-four hours of Chemistry. 3 hours.

CHEM 5090 Topics in Chemistry A topic is presented in greater depth or from a perspective different from that of a typical undergraduate course. Representative topics, such as pesticides and drugs, industrial chemistry, chemical pollution, etc., according to student interests and requests. Prerequisite: Sixteen hours of chemistry or consent of instructor. 3 hrs.

CHEM 5150 Inorganic Chemistry This course, along with CHEM 5700 and CHEM 5750, provides a capstone chemistry experience for undergraduates. The course will present the principles of inorganic chemistry in terms of its relevance to the “real world” of industry and environmental protection. Topics include symmetry, structure, and bonding, as well as a survey of the descriptive chemistry of the elements. Students are strongly advised to have already completed CHEM 5700 and to be registered simultaneously in CHEM 5750. Prerequisite: CHEM 4310 or permission of instructor. 3 hrs.

CHEM 5200 Instrumental Methods in Chemistry An introduction to the theory and application of modern chemical instrumentation is presented. General topics covered are elementary electronics, electrochemistry, spectroscopy, and other instrumental techniques. Prerequisites or concurrent enrollment: CHEM 4310, 4360. 3 hrs.

CHEM 5250 Techniques in Water Analysis Analytical techniques and methodology commonly used to determine water quality are presented. Modern instrumental methods are stressed with particular emphasis...
on spectroscopic and chromatographic measurements. Laboratory provides practical experience in application of principles discussed in lecture. Not available to Chemistry majors. Prerequisite: CHEM 3770. 2 hrs.

CHEM 5280 Chemical Separations Principles and applications of chemical separations, including distillation, crystallization, extraction, electrophoresis and a variety of chromatographic techniques. Laboratory exercises illustrate typical applications of the methods. Prerequisite: CHEM 3770. 3 hrs.

CHEM 5500 Biochemistry I The chemistry, properties, and molecular biology of proteins and nucleic acids. Includes discussions of amino acids, enzymes, and biochemical energetics. Prerequisites: CHEM 3770, 3780, and 4300. 3 hrs.

CHEM 5510 Biochemistry I Laboratory This course consists of 5500 plus lab. Experiments involve more advanced techniques and instrumentation than in 3560 laboratory. Emphasis will be on purification and properties of proteins and nucleic acids. Prerequisites: CHEM 3770, 3780, and 4300. 4 hrs.

CHEM 5540 Biochemistry II Continuation of 5500. Chemistry and metabolism of carbohydrates and lipids. Metabolism of amino acids and photosynthesis. Prerequisite: CHEM 5500 or 5520. 3 hrs.

CHEM 5580 Toxicology Through a lecture/discussion format, the means by which toxicants exert their effects on mammalian, aquatic and ecological systems will be explored. Topics will include bioaccumulation, distribution and excretion of chemicals in the body, the role of metabolism in enhancing or reducing toxicity, mechanisms of toxicity and the effects of toxicants on the major organ systems. Chemodynamic processes which control exposure of organisms will be presented in the context of risk assessment, and the problems inherent in predicting and quantifying risks will be discussed. Prerequisites: BIOS 3500, and chemistry through biochemistry, or permission of instructor. 3 hrs.

CHEM 5700 Advanced Organic Chemistry and Spectroscopy This course, along with CHEM 5150 and CHEM 5750, provides a capstone chemistry experience for undergraduates. The course expands on fundamentals of organic reactions and mechanisms through investigations of molecular structure and reactivity. Students will gain experience in modern spectral interpretation and will learn to use the organic chemical literature and databases. Prerequisites: CHEM 3770, 3780, 4310 and 24 hours of Chemistry. 3 hrs.

CHEM 5750 Advanced Chemical Synthesis This course provides a synthetic laboratory experience for undergraduates in conjunction with the CHEM 5700 and CHEM 5150 capstone courses. The fundamentals of synthetic techniques will be exercised through independent synthetic laboratory projects and detailed investigations of molecular structure using modern spectroscopic methods. Students will get hands-on experience with modern spectroscopic instrumentation and will learn to utilize the chemical literature and databases. It is strongly recommended that CHEM 5700 be taken before CHEM 5750 to prepare students for spectral interpretation. Prerequisites: CHEM 3770, 3780, 4310, 5200 or permission of the instructor. 2 hrs.

CHEM 5900 Special Problems in Chemistry Research work on a problem in chemistry in association with a faculty member. Prerequisites: Twenty-four hours of chemistry, which includes CHEM 4360, and approval of the department chairperson and a faculty director. 2 hrs.

CHEM 5980 Readings in Chemistry In consultation with a faculty member, the student will design a reading list in a specialized area. The student will master the material independently and will prepare a paper or other summary work as agreed with the faculty member. May be repeated up to a total of six hours. Graded on a Credit/No Credit basis. Prerequisites: 12 hours of Chemistry or graduate enrollment 1-4 hrs.

CHEM 5990 Independent Research Under the direction of a faculty member, highly qualified advanced students or small groups may pursue student-initiated research projects. The results will be summarized in a paper or other work as agreed with the faculty member. May be repeated up to a total of six hours. Graded on a Credit/No Credit basis. Prerequisite: 12 hours of Chemistry or graduate enrollment 1-3 hrs.
CHEM 6010  Graduate Seminar  Graduate seminar in chemistry. Required of all candidates for advanced
degrees in chemistry.  1 hr.

CHEM 6090  Advanced Topics in Chemistry  Topics are presented at a more advanced level than
that used for undergraduate courses. Representative topics would be Organometallic Chemistry, Theories of Liquids
and Solutions, Organic Quantum Chemistry, etc., the offering of which would depend on student interest.
Prerequisite: Consent of instructor.  3 hrs.

CHEM 6100  Advanced Inorganic Chemistry  Covers the principles in inorganic chemistry and the
chemical elements. Such topics as extranuclear structure of the atoms, periodic classification of the elements,
valency and the chemical bond, complex ions and coordination compounds, acids and bases, and nonaqueous
solvents are included in the study of chemical principles. The remainder of the course concerns the chemical
elements and their compounds.  Prerequisite: CHEM 5150.  3 hrs.

CHEM 6110  Advanced Inorganic Chemistry  The chemistry of the transition elements.
Consideration of the electronic and magnetic states of the transition metals and their compounds; the symmetry,
stability, and reaction mechanisms of coordination compounds; application of bonding theories; systematic
chemistry of the transition and inner transition elements.  Prerequisite: CHEM 5150.  3 hrs.

CHEM 6220  Theory of Analytical Chemistry  A course in the fundamental principles underlying
chemical methods of analysis. Special emphasis is placed on equilibria, kinetics, and mechanisms of the important
types of chemical reactions (acid-base, precipitation, complex formation, and redox) involved in chemical analysis;
on methods of separation (precipitation, electrodeposition, and distillation techniques); and on the application of
statistical methods of sampling, experiment design, and interpretation of results. Prerequisite: CHEM 4310  3 hrs.

CHEM 6250  Electroanalytical Chemistry  The theory and application of electrochemical
measurements are discussed with particular emphasis on the theoretical aspects of polarography, potentiometry,
amperometry, conductometric titrations, and other selected topics.  Prerequisite: CHEM 5200.  3 hrs.

CHEM 6310  Computational Chemistry  Introduction to the basic theory and practice of computational
chemistry. Topics include molecular orbital theory, molecular mechanics and dynamics simulation, analyses of
reactivity, chemical structure, intermolecular interactions and spectroscopic properties, and applications to
environmental problems. Prerequisite: CHEM 4310.  3 hrs.

CHEM 6330  Chemical Thermodynamics  Includes a review of the three laws of
thermodynamics, state functions, activities, partial molar qualities, thermodynamics of solutions, equilibrium, and
statistical thermodynamics.  Prerequisite: CHEM 4310.  3 hrs.

CHEM 6350  Chemical Kinetics  Measurement of reaction rates, reaction rate theory,
mechanisms of elementary processes, reactions in solution and on surfaces, complex reactions, application of
kinetics to mechanisms, and photochemistry. Prerequisite: CHEM 4310.  3 hrs.

CHEM 6370  Aquatic Chemistry  This course will examine the physical and chemical processes
that control the chemical composition of natural water systems, including lakes, rivers, estuaries, oceans, and
groundwater. It will examine what effects pertinent factors like pH, Eh, temperature, and salinity have on these
processes, and how these processes control the fate of a pollutant when it enters a natural water system. This course
requires a knowledge of basic physical chemistry.  Prerequisite: CHEM 4300 or equivalent.  3 hrs.

CHEM 6380  Surfaces in the Environment  This course will examine the physical and analytical chemistry
of environmentally important interfaces. Topics will include: dry deposition, heterogeneous catalysis, and surface
photochemistry in the atmosphere; surface phenomena in liquid-gas exchange; and soil binding of pollutants.
Prerequisites: MATH 1230, CHEM 4300, 4310, or equivalent. (MATH 2300 recommended.)  3 hrs.

CHEM 6500  Proteins and Nucleic Acids  Physical techniques for studying proteins and nucleic
acids. Molecular evolutions and binding interactions of proteins and nucleic acids.  Prerequisite: CHEM
5500.  3 hrs.
CHEM 6540 Environmental Influences on Biomolecules  An examination of how environmental factors influence biomolecule expression, stability, and function.  Prerequisites: CHEM 5500 and 5540.  3 hrs.

CHEM 6550 Environmental Carcinogenesis  The effect of environmental agents such as ultraviolet light, ozone, components of cigarette smoke, and auto emissions on human health will be discussed with an emphasis on the biochemical interaction of these agents with DNA and how DNA repair enzymes act to protect organisms from the harmful effects of these agents.  Prerequisite: Consent of instructor.  3 hrs.

CHEM 6630 Mechanisms in Organic Chemistry  Fundamental principles of advanced organic chemistry that are not generally covered in introductory courses in organic chemistry. Emphasis on structure and bonding, stereochemistry, conformational analysis, reaction energetics, and mechanistic tools.  Prerequisites: CHEM 3770, 3780.  3 hrs.

CHEM 6650 Organic Synthesis Survey of reactions that are of value in organic synthesis. Using current chemical literature, the course discusses scope and limitations of important synthetic methods.  Prerequisites: CHEM 377, 378.  3 hrs.

CHEM 6670 Atmospheric Chemistry  An examination of the fundamental physical and chemical processes in the lower and middle atmosphere. Relationships with biogeochemical cycles will be investigated, and issues of human influence will be discussed. Prerequisites: CHEM 3770, 4300.  3 hrs.

CHEM 6680 Environmental Organic Chemistry  An examination of how the environmental fate of organic compounds is influenced both by the physical and chemical properties of those compounds and by the phases occurring in environmental compartments. Focuses on aquatic systems.  Prerequisites: CHEM 3770, 4310.  3 hrs.

CHEM 6900 Special Investigations in Chemistry  Research or independent study in one of the specialties of a member of the Chemistry Department.  Prerequisite: Consent of Instructor.  1-6 hrs.

CHEM 6950 Graduate Coop/Internship  Research or practical training experience outside the department or university. This work is to be summarized in a written report. Consent of the instructor is required so that students can be assigned to an employer in order to best serve both student and employer.  Prerequisite: Consent of instructor.  1-4 hrs.

CHEM 7000 Master's Thesis  6 hrs.
CHEM 7300 Doctoral Dissertation  15 hrs.

Communication

COM 5410 Telecommunications Law and Policy  This course provides an overview of the essential regulatory and policy issues governing the field of media and telecommunications. Special attention is given to such topics as First Amendment, libel, intellectual property, media ownership and privacy. A case study approach is used for the purpose of understanding legal precedent.  Prerequisite: (COM 1000 or BUS 2700) and COM 2400.  3 hrs.

COM 5510 Methods of Media Analysis  An investigation of the approaches to media analysis (auterist, internationalist, sociological, structural, historical, ideological, psychological) by intensive “reading” and shot sequence examination and evaluation of widely divergent works.  Prerequisite: COM 2410 or 2560 or graduate standing.  3 hrs.

COM 5540 Communication Technology  This course provides an overview of telecommunications technology and services, including satellite communication, fiber optics, wireless communication, advanced digital television and Internet communication. Special attention is given to the business
strategies underlying the use of such technologies and services, while also exploring the policy and social use issues that are likely to result from the development of new and enhanced forms of communication technology. 3 hrs.

COM 5550 Multi-media Production  This course is designed to help students develop competencies required to produce linear and non-linear interactive multimedia projects. By the end of the semester students will gain an understanding and appreciation of the steps necessary to produce multimedia projects and the concepts, tools, and techniques involved in the design and delivery of interactive multimedia projects. Students will also be able to create a fully functional multimedia document delivered via a CD-ROM. Prerequisite: COM 2410 or COM 2560. 3 hrs.

COM 5600 Teaching Communication  This course provides an overview of the concepts, materials, and methods used in teaching communication courses. The focus will be on the following: (a) philosophies and theories of speech communication, (b) development of instructional strategies and objectives, and (c) development and evaluation of teaching materials. Students will take part in, observe, and evaluate teaching-learning processes. Prerequisites: COM 1040, 1700, 2000, or consent of the department. 3 hrs.

COM 5640 Telecommunications Networks  This course provides an overview of telecommunications networking technologies, standards, and protocols. Network configurations, switching technologies and signaling standards that sustain voice and data communications networks, corporate networks, and advanced intelligent networks are major sections of the course. Prerequisites: COM 2000 and COM 2400. 3 hrs.

COM 6010 Introduction to Communication Theory and Research  This course introduces the various research paradigms in the field of communication. Through examination of current communication literature, students will examine a broad range of methodologies and approaches to communication theory and research. 3 hrs.

COM 6020 Quantitative Communication Research  This course provides an introduction to social scientific methods, techniques, and instruments for conducting communication research. The course examines methodologies including evaluation and assessment, experimental and survey research designs and statistical analysis including descriptive and inferential statistics. 3 hrs.

COM 6040 Seminar in Communication Ethics  An in-depth examination of a central issue in communication ethics as it manifests itself in different contexts, including mass communication, organizational communication, and interpersonal communication. Issues may vary from term to term. Examples include deception, confidentiality, autonomy, and privacy. 3 hrs.

COM 6050 Qualitative Communication Research  This course will examine the philosophies, methods and techniques used in qualitative research. The focus of the seminar will be on teaching, and putting into practice, specific qualitative methodological processes within the study of communication phenomena. Students will be required to engage in project(s) which develop the ability to write qualitatively as well. 3 hrs.

COM 6400 Seminar in Mass Communication  Exploration of various topics in mass communication. Possible topics may include the history of film, media criticism, news and public affairs, international telecommunications, cultural diversity and the media or others. 3 hrs.

COM 6430 Strategic Planning, Communication and Innovation  A basic theme found throughout this course is that successful innovation presupposes effective communication between and among all organizational players involved in the development of new products and services. The course will examine the importance of communication to innovation and of innovation (and innovative thinking) to the long-term success of today’s business and non-profit organizations. Strategic planning is the set of managerial decisions and actions that determine the long-term performance of a company or organization. Innovation is important because it creates a long-term lasting advantage for an organization. The goal of highly innovative organizations is to make innovation a sustainable, repeatable process. 3 hours

COM 6450 Mass Communication  Students will survey a broad range of mass communication theories that address media production, analysis, and reception. More specifically, the course will
examine the development of mass communication as a field of academic study, including the major questions that have guided and challenged research in this area. Traditional and contemporary theoretical perspectives and research will be covered.  3 hrs.

COM 6700 Seminar in Interpersonal Communication Exploration of selected topics in interpersonal communication. Possible topics may include gender, micro-organizational communication, intercultural communication, health communication, family communication, dialogue, and community or others. May be repeated for credit under different topics.  3 hrs.

COM 6730 Conflict Management Based on the assumption that conflict pervades human life, the course explores the strategies of productive and nonproductive interpersonal conflict within the organizational setting. Theories of conflict are examined, and explanations of the sources, processes and consequences of conflict in relationships and organizations are explored.  3 hrs.

COM 6740 Interpersonal Communication Examination of traditional and contemporary theoretical perspectives and research in interpersonal communication. Students will apply theory to interpersonal settings and will critique the contributions and limitations of various theoretical approaches to the understanding of interpersonal relationships. 3 hrs.

COM 6800 Seminar in Organizational Communication Exploration of selected topics in organizational communication. Possible topics may include corporate advocacy, public relations, global organizations, training and development, dialogue, climate and culture in organizations. May be repeated for credit under different topics.  3 hrs.

COM 6810 Group Communication Processes A study of small group communication as it affects problem solving and decision making procedures. Emphases will be on developing an understanding of how participants in problem solving groups work together and how they can be made more effective through leader facilitation. The student will have practical experience in studying problem-solving and decision-making methods.  3 hrs.

COM 6820 Organizational Communication This course examines the historical and contemporary perspectives influential to our understanding of organizing and communication’s role in this process. Students will investigate foundational topics in organizational communication, such as leadership, supervisor-employee relationships, and socialization, as well as examine issues currently affecting organizational communication research and practice, such as emotional labor, self-organizing systems theory, and identity. 3 hrs.

COM 6830 Leadership and Communication in Organizations This course examines current trends in leadership research. Topics to be explored and discussed include: leadership styles and competencies, women and leadership, culture and leadership, power and leadership, transformational leadership, and ethical leadership. Emphasis will be placed on the application of leadership research in for-profit and nonprofit organizations.  3 hrs.

COM 6900 Topics in Communication Research Methods Focused training in specialized methods of communication research. Possible methods may include survey design and construction, specific advanced statistical analysis techniques, ethnomethodology, etc. Course may be repeated for credit under different topics.  3 hrs.

COM 7000 Master's Thesis 6 hours
COM 7100 Independent Research 2-6 hours
COM 7120 Professional Field Experience 2-6 hours

COM 7150 Professional Project in Communication The professional project option is intended for graduate students who desire to extend their academic education by engaging in the development, enactment, and assessment of an applied communication experience. The uniqueness of each student’s professional Project enhances theoretical and applied learning and provides an opportunity to evaluate the scope of conceptual
understanding and skills mastery acquired in the M.A. program. The professional project may involve workshops, case studies, training, creation of websites, communication assessments and completion of other projects within the context of the student’s chosen area of study. 3 hours

**Community and Regional Planning**

CORP 5580 A project oriented studio course designed to focus on applied planning and design techniques. Integration and application of skills and knowledge from other courses to “real-life” community-based planning projects. Projects will integrate the physical and human environments: terrain and landscape, natural and cultural context, microclimate, infrastructure and adjacent land uses, economic and environmental impacts, etc. Studio seminars, discussion, and field visits will explore theory and practice in observation, problem formulation, alternatives generation, and plan development and presentation. Prerequisite: CORP 2560 or Graduate Standing. 3 hours

**Comparative Religion**

REL 5000 Historical Studies in Religion The topic to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Zen Buddhism; Buddhism; Taoism; Shinto; New Religions of Japan; Religion in Japanese Literature; Islam in the Modern World; Christian Theology to 1500; Renaissance and Reformation Theology; Mystical Dimensions of Islam. 2-4 hrs.

REL 5100 Morphological and Phenomenological Studies in Religion The topic to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Millennium, Utopia, and Revolution; Femininity as a Religious Form; Great Islamic Thinkers; the Hindu Yogas; the Occult Tradition. 2-4 hrs.

REL 5110 Women in Religion Drawing together materials from many religious traditions, this course explores religion's effect on women, and women's effect on religion. It attends especially to women's roles in traditions studied—both roles allotted to women and roles women shape for themselves. It also traces repeating patterns in women's religious experience and evaluates common explanations for such patterns. 3 hrs.

REL 5200 Methodological Studies in Religion The topic to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Scientific Issues in the Study of Religion; the Critical Theory; Myth and Symbol in Religion and Literature. 2-4 hrs.

REL 5210 The Teaching of Religion in the Public School This course focuses on methods and issues involved in the teaching of religion in the public school. Particular attention given to the problems of its constitutionality, the distinction between the academic study of religion and religious instruction, and the question of meaning. Various approaches to the teaching of religion are critically evaluated. Teaching methods appropriate to the level of instruction, availability, organization, selection, and use of materials will be discussed. Required of all students following a Secondary Education Curriculum which includes the academic study of religions as a minor. 2 hrs.

REL 5980 Readings in Religion Research on some selected period or topic under supervision of a member of the Religion faculty. Approval of instructor involved and Chairperson of the Department must be secured in advance of registration. 1-4 hrs.

REL 6000 Classics in Comparative Religion A systematic study of the most important scholarly works in Comparative Religion. Special attention will be paid to the historical context in which these classics were produced, their role in intellectual history, and their contributions to the humanities and the social sciences. 3 hrs.

REL 6100 Theory and Method I An examination of the major theoretical options for understanding and explaining religion in comparative perspective and the major methods employed by theoreticians
in their development of such theoretical options. Particular attention will be paid to intellectualist, symbolist, and
dstructuralist, ideological, emotivist, and cognitive method and theory. 3 hrs.

REL 6150 Survey of Religions of the World A survey of ten major religious traditions; each
tradition will be studied through its historical development, its unified system (symbols, beliefs, and rituals), and
dynamics (actual practices such as annual celebrations, rites of passage). While learning the content of individual
traditions and exploring the comparative questions between/among traditions, students will focus on the issues of
teaching about religion generally and the problematics of presenting individual traditions. This course will balance
content of religious traditions and pedagogical techniques as a way of preparing students to teach basic courses in
religion. 3 hrs.

REL 6200 Advanced Seminar in Comparative Religion Advanced study in a major problem
area of comparative research in the religions of humankind. Prerequisite: Consent of instructor. 3 hrs.

REL 6950 Dissertation Tutorial Planning and preparation for the dissertation, including
selection of an appropriate topic. The student will work with an advisor to develop a dissertation proposal to be
submitted to his/her Ph.D. committee. The tutorial will entail preparation of a preliminary bibliography, readings in
basic sources and examination of the ideas and materials related to the subject, selection of essential sources, and
sketching of the dissertation outline. (This course is a prerequisite for REL 7300, Doctoral Dissertation). 3 hrs.

REL 7000 Master's Thesis 6 hrs.
REL 7100 Independent Research 2-6 hrs.
REL 7120 Professional Field Experience 2-12 hrs.

Economics

ECON 5030 Economic Computing This course provides students with basic skills needed for
gaining access to economics databases and for using data management programs on personal and mainframe
computers. It provides instruction and lab experience in transferring files and performing operations widely
employed by economists. Prerequisites: ECON 4030 and 4060 or permission of instructor. 3 hrs.

ECON 5040 Mathematics for Economists This course presents the mathematical material necessary as
background for the topics covered in graduate-level economics courses. Topics covered include differential calculus,
optimization, comparative statics, and mathematical programming. These techniques are applied to selected
economic problems. Prerequisites: ECON 2010 and 2020, MATH 1220 or consent of instructor. 3 hrs.

ECON 5880 Economic Development An analysis of the economic factors such as population,
resources, innovation, and capital formation that affect economic growth. Selected underdeveloped areas will be
studied to understand the cultural pattern and economic reasons for lack of development and the steps necessary to
promote economic progress. Prerequisites: ECON 2010 and 2020. 3 hrs.

ECON 5910 Guest Economist Seminar Seminar series on a topic of current interest featuring invited
visiting economists. Prerequisites: ECON 2010 and 2020. 1 hr.

ECON 5920 Guest Economist Seminar Seminar series on a topic of current interest featuring invited
visiting economists. Prerequisites: ECON 2010 and 2020. 1 hr.

ECON 5980 Readings in Economics An independent program of study for qualified students to be
arranged in consultation with the instructor. Prerequisites: Twelve (12) credit hours of Economics and the consent
of instructor and Department Chairperson. 1-3 hrs.

ECON 6010 Basic Economic Analysis This course is designed to provide students with an
understanding of fundamental economic concepts. Students become acquainted with the basic tools that economists
use to analyze issues and apply the science of economics. After completing the course, students will be better able to
understand and analyze problems from an economic perspective. Students are introduced to basic concepts in the fields of microeconomics and macroeconomics. Knowledge of these concepts is prerequisite for further study in business, public and development administration. Prerequisite: Not open to Economics graduate students. 3 hrs.

ECON 6030 Advanced Price Theory  An advanced study in the logic of the pure theory of production; joint production and joint costs, and introduction to the multiperiodic production theory. Advanced theory of consumer behavior; aggregation problems in product supply, factor demand and consumer demand analysis; review of selected empirical studies on consumer demand analysis; consumer surplus; problems involving optimization over time and under conditions of uncertainty; role of savings in consumer demand theory (utility maximization over time). Prerequisite: MATH 1220 or equivalent or ECON 5040. 3 hrs.

ECON 6040 Introduction to Mathematical Economics  This course is intended to introduce graduate students to the concepts of multivariate calculus and mathematical analysis commonly used in the mathematical analysis of economic problems. Its primary objective is to teach students the rudiments of mathematical programming as they apply to economic theory. Thus, students will also be introduced to selected topics from consumer theory and the theory of the firm. Prerequisites: MATH 1220, MATH 1230 or equivalents. 3 hrs.

ECON 6050 Human Resources I  This course is an introduction to human resource economics. Its objective is to provide students with the theoretical background needed to undertake studies relating to human resource and labor problems. Thus, this course will present a general survey of the theory that forms the core of modern labor economics. Prerequisite: ECON 6030 or equivalent. 3 hrs.

ECON 6070 Uncertainty and Information  Analysis of individual decision-making and market equilibria under conditions where economic agents are unsure about their own situations and/or the opportunities offered them by market dealings. Topics covered include expected utility, decisions to produce and acquire information, information and contract design, and the effect of information in situations of strategic economic interaction. Prerequisite: MATH 1220 or equivalent or ECON 5040. 3 hrs.

ECON 6090 Seminar in Economics  Offers the graduate an opportunity to investigate contemporary problems in economic theory and analysis. Prerequisite: Four (4) credit hours of advanced economic theory or consent of instructor. Topics will vary, and course 3 hrs.

ECON 6100 Human Resources II  This course is the second course in a two course sequence required for the Ph.D. field in human resource economics. The objective of this course is to apply theory and quantitative methods to various topic areas in human resource and labor economics, such as discrimination, employment and training policies, income distribution, turnover and migration, unions and collective bargaining, and household production and family decisions. Prerequisite: ECON 6100. 3 hrs.

ECON 6110 Collective Bargaining in Public Employment  This course examines collective bargaining developments in local, state, and federal governments, including bargaining units, negotiations, grievance procedures, strikes, and dispute settlements. Prerequisites: ECON 2010 and 2020 or consent of instructor. Not open to Economics graduate students. 3 hrs.

ECON 6160 Economic Statistics  This course focuses on the theory and practice of testing hypotheses, statistical estimation theory, the basic theory underlying the linear model, and introduction to econometric models, and the nature of difficulties that arise in applying statistical models to economic research problems. Prerequisites: MATH 1220 or equivalent, or ECON 5040 or ECON 6040. 3 hrs.

ECON 6500 Industrial Organization/Business Economics I  This course will survey the major topics in industrial organization, antitrust economics, and the economics of regulation. Prerequisite: ECON 6030 or equivalent. 3 hrs.
ECON 6510 Industrial Organization/Business Economics II This course will cover selected topics in industrial organization, antitrust economics, and the economics of regulation. Prerequisites: ECON 6500, ECON 6650. 3 hrs.

ECON 6620 National Income Analysis A basic course in economic theory with emphasis on modern theories of output of the economy as a whole and on the uses of these theories as guides to policy. Prerequisites: ECON 4030 and 4060. 3 hrs.

ECON 6650 Microeconomic Theory I Core ideas in theoretical microeconomics will be introduced. The course will address a number of standard microeconomic topics, including the theories of consumption and production, cost and expenditure functions, market structures, and input demand. Prerequisites: MATH 1220, MATH 1230 or equivalents. 3 hrs.

ECON 6660 Microeconomic Theory II This course presents an advanced treatment of consumer and producer theory. It will be composed of selected topics in microeconomic theory, including general equilibrium and welfare analysis. Prerequisites: ECON 6040, ECON 6650. 3 hrs.

ECON 6700 Advanced Econometrics I The first course in the advanced econometrics sequence. This course presents sample distribution theory for the estimation and testing of econometric models. Applications will be made to SUR systems, error components, nonlinear regression, limited dependent variables, and sample selection bias. Prerequisite: ECON 6190. 3 hrs.

ECON 6710 Advanced Econometrics II This is the second course in the advanced econometrics sequence. This course considers the specification and evaluation of dynamic econometric models. Both single and multiple time series models are examined. The issue of nonstationarity and the role of vector autoregressions and cointegration are emphasized. Prerequisite: ECON 6700. 3 hrs.

ECON 6750 Macroeconomic Theory I This course develops a general equilibrium macroeconomic model reflecting the recent developments in the literature. Prerequisites: MATH 1220, MATH 1230 or equivalents. 3 hrs.

ECON 6760 Macroeconomic Theory II The second course in the Ph.D. level macro sequence. A rigorous analysis of macro theory and macro policy issues with an emphasis on empirical testing. Prerequisites: ECON 6040, ECON 6750. 3 hrs.

ECON 6800 International Economics I In this course the interaction of the domestic economy with the international financial world will be studied. Topics include: Exchange rate determination, balance of payments, and the international monetary system. Prerequisites: ECON 6220, ECON 6620 or equivalents. 3 hrs.

ECON 6810 International Economics II This course examines the reasons for and implications of international trade. Topics include: Models of international trade, policies used to influence trade and the welfare effects of international trade policies. Prerequisite: ECON 6030 or equivalent. 3 hrs.

ECON 6860 Monetary Economics In this course the interaction between macroeconomic activity and the quantity of money in the economy is studied. Both theoretical and empirical models are examined. Topics include empirical evidence on money and output, money and transactions, money and procedures, and interest rates and monetary policy. Prerequisites: ECON 6190 and ECON 6760 or equivalent. 3 hrs.

ECON 6870 Monetary Policy In this course the interaction between macroeconomic activity and central bank monetary policy is studied. Both theoretical and empirical models are examined. However, the emphasis is on empirical models. Topics include: empirical evidence on money and output, money and public finance, the credit channel of monetary policy, monetary-policy operating procedures, and interest rates and monetary policy. Prerequisites: ECON 6750 and 6190, or equivalents. 3 hrs.
ECON 6880 Economic Development I  An intensive examination of a number of selected key topics in development economics, centering on issues of crucial importance to developing nations. Examples of such issues are primary products, capital formation, technological change, inflation, debt servicing, population, etc. Prerequisites: ECON 2010 and 2020.  3 hrs.

ECON 6890 Economic Development II  This course will concentrate on analysis of development theory and examine its relevance to the problems facing extant developing economies. Different approaches to economic development will be examined using advanced economic theory and methodology. Prerequisites: ECON 6650, ECON 6750, ECON 6880.  3 hrs.

ECON 6990 Economics Workshop  A workshop designed to deepen a student's understanding of theoretical and empirical economics by discussing the research being conducted by the Department's faculty, economists from other institutions, and Ph.D. candidate graduate students. Prerequisites: ECON 6660, ECON 6700, ECON 6760. Topics will vary and course may be repeated up to 18 hours.  3 hrs.

ECON 7000 Master's Thesis  6 hrs.
ECON 7100 Independent Research  2-6 hrs.
ECON 7120 Professional Field Experience  2-12 hrs.
ECON 7300 Doctoral Dissertation  12 hrs.

English

ENGL 5220 Studies in American Literature  Study of a movement or a recurring theme in American literature, such as romanticism, realism, naturalism, humor, or racial issues.  3 hrs.

ENGL 5300 Medieval Literature  Readings in the medieval literary tradition. Some Middle English works will be studied in the original; works in Old English and continental literature will be studied mainly in translation.  3 hrs.

ENGL 5320 English Renaissance Literature  Readings in representative writers of the period 1500-1660.  3 hrs.

ENGL 5340 Restoration and Eighteenth Century Literature  Readings in representative writers of the period 1660-1800, focusing on the diversity of literary forms in the period.  3 hrs.

ENGL 5360 Romantic Literature  Readings in poetry and criticism, with emphasis on such writers as Blake, Burns, the Wordsworths, Coleridge, Scott, Byron, the Shelleys, and Keats.  3 hrs.

ENGL 5370 Victorian Literature  Readings emphasizing such writers as Carlyle, Mill, Dickens, Thackeray, Eliot, Tennyson, the Brownings, and Arnold.  3 hrs.

ENGL 5380 Modern Literature  Readings in representative writers in the period 1890-1945, not exclusively in British and American literature.  3 hrs.

ENGL 5390 Post-Colonial Literature  Readings in representative writers from colonial and post-colonial cultures.  3 hrs.

ENGL 5400 Contemporary Literature  Readings in representative writers who have come to prominence chiefly since 1945.  3 hrs.

ENGL 5550 Studies in Major Writers  Study of the works of classical, European, British, or American writers. Limited to one or two authors.  3 hrs.

ENGL 5660 Creative Writing Workshop  An advanced course in the writing of poetry, fiction, non-fiction, or drama, with class criticism of each student's writing. 4 hrs.
ENGL 5740 Grammar in Teaching Writing  Dealing with issues and methods in the teaching of grammar, this course for teachers focuses on using grammar to develop content, style and voice, and skill in revising and editing writing.  4 hrs.

ENGL 5750 Icelandic Sagas in Translation  Readings in medieval Icelandic literature. This class provides students an opportunity to explore medieval Iceland through its rich mythology, literature, and culture. No previous coursework required in either Old Norse/Icelandic or medieval literature.  3 hrs.

ENGL 5760 Introduction to Old Norse  An introduction to the fundamentals of Old Norse grammar and language. By translating prose and poetry, students will develop an appreciation of the literature and culture of medieval Iceland as well as a reading knowledge of Old Norse.  3 hrs.

ENGL 5770 Advanced Readings in Old Norse  A review of the fundamentals of Old Norse grammar and language learned in ENGL 5760 by focusing on longer selections from sagas and poems. This class will further students’ knowledge of the language and the literature through discussion of them.  Prerequisite: ENGL 5760.  3 hrs.

ENGL 5820 Studies in Children's Literature  A study in depth of significant themes, movements, and types of children's literature.  Prerequisite: ENGL 3820 or 3830 or permission of the department.  3 hrs.

ENGL 5830 Multi-Cultural American Literature for Children  A course designed to develop an understanding of the cultural diversity of the American experience through multi-cultural oral and written literature for young people. Attention will be paid to developing criteria for selecting and evaluating literature which reflects diversity within the American heritage.  Prerequisites: 18 hrs. of English course work.  3 hrs.

ENGL 5970 Studies in English: Variable Topics  Group study of special topics in literature, film, English language, and writing. Many of these special courses are organized around special events or speakers on campus or in the community, or in response to special needs or interests of students. Some topics are announced in the Schedule of Course Offerings; some are added during the semester. Further information and full listing of topics may be obtained from the English Department, sixth floor Sprau Tower.  1-3 hrs.

ENGL 5980 Readings in English  Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are chosen and arrangements are made to suit the needs of each student. Approval of English advisor required.  1-4 hrs.

ENGL 6100 Seminar  Study of a problem in literary history or criticism.  3 hrs.

ENGL 6110 Literary Forms  A study in form and technique in one of the four major literary genres: poetry, fiction, drama, and non-fiction.  3 hrs.

ENGL 6150 Literary Criticism  Readings in several significant theorists on the nature of literature, the characteristics of audience response to literature, and principles underlying the analysis and evaluation of literature. Works in at least two genres will be examined in light of these theoretical writings.  3 hrs.

ENGL 6210 Studies in British Literature  The advanced study of selected aspects of British literature.  3 hrs.

ENGL 6220 Studies in American Literature  The advanced study of a topic in American Literary history, such as The American “Renaissance”, The 1920's, The Transcendental Tradition in American Literature, Fiction (or Poetry, or Drama) in America, or The Development of Modern American Prose Style.  3 hrs.

ENGL 6300 Introduction to Graduate Studies  This course is intended to provide graduate students with an introduction to the theory and practice of literary criticism at the professional level. The goal of course readings and discussion generally will be to aid students in the completion of a substantial research project of a kind suitable for publication.  3 hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 6310</td>
<td>Essay Writing</td>
<td>A course in the writing of informal expository prose in the forms used for addressing general audiences. There will be a generous amount of reading in exemplary works and a concern for understanding the rhetorical principles underlying good modern prose. Prerequisite: A bachelor's degree.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6320</td>
<td>Article Writing</td>
<td>A course in the writing of informative prose directed toward a non-specialist audience. There will be study and practice in the methods of gathering and analyzing information and in the effective organization and presentation of factual material.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>ENGL 6330</td>
<td>Professional Writing: Form and Technique</td>
<td>A course in writing in the various formats needed by large institutions, whether academic, corporate, or public. Particular emphasis will be placed on the use of the interview to gather information, on preparing speeches, brochures, newsletters, and other publications, and on the techniques of non-personal prose.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>ENGL 6400</td>
<td>The Nature of Poetry</td>
<td>A study of styles, techniques, forms, and conceptions of poetry, involving practice in explication, both oral and written, of individual poems.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6410</td>
<td>Studies in Modern Poetry</td>
<td>An intensive study of the work of several modern poets.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6420</td>
<td>Studies in Drama</td>
<td>Selected areas of drama from classical times to the present.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6440</td>
<td>Studies in the Novel</td>
<td>An examination of significant forms and techniques employed in the novel from its beginnings to the modern age.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6450</td>
<td>Studies in the Modern Novel</td>
<td>An intensive study of the works of some important novelists of the twentieth century.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6520</td>
<td>Studies in Shakespeare: Tragedy</td>
<td>Selected tragedies of Shakespeare.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>ENGL 6530</td>
<td>Studies in Shakespeare: Comedy</td>
<td>Selected comedies of Shakespeare.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>ENGL 6660</td>
<td>Graduate Writing Workshop</td>
<td>Any given section of this course will focus on either poetry, fiction, non-fiction, or drama. Course organization will emphasize roundtable discussion of student writing. Course may be taken more than once; a student may elect up to 12 credit hours in one genre and up to 18 hours in all. M.F.A. candidates must take at least 6 hours in their area of specialization. Prerequisite: Open to graduate students accepted into the M.F.A. program and, with the permission of the instructor, to other graduate students.</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>ENGL 6690</td>
<td>Methods of Teaching College Writing</td>
<td>A course required of those teaching the freshman composition course, ENGL 1050, for the first time. Establishes the basic structure and methodology for teaching such a course. Participants prepare assignment sequences for their classes, design appropriate learning activities, and practice evaluating and responding to student writing. Participants are introduced to activities that reflect different theories and approaches to the teaching of composition.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6720</td>
<td>Language, Dialects, and Sociolinguistics</td>
<td>A course focusing on specific varieties of American English studied from historical, linguistic, literary, and/or social perspectives as the basis for application of sociolinguistic theory and research to a variety of topics. These may include the study of American culture and literature, educational implications of dialect diversity in monolingual and multilingual settings, the links between language and social identity, and gender/ethnic differences in language. Issues such as language change, attitudes toward language, and implications for teaching English will be explored in detail.</td>
<td>3 hrs.</td>
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<tr>
<td>ENGL 6730</td>
<td>Psycholinguistics in Reading</td>
<td>An examination of psycholinguistic insights into the nature of the reading process, with emphasis on practical implications and applications for the classroom.</td>
<td>3 hrs.</td>
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<td>Course Code</td>
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<tr>
<td>ENGL 6760</td>
<td>Old English</td>
<td>A course dealing with the grammatical structures of Old English and the sociolinguistic context in which this language was spoken and written, with a view to applying such linguistic study to translating and interpreting pre-1066 English literary texts, both poetry and prose, including Beowulf. 3 hrs.</td>
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<tr>
<td>ENGL 6770</td>
<td>Middle English</td>
<td>A course dealing with the grammatical structures of Middle English and the sociocultural context in which this language was spoken and written, with a view to applying such linguistic study to translating and interpreting Middle English texts, both prose and poetic, Chaucerian and non-Chaucerian, stemming from various regions of English-speaking Britain. 3 hrs.</td>
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<tr>
<td>ENGL 6790</td>
<td>Studies in Composition Theory</td>
<td>A course that examines various approaches to the teaching of composition. Aims to increase awareness of the relationship between theory and practice, acquaint participants with ongoing dialogues within the field, and help them identify and formulate their own professional stances. Attention will be given to the impact on composition theory of scholarship in fields such as classical rhetoric, linguistics, literary theory, cognitive psychology, human development and learning, social constructionism, and ethnology. Prerequisite: Teaching experience. 3 hrs.</td>
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<tr>
<td>ENGL 6800</td>
<td>Advanced Methods in Teaching Literature</td>
<td>A study of theories and methods of teaching literature. 3 hrs.</td>
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<tr>
<td>ENGL 6810</td>
<td>Advanced Methods in Teaching Language and Composition</td>
<td>A study of theories and methods of teaching language and composition. 3 hrs.</td>
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<tr>
<td>ENGL 6900</td>
<td>Scholarship and Writing in the Profession</td>
<td>In this seminar students will prepare the capstone Essay to be submitted as the culminating requirement for the M.A. in English. The course will include analysis and evaluation of journals and articles in areas relevant to the student's research topic, &quot;workshop&quot; review and editing of the paper, and preparation for oral presentation and discussion of the student's work in a Master's Colloquium. Prerequisites: ENGL 6300 and prior completion of at least 21 hours of credit toward the Master of Arts in English. 3 hrs.</td>
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<tr>
<td>ENGL 6910</td>
<td>Research and Scholarship in English Education</td>
<td>As reflective practitioners in English classrooms, participants in this seminar will develop a research question, review relevant professional literature, conduct classroom and/or academic research using appropriate research techniques, and present findings orally and in a written paper or report that will be the capstone paper for the MA in English with an Emphasis on Teaching. Prerequisites: Students in the program who have completed at least 24 hours of the course of study and who have completed the core courses, the teaching of English courses, the English language course and the multicultural literature course may enroll. 3 hrs.</td>
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<tr>
<td>ENGL 6970</td>
<td>Studies in English: Variable Topics</td>
<td>Group study of special topics in language, literature, and composition. These special courses and workshops may be offered on campus, in the off-campus centers, or as in-service work in schools. 1-3 hrs.</td>
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<tr>
<td>ENGL 6990</td>
<td>M.F.A. Project</td>
<td>A collection of short fiction, a collection of poetry, a collection of one-act plays, a full-length play, or a novel. The work presented in fulfillment of this requirement must be judged by a committee of the graduate faculty to be worthy of publication or production; a public reading or performance is required. 3-6 hrs.</td>
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<tr>
<td>ENGL 7000</td>
<td>Master's Thesis</td>
<td>6 hrs.</td>
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<tr>
<td>ENGL 7100</td>
<td>Independent Research</td>
<td>2-6 hrs.</td>
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<tr>
<td>ENGL 7110</td>
<td>Readings in Doctoral Specialization</td>
<td>In consultation with a faculty member, the doctoral student will design a reading list of 20 to 30 books in a specialized area; students wishing additional guided reading may register a second time. The student will master these works independently and, in consultation with faculty members, select a representative list of approximately 20 works on which to be evaluated in a two-hour oral exam, conducted by a committee of at least two faculty members. Prerequisite: Doctoral candidacy. 3-6 hrs.</td>
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</table>
ENGL 7120  Professional Field Experience  2-12 hrs.

ENGL 7130  Practicum in Teaching in the Discipline  A practicum in teaching in the discipline will be done as collaborative teaching with an experienced faculty member in a broad-based undergraduate course in literature, language, creative writing, or advanced composition. There will opportunity for both guided praxis and reflection on praxis. Prerequisite: Consent of advisor.  3 hrs.

ENGL 7300  Doctoral Dissertation  15 hrs.

Environmental Studies
ENVS 5000  Advanced Environmental Topics  An intensive, focused study of a current environmental issue. The role of interdisciplinary research in addressing such issues will be explored through examples drawn both from the different disciplinary backgrounds of the students and especially from the current research of the faculty instructor. Prerequisite: Approval of a program advisor. 3 hrs.

Foreign Languages
AMEL 5000  Special Topics in World Languages  The topic(s) to be announced in the Schedule of Course Offerings. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different.  3 hrs.

ARAB 5020  Arabic for Graduate Study  Arabic instruction for graduate students enrolled in a degree program who need knowledge of Arabic for their field of study. Students will sit in appropriate level course for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

ARAB 5030  Arabic – English Translation Practicum  This is a practical course to teach the skills for translating texts from Arabic into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of Arabic texts, such as news, essays, documents, poetry, and short fiction. May be repeated for credit. Prerequisite: ARAB 2010 or instructor approval. 1 – 4 hours

ARAB 5200  Topics in Arabic Linguistics and Language Science  See the entry for LANG 5200. Prerequisites: Completion of four ARAB courses. 3 hrs.

ARAB 5500  Independent Study in Arabic  Directed individual study of a specific topic in Arabic literature or linguistics. Prerequisites: ARAB 1010 and prior permission of departmental advisor. 1-3 hrs.

CHIN 5020  Chinese for Graduate Study  Chinese instruction for graduate students enrolled in a degree program who need knowledge of Chinese for their field of study. Students will sit in appropriate level course for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

CHIN 5030  Chinese – English Translation Practicum  This is a practical course to teach the skills for translating texts from Chinese into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of Chinese texts, such as news, essays, documents, poetry, and short fiction. May be repeated for credit. Prerequisite: CHIN 2010 or instructor approval. 1 – 4 hours

CHIN 5200  Topics in Chinese Linguistics and Language Science  See the entry for LANG 5200. Prerequisites: Completion of four CHIN courses. 3 hrs.
CHIN 5500 Independent Study in Chinese  Directed individual study of a specific topic in Chinese language, literature, or culture. Prerequisites: Completion of four courses in Chinese or equivalent; minimum grade point average of 3.0 in Chinese; departmental approval required. 1-3 hrs.

FREN 5000 Elementary French for Reading Proficiency  Intensive grammar and elementary reading for translation and research purposes. The course is primarily for the graduate who has had little or no study in the language. However, undergraduates who desire a thorough reading knowledge may also apply. Undergraduates must secure permission of department. No oral work. This course does not count toward a major or minor in French. 4 hrs.

FREN 5010 Intermediate French for Reading Proficiency  Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to students' major fields. Completion of FREN 5010 with a minimum of “B” constitutes graduate proficiency in the language. Undergraduates must secure permission of the Department. This course does not count toward a major or minor in French. Prerequisite: FREN 5000 or equivalent. 4 hrs.

FREN 5020 French for Graduate Study  French instruction for graduate students enrolled in a degree program who need knowledge of French for their field of study. Students will sit in appropriate level course for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

FREN 5030 French – English Translation Practicum  This is a practical course to teach the skills for translating texts from French into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of French texts, such as news, essays, documents, poetry, and short fiction. May be repeated for credit. Prerequisite: FREN 2010 or instructor approval. 1 – 4 hours

FREN 5100 Studies in French and Francophone Culture  An intensive study of selected aspects of French and Francophone culture. Course varies according to topic and may be repeated for credit. Prerequisites: FREN 3160 and 3220 or 3230 or 3250. 3 hrs.

FREN 5200 Topics in French Linguistics and Language Science  See the entry for LANG 5200. Prerequisites: FREN 3160 and 3220 or 3230 or 3250. 3 hrs.

FREN 5280 French Literature from the Middle Ages to the Revolution  The study of selected literary texts from the Middle Ages to the end of the eighteenth century. Prerequisites: FREN 3160, 3250. 3 hrs.

FREN 5290 French Literature from the Revolution to the Present  The study of selected literary texts from the late eighteenth century to the present. Prerequisites: FREN 3160, 3250. 3 hrs.

FREN 5500 Independent Study in French  Directed, individual study of a specific topic in a French literary or linguistic area. Departmental approval required for admission. Prerequisite: A minimum grade point average of 3.0 in the major. 1-3 hrs.

FREN 5600 Advanced Readings in French  Topics of literary, cultural, or linguistic merit will be analyzed. Topics will vary from semester to semester. May be repeated for credit. Prerequisites: FREN 3160, 3250. 3 hrs.

GER 5000 Elementary German for Reading Proficiency  Intensive grammar and elementary reading for translation and research purposes. The course is primarily for the graduate student who has had little or no study in the language. However, undergraduates who desire a thorough reading knowledge may also apply. Undergraduates must secure permission of Department. No oral work. This course does not count toward a major or minor in German. 4 hrs.

GER 5010 Intermediate German for Reading Proficiency  Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to students' major fields.
Completion of GER 5010 with a minimum of “B” constitutes graduate proficiency in the language. Undergraduates must secure permission of the Department. This course does not count toward a major or minor in German.

Prerequisite: GER 5000 or equivalent. 4 hrs.

GER 5020 German for Graduate Study

German instruction for graduate students enrolled in a degree program who need knowledge of German for their field of study. Students will sit in appropriate level course for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

GER 5030 German – English Translation Practicum

This is a practical course to teach the skills for translating texts from German into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of German texts, such as news, essays, documents, poetry, and short fiction. May be repeated for credit. Prerequisite: GER 2010 or instructor approval. 1 – 4 hours

GER 5200 Topics in German Linguistics and Language Science

See the entry for LANG 5200. Prerequisites: Completion of four GER courses. 3 hrs.

GER 5280 Survey of German Literature

A comprehensive study of German literature from its beginning through Romanticism. Prerequisites: GER 3160, 3170; 3220 or 3250 or equivalent. 3 hrs.

GER 5290 Survey of German Literature

A comprehensive study of German literature from German Realism to the present. Prerequisites: GER 3160, 3170; 3220 or 3250 or equivalent. 3 hrs.

GER 5500 Independent Study in German

Directed, individual study of a specific topic in a German literary or linguistic area. Departmental approval is required for admission. Prerequisite: One 5000-level course in the major; a minimum grade point average of 3.0 in the major. 1-3 hrs.

GER 5590 History of the German Language

Survey of the development of the German language. Prerequisite: Six hours of 3000-level German or above. 3 hrs.

GER 5600 Studies in German Literature

Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 5600. Thus, a student may take any or all of the offerings at various times. Prerequisites: GER 3160, 3170; 3220 or 3250 or equivalent. Representative topics which may be treated in this area include: The Novelle -Survey of the development with representative selections. Lyric Poetry-Survey of the development with significant selections. 3 hrs.

GREK 5020 Greek for Graduate Study

Classical Greek instruction for graduate students enrolled in a degree program who need knowledge of Greek for their field of study. Students will sit in appropriate level course for their learning. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

GREK 5030 Greek – English Translation Practicum

This is a practical course to teach the skills for translating texts from classical Greek into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of classical Greek texts, such as essays, poetry, documents, and short fiction. May be repeated for credit. Prerequisite: GREK 1010 or instructor approval. 1 – 4 hours

GREK 5200 Topics in Greek Linguistics and Language Science

See the entry for LANG 5200. Prerequisites: Completion of four GREK courses. 3 hrs.

GREK 5500 Independent Study in Greek

Directed, individual study of a specific topic in ancient Greek Literature. Prerequisites: GREK 1010 and departmental approval. 1-3 hrs.

ITAL 5020 Italian for Graduate Study

Italian instruction for graduate students enrolled in a degree program who need knowledge of Italian for their field of study. Students will sit in appropriate level course.
for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

ITAL 5030 Italian – English Translation Practicum This is a practical course to teach the skills for translating texts from Italian into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of Italian texts, such as news, essays, documents, poetry, and short fiction. May be repeated for credit. Prerequisite: ITAL 2010 or instructor approval. 1 – 4 hours

ITAL 5200 Topics in Italian Linguistics and Language Science See the entry for LANG 5200. Prerequisites: Completion of four ITAL courses. 3 hrs.

JPNS 5020 Japanese for Graduate Study Japanese instruction for graduate students enrolled in a degree program who need knowledge of Japanese for their field of study. Students will sit in appropriate level course for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

JPNS 5030 Japanese – English Translation Practicum This is a practical course to teach the skills for translating texts from Japanese into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of Japanese texts, such as news, essays, documents, poetry, and short fiction. May be repeated for credit. Prerequisite: JPNS 2010 or instructor approval. 1 – 4 hours

JPNS 5200 Topics in Japanese Linguistics and Language Science See the entry for LANG 5200. Prerequisites: Completion of four JPNS courses. 3 hrs.

JPNS 5500 Independent Study in Japanese Directed individual study of a specific topic in Japanese language, literature, or culture. Prerequisites: Completion of four courses in Japanese or equivalent; minimum grade point average of 3.0 in Japanese; departmental approval required. 1-3 hrs.

LANG 5200 Topics in Linguistics and Language Sciences The advanced study of a language or a group of languages from a scientific point of view, such as the function and status of languages in society, the comparative history of different language families or the manipulation of language for pragmatic needs across cultures. 3 hrs.

LANG 5250 The Practice and Theory of Literary Translation The course examines the essential role of translation in our world of increasing globalization. Students must translate one extended text of their own choosing from any language into English. Meanwhile, readings and discussion will focus on the nuts and bolts of translation, plus the relationship between translation, literary canonization, nationalism, post-colonialism, and national representation. Prerequisites: One 3000-level foreign language course or instructor approval. 3 hrs

LANG 5500 Independent Study in Classics Directed, individual study of a specific topic related to Classical languages, literature, and/or culture. Department approval required for admission. Prerequisite: Completion of four courses or equivalent in classics; minimum grade point average of 3.0 in the major; departmental approval required. 1-3 hrs.

LANG 5580 Second Language Acquisition and Teaching Instruction (in French, German, Spanish, or other language) Required of modern language teaching majors and minors. There will be a dual focus: a theoretical focus on second language acquisition and the ways by which non-native speakers come to acquire a foreign language; and a practical focus on methods of teaching in a proficiency-oriented program, as well as on the teaching and learning of culture and the pedagogical use of technologies. Students must complete this course before completing directed teaching. 3 hrs.

LANG 5800 Foreign Language for Special Purposes The study of or practice in a specialized area in the field of foreign language and culture such as court interpreting, medical or engineering terminology, or public school administration. The content of this course may vary from semester to semester. Students may repeat the
course for credit, provided the subject matter differs. Prerequisite: Completion of four courses in area of specialization; departmental approval required. 1 to 12 hours

**LANG 7100 Independent Research** 2-6 hrs.

**LAT 5020 Latin for Graduate Study** Latin instruction for graduate students enrolled in a degree program who need knowledge of Latin for their field of study. Students will sit in appropriate level course for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

**LAT 5030 Latin – English Translation Practicum** This is a practical course to teach the skills for translating texts from Latin into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of Latin texts, such as essays, poetry, documents, and short fiction. May be repeated for credit. Prerequisite: LAT 2010 or instructor approval. 1 – 4 hours

**LAT 5200 Topics in Latin Linguistics and Language Science** See the entry for LANG 5200. Prerequisites: Completion of four LAT courses. 3 hrs.

**LAT 5500 Independent Study in Latin** Directed individual study of a specific topic in Latin literature or linguistics. Departmental approval required for admission. Prerequisite: A minimum grade point average of 3.0 in the major. 1-3 hrs.

**LAT 5570 Teaching of Latin** The purpose of the course is to acquaint the prospective teacher with theory and practice appropriate to the Latin language, literature and culture in its classical context and as it relates to the modern world. Required of Latin teaching majors and minors. 3 hrs.

**LAT 5600 Medieval Latin** A survey of the development of Medieval Latin from late antiquity to the Renaissance. Specimens will include major literary and documentary sources of the medieval centuries including new genres such as hagiography, monastic rules, hymns, and homilies. Prerequisite: One of LAT 2000, LAT 2010, LAT 2040, LAT 3240, or equivalent, or permission of department. 4 hrs.

**RUSS 5020 Russian for Graduate Study** Russian instruction for graduate students enrolled in a degree program who need knowledge of Russian for their field of study. Students will sit in appropriate level course for their learning. May be repeated for credit. Prerequisites: Approval of department of student’s graduate program and approval of Department of Foreign Languages. 3-4 hrs.

**RUSS 5030 Russian – English Translation Practicum** This is a practical course to teach the skills for translating texts from Russian into English. The objective of this course is to develop further language proficiency and to introduce students to the nuts and bolts of translation. Students will produce English translations from different sorts of Russian texts, such as news, essays, documents, poetry, and short fiction. May be repeated for credit. Prerequisite: RUSS 2010 or instructor approval. 1 – 4 hours

**RUSS 5200 Topics in Russian Linguistics and Language Science** See the entry for LANG 5200. Prerequisites: Completion of four RUSS courses. 3 hrs.

**RUSS 5500 Independent Study in Russian** Directed individual study of a specific topic in Russian language, literature, or culture. 1-3 hrs.

**Geography**

**GEOG 5010 Introduction to Geographic Information Systems** Introduction to basic principles of Geographic Information Systems (GIS) with applications to a variety of problems using established data sources and repositories. Includes fundamental principles of cartographic design and communication. A first course in a curricular sequence developing GIS professional expertise. Prerequisite: Computer proficiency. 4 hrs.
GEOG 5210 Studies in Climatology and Meteorology  Studies at an advanced level in climatology and meteorology. Topics of current interest to atmospheric scientists, such as global climate change, are examined in depth. Regional climatic phenomena and their relation to atmospheric circulation patterns are also investigated. Prerequisite: GEOG 2250 or consent. 3 hrs.

GEOG 5430 Transportation Planning  This course covers the practice of planning multimodal transportation systems including motorized transportation networks (roads, cars, and trucking), public transportation (buses and rail), paratransit, non-motorized transportation (trails, bikes, and pedestrian), airlines and airports, freight (road, rail, water, and air) and information networks. Information processing applications covered in this course include GIS-T and Intelligent Transportation Systems. 3 hrs.

GEOG 5440 Studies in Economic Geography  Studies in world and local patterns of agriculture, manufacture, transportation, or retail/service activities. In any term, the course focuses upon one of these four economic sectors. 1. Agriculture. Describes and analyzes agricultural systems throughout the world; focuses on selected crop-livestock systems and the changing character of agricultural land use in the United States. 2. Manufacture. Examination of theories and strategies of industrial plant location, the relationship of industrialization to regional economic growth and development, and selected industry case studies evaluating the interrelations of locational, economic, technological, and political factors in the respective industry's historic evolution. 3. Transportation. Examination of the historic evolution of transport systems in developed and developing nations, transport factors in location theory, techniques of transport analysis, the urban transport dilemma, and competitive and complementary characteristics of the different transport modes. 3 hours

GEOG 5450 Studies in Human Geography  Each course listed under this general title is a concentrated study of one of the principal subdivisions of human geography. The scope and principal themes of each specialized field are reviewed, with consideration given to current research on selected problems. 1. Cultural Geography. Techniques of spatial analysis applicable to the study of humans and their environment. The place of origin, diffusion and present distribution of selected cultural patterns will be traced with emphasis given to cultural traits which strongly influence human occupancy of the earth's surface. 2. Historical Geography. Studies of geographic and related features which have combined to influence the course of historical development. This course will concentrate on a particular region and/or period of time during each semester in which it is offered. Each specialization will be designated in the Schedule of Course Offerings. 3. Political Geography. General survey of the principles and the applied aspects of political geography; primary emphasis on the physical and cultural resource bases and conflicts of national states, the assessment of location, boundary delimitation and the territorial sea, politically-organized territories within the administrative hierarchy, and electoral geography. Prerequisite: GEOG 2030 or GEOG 2050 or GEOG 2440, or by consent of instructor. Course 2-3 hrs.

GEOG 5530 Water Resources Management  Examination of water resources management with emphasis on the effects of water uses and runoff on water quality and quantity. Topics include water resource systems, estimating consumptive and nonconsumptive water uses and runoff with computer models, and multiple socio-economic and hydrological factors in water resources management. Prerequisite: Graduate, senior, or junior standing. 3 hrs.

GEOG 5540 Outdoor Recreation: Resources and Planning  Examination of extensive, resource-based outdoor recreation (such as parks, wilderness, wild rivers, hunting and fishing, hiking, etc.) with emphasis upon recreational planning. Topics include supply and demand for outdoor recreation, identification of present and future recreational needs, policy considerations, administration of recreational land uses, and various problems associated with outdoor recreation. Readings, discussion, and student-designed and executed individual studies provide professional orientation. 3 hrs.

GEOG 5550 Contemporary Issues in Resources Management  Examination of selected contemporary natural resource and environmental problems, such as questions of natural resource adequacy, environmental pollution, energy shortages, political and economic problems related to resource management, and individual studies of local environmental problems. Prerequisite: GEOG 3500 or consent. 3 hrs.
GEOG 5560 Studies in Urban and Regional Planning  Each of the courses listed under this number focuses on a major aspect of planning, including a review of the objectives of the planning process, legislation pertaining to planning operations, and methods of field and library investigation required for analysis and policy formulation in matters related to planning.

1. Urban Planning and Zoning. The Planning Process and the development of Comprehensive Plans as practiced in American communities. The legal foundations of zoning and subdivision regulations, and the implementation of the comprehensive plan. The organization, role, and relationship of the planning commission, the zoning board, and the planning department in the community. Prerequisite: GEOG 3560 or consent.

2. Regional Planning. Studies in the administration and coordination of planning programs at the regional level, e.g., transportation and communications, land use and conservation, drainage systems and wastewater treatment, residential and industrial development. The evolution and current status of planning methodologies are examined with emphasis on economic and environmental tradeoffs, and on problems of implementing regionally-oriented planning programs.

3. Public Lands and Parks. Specific programs and policies relating to the preservation and/or development of government-controlled lands. Prerequisite: GEOG 3560 or Graduate standing. 3 hrs.

GEOG 5570 Environmental Impact Assessment Alteration of the natural and human environment for perceived economic and social benefits often has significant adverse consequences. Recognition of this problem is reflected in federal, state, and local laws and regulations requiring environmental impact statements. The course provides an introduction to the analysis and preparation of environmental impact assessments. 3 hrs.

GEOG 5630 Surveying Techniques The theory and application of geographic techniques and instruments of field investigations: collection and analysis of field data, preparation and presentation of materials. The course is based primarily upon field operations. The purpose is to introduce students to the capabilities and limitations of traditional surveying techniques and the Global Positioning System (GPS). Students will gain a basic understanding of how satellite-based navigation systems operate and they will put into practice through a series of field exercises. Prerequisite: GEOG 5010. Prerequisites applicable to all 5000-level courses in Geography include 14 credit hours of geography, or consent of advisor and/or instructor. 4 hours

GEOG 5660 Field Geography The theory and application of geographic techniques and instruments of field investigations: collection and analysis of field data, preparation and presentation of materials. The course is based primarily upon field observations. Prerequisites: GEOG 2650. 2-4 hrs.

GEOG 5670 Spatial Analysis Introduction to fundamental principles and procedures of representation and analysis of geographic data, in a variety of applications. The course combines theoretical discussions with practical data analysis. Topics include geographic measurement and representation; methods and software for descriptive and inferential statistics, with emphasis on spatial data analysis; computer mapping techniques; geographic modeling; and exploration of data resources. Prerequisites: GEOG 5010 and STAT 3660. 4 hrs.

GEOG 5690 Intermediate Geographic Systems Principles and applications of Geographic Information Systems (GIS). Examines the nature and accuracy of spatially referenced data, as well as methods of data capture, storage, retrieval, visualization, and output. Emphasis is placed on developing solutions to problems involving spatial entities and attributes by employing logical conceptual analysis using the tools provided by a typical geographic information system. Prerequisite: GEOG 5010. 4 hrs.

GEOG 5700 Cities and Urban Systems Study of processes and forms of urban settlement highlighting problems relating to 1. political and geographical realities of urbanized regions; 2. factors in city growth (or decline); 3. size, function, and geographical distribution of cities; and 4. land use and population patterns in contemporary cities. Activities are designed to provide the student with experience in the use of source materials and methods of analysis utilized in urban geography. 3-4 hrs.

GEOG 5710 Introduction to Community Development and Planning An introductory survey of community planning and development practices in America. Topics include concepts of community planning and development, evolution and development of planning thought and practice in America, the background of planning and zoning in American municipalities, traditional and contemporary approaches to planning, planning theory,
elements of planning law and administration, and ethical issues in planning. Prerequisites: GEOG 3560 or Graduate standing or Instructor approval. 3 hours.

GEOG 5820 Remote Sensing of the Environment
An introduction to the concepts and foundations of air photo and satellite image interpretation, photogrammetry, and digital image processing. Students are also exposed to the physical principles that underlie electromagnetic radiation and its interactions with the earth-atmosphere system. Students who successfully complete this course should be able to understand the capabilities and limitations of photographic and digital imagery obtained from aircraft and space-borne platforms. 3 hrs.

GEOG 5970 Independent Study
Designed for highly qualified majors and graduate students who wish to study in depth some aspect of their field of specialization under a member of the departmental staff. Prerequisite: Written consent of departmental advisor and instructor. 1-3 hrs.

GEOG 6090 Studies in Regional Geography
An investigation of selected topics in physical and human geography of a region, e.g., Latin America, Anglo-America, Europe. Regional concentration will vary from semester to semester, with the region being indicated at time of enrollment. May be repeated for credit. Prerequisite: Approval of the graduate advisor. 2-3 hrs.

GEOG 6200 Seminar in Physical Geography
A review of current literature and recent developments in several disciplines which form the basis of physical geography. Since each seminar emphasizes different subject areas, such as landforms, soils, and vegetation, this seminar may be repeated. A final research project is required. 2-3 hrs.

GEOG 6610 Geographic Research
Problem formulation and research design are introduced in light of modern geographic thought and current practices. Other course emphases are sources of geographic information, search strategies, and the written presentation of research materials. Graduate students in geography are urged to complete this course as soon as possible. 4 hrs.

GEOG 6650 Seminar in Geography
Designed for the advanced student interested in analyzing problems related to various topics in geography. Prerequisite: Consent of instructor. 1-3 hrs.

GEOG 6660 Professional Development Seminar
Students participate in selected activities related to professional development. These activities include critiques of professional presentations, participation in professional meetings, and presentations of papers to faculty and colleagues. 1 hr.

GEOG 6690 Advanced GIS Seminar
This course extends the focus of GEOG 5690, Geographic Information Systems, from concepts and procedures to project applications and techniques in both individual projects and in seminar. Each student will be required to determine a Geographic Information Systems (GIS) problem and devise an efficient, innovative, and practical solution using advanced techniques in spatial analysis, spatial statistics, and cartographic programming. This course will increase the exposure to the state of the art in GIS software, theory, and practice. Seminar topics will include professionally relevant issues such as interfaces of GIS with spatial analysis, spatial statistics, remote sensing, and spatial remodeling and customizing GIS with internal and external programming languages, project design, and management. Prerequisite: GEOG 5690. 3 hrs.

GEOG 6700 Seminar in Urban Geography and Planning
A review of the current literature and recent methodological developments in the field of urban geography and planning. Prerequisite: GEOG 5560. 2-3 hrs.

GEOG 6710 Landscape Ecology and Regional Planning
This course examines the relatively new field of landscape ecology and how the analysis of landscape spatial structures can be used to improve land-use planning decisions. In landscape ecology, the analysis is based upon a model of interaction of a “mosaic” of “patches”, “corridors”, and “matrixes” on the landscape. Regional ecology extends this analysis to the interaction of landscape mosaics across regions. The seminar will focus on the patterns and changes of these mosaics, analyzing human uses and impacts on the landscape. 3 hrs.
GEOG 6720 Community Analysis and Planning Techniques

Techniques and methods used in community and regional planning with emphasis on social, economic and location analysis. Topics include population analysis, income measures, linkages and flow studies, economy composition analysis, economic base analysis, input-output, project evaluation, location analysis, and geographic information systems applications. Prerequisite: GEOG 5710 3 hours

GEOG 6730 Seminar in Community Development and Planning

A detailed examination of the current practices of community development and planning in America. Topics will include comprehensive planning, community economic development, housing, downtown and neighborhood revitalization, environmental issues, and the community development practitioner. Prerequisite: GEOG 5710 3 hours

GEOG 6820 Advanced Remote Sensing

This course focuses on acquisition and interpretation of remotely sensed data, including data collection with several instruments. The main body of this course stresses interactive interpretation of digital image data collected from aircraft or satellites and manipulated within image processing/geographic information system software. Prerequisite: GEOG 5820. 3 hrs.

GEOG 6860 Content Standards in Geography/Social Studies Teaching

The course develops the content that is essential for teaching content standards based social studies in Michigan schools with an emphasis upon geography. The content basis, including theories, concepts, and principles of the social sciences and the inquiry processes they employ, will be applied to the instructional expectation of social studies teachers. Prerequisite: Consent of departmental advisor. 3 hrs.

GEOG 6870 Assessment in Geography/Social Studies

The course develops classroom and large-group assessment theory and principles of practice in geography/social studies for grades 5-12 students. Selected, constructed and extended response items that conform to the MEAP model for social studies are the assessment form for development, design, and analysis. Emphasis will be on classroom tests that assess higher level thinking skills in geography/social studies. Prerequisite: Consent of departmental advisor and instructor. 3 hrs.

GEOG 7000 Master's Thesis

6 hrs.

GEOG 7100 Independent Research

2-6 hrs.

GEOG 7120 Professional Field Experience

2-12 hrs.

Geosciences

GEOS 5020 Problems in Geology and Earth Science

Individual problems involving topical reading and/or research problems in earth sciences. Prerequisites: GEOS 3000, 3010, 4400, or consent of instructor. 1-3 hrs.

GEOS 5060 Introduction to Soils

Properties of natural and engineered soils. Interactions between soils and plants, microorganisms, water, atmosphere, and contaminants. Soil uses, remediation, and conservation. Prerequisites: GEOS 3010 and either (MATH 1220 or MATH 1700) and CHEM 1000 and CHEM 1110; Corequisite MATH 1230 or 1710. 3 hrs.

GEOS 5090 Surface Water Hydrology

Hydrology describes the waters of the earth, their occurrence, circulation and distribution, and their reaction with the environment. Emphasis is on quantitative aspects of surface water. Topics include, stream flow, precipitation, evapotranspiration, hydrographs, runoff, probability analysis and modeling. Prerequisites: MATH 1230 or 1710. 3 hrs.

GEOS 5120 Hydrogeology

The study of surface water and groundwater with special emphasis on groundwater movement and relation to the geologic environment. Prerequisites: GEOS 3010 or GEOS 3350; MATH 1220 or 1700. MATH 1230 or 1710 to be taken concurrently. 3 hrs.

GEOS 5140 Isotope Hydrology

in understanding round water nitrogen cycling and fate of nitrate load. Introduction to developments in the application of chlorine isotopes in hydrology. The course will include a seminar style approach requiring summarizing of recent research papers. Prerequisite: Instructor’s consent. 3 hrs.

GEOS 5160 Geochronology and Global Change Application of the concepts of nuclear physics and chemistry to geological problems. Topics to include absolute and relative dating, formation of the elements, global change and causes of global change. Prerequisites: Basic knowledge of chemistry, physics, and math; GEOS 3350. 3 hrs.

GEOS 5200 Economic Geology Origin, occurrence, and utilization of metallic and non-metallic mineral deposits, and mineral fuels. Prerequisite: GEOS 3010 or GEOS 3500. 3 hrs.

GEOS 5210 Geological and Environmental Remote Sensing The course provides rigorous (70% of student’s effort) hands-on-exercises on the applications of remote sensing techniques in geological and in environmental sciences. The hands-on exercises are primarily based on case studies that were published in peer-reviewed articles, data downloaded from our receiving station, and/or data collected by the students using hand-held VNIR spectro-radiometer. In the process of solving the lab exercise, the students will master image processing techniques. The fundamentals of remote sensing will be covered as well, since the student cannot start dealing with applications unless he or she knows the fundamentals. Throughout the course, the students will work with a wide-range of space-borne data sets including CORONA, Landsat MSS, Landsat TM, SPOT, ASTER, SIR-C, SRTM, AVIRIS, ASAR, and ERS. 4 hrs.

GEOS 5230 Hazardous Waste Operation and Emergency Response Training in safety procedures for working on hazardous sites. Training in the safe handling of hazardous materials which might be encountered during drilling, soil sampling, or water sampling. Review of State and Federal regulations. Use of personal protection equipment. Satisfies OSHA 40 hour training requirements. Prerequisites: GEOS 4120 or 5120. 1 hr.

GEOS 5240 Remediation Design and Implementation Principles and techniques for the remediation or cleanup of ground water and soils contamination. Introduction to pump and treat systems, bioremediation, soil vapor extraction, air sparging, and others. Choosing the appropriate system and sizing it for economical application to a specific site. Field trips required. Prerequisites: GEOS 4120 or 5120. 1 hr.

GEOS 5250 Surface Geophysics An introduction to the use of those surface geophysical methods used in the investigation of ground water. Includes shallow seismic, electrical, and magnetic methods; and ground penetrating radar. Prerequisite: GEOS 4120 or GEOS 5120. 1 hr.

GEOS 5260 Principles and Practices of Aquifer Testing Introduction to the methods of aquifer testing with emphasis on step drawdown pump tests, forty-hour pumping test with recovery, slug tests and bail tests data processing, using computer software, water level recorders, data loggers and water level measuring equipment. Prerequisite: GEOS 4120 or GEOS 5120. 1 hr.

GEOS 5270 Principles of Well Drilling and Installation An introduction to hollow-stem auger drilling and well installation, rotary drilling with mud and air, cable tool drilling, monitoring well design, sample collection and description; cuttings, spit spoon, and Shelby tube, borehole geophysics, and installation and development of wells. Prerequisite: GEOS 4120 or GEOS 5120. 1 hr.

GEOS 5280 Principles/Practices of Groundwater Sampling/Monitoring An introduction to state-of-the-art techniques for sampling, monitoring, and evaluating groundwater systems and surface water interactions. Includes quality control and assurance procedures, groundwater sampling equipment and procedures, field hydrochemical equipment and procedures, and vadose zone sampling of water and gas. Prerequisite: GEOS 4120 or GEOS 5120. 1 hr.

GEOS 5300 Plate Tectonics and Earth Structure Major tectonic features and internal structure of the earth in relation to plate tectonics, critical examination of the tenets of plate tectonics. Prerequisites: GEOS 3010 or GEOS 3350, 4300, or consent of instructor. 3 hrs.
GEOS 5350 GIS Applications in Geological and Environmental Sciences   The course provides rigorous hands-on-exercises (based on data from case studies) on the applications of statistical methods, GIS technologies, and other computer-based software to the management, analysis, and display of multidimensional, geological, hydrogeological, and environmental data sets (70% of student effort). The course will cover (30% of student effort) the fundamentals of spatial data analysis and GIS technologies as well, since the students can not start dealing with applications unless they understand the fundamentals. In addition, students will be required to complete a research project using spatial data sets and acquired expertise. Prerequisites: Instructor approval. 3 hrs.

GEOS 5360 Glacial Geology   A study of the mechanics of glacial movement, processes of glacial erosion and deposition, and the distribution of glacial features in space and time. Special emphasis will be placed on the glacial geology of the Great Lakes area. Prerequisite: GEOS 3010 or GEOS 3350. 3 hrs.

GEOS 5400 Igneous and Metamorphic Petrology   Advanced discussion of origins and positions of igneous and metamorphic rocks in light of recent experimental evidence and concepts of global tectonics. Prerequisite: GEOS 4400 or equivalent. 4 hrs.

GEOS 5450 Hazardous Waste Remediation   Content includes chemical, physical, and biological processes affecting contaminants in the subsurface. Topics include environmental regulations, remediation, site characterization, contaminant characterization, detailed engineering and management considerations related to the design and operation of hazardous waste remediation systems involving water pollution, air pollution, solid waste, and groundwater pollution. Prerequisites: CHEM 1120/1130; MATH 1220 or 1700. Corequisite MATH 1230 or 1710. 3 hrs.

GEOS 5550 Introduction to Geochemistry   An introduction to high and low temperature geochemistry. Topics to be discussed include cosmochemistry, crystal chemistry, thermodynamics and kinetics, aqueous geochemistry, stable and radiogenic isotope geochemistry, organic geochemistry, and biogeochemistry. Prerequisites: GEOS 3350, CHEM 1120/1130. 3 hrs.

GEOS 5600 Introduction to Geophysics   Seismology, gravity, geomagnetism, electrical resistivity, and heat measurements applied to the determination of the internal structure of the earth. Prerequisites: Either (GEOS 3010 or GEOS 3350); and GEOS 4300; AND either (MATH 1220 OR 1700); AND two semesters of college physics; or instructor approval. 3 hrs.

GEOS 5610 Reflection Seismology   Reflection seismology and related techniques as applied to petroleum exploration and deep crustal exploration. Theoretical background, data collection, data processing and interpretation will be discussed. Prerequisites: GEOS 5600 and MATH 1230 or 1710. 3 hrs.

GEOS 5620 Gravity and Magnetic Exploration   Gravity and magnetic methods applied to tectonic, mineral exploration, hydrogeologic, and crustal studies. Theoretical background, instrumentation, surveying techniques, data reduction, processing, computer modeling, and interpretation will be discussed. Prerequisites: GEOS 5600 and MATH 1230 or 1710. 3 hrs.

GEOS 5630 Electrical Methods   Resistivity sounding and profiling, induced polarization, spontaneous potential, electromagnetic methods using natural and artificial fields. Prerequisites: GEOS 5600, MATH 1230 or 1710, and (PHYS 4400 recommended). 3 hrs.

GEOS 5640 Environmental Field Geophysics   Field studies utilizing seismic gravity, and magnetic, electromagnetic, georadar, and electrical resistivity methods for glacial geology and ground-water, engineering, and environmental problems in the Kalamazoo area. Course also includes field work at local sites. Prerequisite: GEOS 5600, or consent of instructor. 3 hrs.

GEOS 6000 Hydrogeochemistry   Geochemical origin and characteristics of surface water and groundwater; equilibrium thermodynamics, the carbonate system, redox processes, ion exchange, organic compounds and isotopes. Prerequisite: GEOS 5120 or consent of instructor. 3 hrs.
GEOS 6050 Groundwater Modeling
Study of groundwater flow and contaminant transport rates using analytical and numerical models. Prerequisites: GEOS 5120 and MATH 1230 or 1710. 3 hrs.

GEOS 6100 Geochemistry
An introduction to the basic principles and theories of geochemistry. Prerequisites: GEOS 4400 or permission. 3 hrs.

GEOS 6110 Advanced Stratigraphy
Introduction and application of cycle and sequence stratigraphy from a rock-based perspective. Emphasis on recognizing vertical stacking patterns and sequence hierarchy of depositional units identified from outcrop and subsurface data sets for application to reservoir modeling. Prerequisites: GEOS 3350 or departmental approval. 3 hrs.

GEOS 6120 Advanced Hydrology
Analytical and numerical analysis of groundwater flow and contaminant transport. Topics include well hydraulics, flow in unsaturated soils, multiphase flow, and advection-dispersion. Prerequisites: GEOS 5120, 6050, and MATH 1230 or 1710. 3 hrs.

GEOS 6130 Wetlands Hydrology
Introduction to hydrologic function of wetlands, wetlands classification, and the relationship between hydrology and soil and plants. Emphasis will be placed on the use of these parameters in wetlands delineation. Prerequisite: GEOS 5120 or consent of instructor. 3 hrs.

GEOS 6140 Environmental Regulatory Overview
Study of those federal and state laws that govern the distribution, use and pollution of natural waters. Emphasis is placed on current interpretations and policy. 3 hrs.

GEOS 6150 Contaminant Hydrology
Theory and field methods related to the transport of contaminants in groundwater. Includes theoretical considerations, case histories, law, analysis of problems, and preparation of hydrogeological reports. 3 hrs.

GEOS 6170 Stable Isotope Geochemistry

GEOS 6300 Structural Analysis
The theory of and methods involved in the geometric, kinematic, and dynamic analysis of deformed rock bodies. All scales of observation are considered from hand specimens to large map areas. Prerequisites: GEOS 4300 and consent. 3 hrs.

GEOS 6340 Research in Geology and Earth Science
Advanced readings or research in an area to be selected after consultation with a supervising staff member. 1-4 hrs.

GEOS 6450 Carbonate and Evaporite Depositional Systems
Processes, characteristics, and relationships of modern and ancient basinal carbonate and evaporite facies. Course includes an 11-day field trip (Winter break) to investigate Holocene, Pleistocene, and Tertiary carbonate environments and facies in Florida; and a 3-day trip to northern Indiana and Ohio to examine Silurian Platform carbonates. Student projects include logging, description, and interpretation of cores and slabs at the mesoscopic level. Prerequisites: GEOS 4330 and 4350, or consent of instructor. 3 hrs.

GEOS 6500 Topics in Geology and Earth Science
An intensive study of specific subjects in the area of Earth Science as listed. Prerequisite: Consent of instructor. Subject to be offered during a semester or term. Will be announced in advance. 2-4 hrs.

GEOS 6550 Quantitative Basin Analysis
Theory and practical application of sequence stratigraphy and backstripping; two fundamental tools of the petroleum industry and academic community. Prerequisites: GEOS 4350 and GEOS 5600 or consent of instructor. 3 hrs.
GEOS 6560 Clastic Depositional Systems  Description and analysis of clastic depositional systems and discussion of the sediment they produce. Laboratory investigations include stratigraphic and seismic analysis. Prerequisite: GEOS 4350 or consent of instructor. 3 hrs.

GEOS 6600 Seminar in Geology and Earth Science  A seminar designed to provide students with the opportunity to examine and discuss important problems in Earth Science. Oral presentations will be required. Prerequisite: Consent of instructor. 1 hr.

GEOS 7000 Master's Thesis 6 hrs.
GEOS 7100 Independent Research 2-6 hrs.
GEOS 7120 Professional Field Experience 2-12 hrs.
GEOS 7300 Doctoral Dissertation 15 hrs.
GEOS 7350 Graduate Research 2-10 hrs.

History

HIST 5000 Studies in History  Topics announced in Schedule of Course Offerings. 1-3 hrs.

HIST 5150 Topics in Public History Selected topics in aspects of public history including museology, historic preservation and cultural resource management, historical administration, information science, and applied research. Topics listed in Schedule of Course Offerings. Prerequisite: Departmental approval. 1-3 hrs.

HIST 5170 Topics in Economic and Social History Selected topics in the history of economic and social conditions and change such as the development of world trade and world economy, development and modernization, urbanization, social and political movements, demography and migration, family structure, etc. Topics announced in Schedule of Course Offerings. 1-3 hrs.

HIST 5190 Topics in Intellectual and Cultural History Selected topics in the history of ideas, literary and artistic expression, intellectual and cultural character of various periods and civilizations, examination of historical conditions through philosophy and the arts, etc. Topics announced in Schedule of Course Offerings. 1-3 hrs.

HIST 5300 Studies in Early American History 3 hrs.

HIST 5350 Studies in Recent American History 3 hrs.

HIST 5500 Studies in Medieval History 3 hrs.

HIST 5650 Studies in Modern European History Selected approaches to European history since the Renaissance. Topics listed in Schedule of Course Offerings. 3 hrs.

HIST 5850 Studies in Asian and African History 3 hrs.

HIST 5900 Proseminar  Research and writing on selected themes. Topics listed in Schedule of Course Offerings. 3 hrs.

HIST 5910 Topics in Theory and Practice  Selected theoretical, technical, and interpretive issues in the field of history: interaction with methodologies of other social science and humanities disciplines; innovative forms and techniques of documentation and data collection; major historical interpretations currently before the
academic world and the public. Topics listed in Schedule of Course Offerings. Prerequisite: Graduate students only. 1-3 hrs.

**HIST 5920** Computers in Historical Research  Computer applications to historical and related research projects including manuscript analysis techniques, text-oriented databases, museum and historical agency database and registration systems, simulations, etc. Survey of applications in closely related disciplines. 1-3 hrs.

**HIST 5950** History Writing Workshop  Practicum in the writing of history: editing and publishing; preparation of written materials for lay readers and audiences outside the discipline. 1-3 hrs.

**HIST 5960** Local History Workshop  Practicum in research techniques for problems in local and small community history, including oral tradition, genealogy, and interdisciplinary method. Prerequisite: Departmental approval. 1-3 hrs.

**HIST 6000** Historical Method  Introduction to the field of history and its recent development. Practice in the use of oral and written communication skills for conveying historical knowledge to various audiences. Survey of major journals and bibliographical tools for general research. Examination of interaction between historical techniques and those of related disciplines. 3 hrs.

**HIST 6010** Historiography  Study of the major figures, ideas, and developments in historiography. Students may conduct research in their fields of concentration. 3 hrs.

**HIST 6050** Readings in Early United States History  Intensive study of historiography interpretations, major works, serials, and databases in United States history from colonial times until the late nineteenth century. 3 hrs.

**HIST 6060** Readings in African American History  Intensive study of historiography, interpretations, major works, serials, and databases in African American History from the era of the transatlantic slave trade to the present. 3 hrs.

**HIST 6080** Readings in Recent United States History  Intensive study of historiography, interpretations, major works, serials, and databases in United States history from the late nineteenth century to the present. 3 hrs.

**HIST 6100** Ethnohistory Seminar  Ethnohistory is the study of cultures combining research techniques and theoretical approaches from the fields of history and anthropology. This course will survey ethnohistorical research on a hemispheric level, including the United States, Canada, Mexico, Central and South America. We will read works in the areas of culture contact, colonialism, material analysis, historiography, oral history, gender, historical archaeology, ethnography, tribalization, globalization, and modernization. The core of ethnohistory lies in the realization shared by practitioners of the benefits obtained through the use of multiple lines of evidence to study history and culture. Ethnohistorians recognize that documents, archaeological findings, oral histories, and ethnographies can be profitable compared, contrasted, and integrated to elucidate the histories and cultural contexts of groups that have been ignored in conventional historical accounts. Thus, interdisciplinary study is incumbent in ethnohistory. By juxtaposing multiple lines of evidence, the ethnohistorian can at once examine the distant and the local, the general and the particular, binging human experience into better focus. This course is cross-listed with ANTH 6090. 3 hrs.

**HIST 6100** Readings in Islamic History  Intensive study of the historiography of the medieval Muslim Middle East, from the rise of Islam until the Ottoman conquest of Egypt and Syria. Topic may vary from year to year. 3 hrs.

**HIST 6110** Readings in Byzantine History  The course examines central issues in the modern historiography of the Byzantine Empire. Readings cover the institutions of the Byzantine Empire, Byzantine culture, the Byzantine economy, the Orthodox Church, the rise of the Byzantine aristocracy, Byzantine peasantry and agrarian relations, Byzantine women, and the dissemination of Byzantine culture among the Slavs. 3 hrs.
HIST 6120 Readings in Medieval History
Intensive study of historiography, major works, serials, and databases in medieval history. 3 hrs.

HIST 6160 Readings in Modern European History
Intensive study of historiography, major works, serials, and databases in European history from approximately 1750 to the present. 3 hrs.

HIST 6180 Readings in Global and Contemporary History
Intensive study of historiography, interpretations, major works, serials, and databases dealing with issues in modern world history, such as colonialism, nationalism, international conflict and cooperation, economic integration, etc. Topics may be listed in Schedule of Course Offerings. 3 hrs.

HIST 6200 Bibliographical Research
Research in the literature of specialized topics and issues as they pertain to thesis or dissertation preparation, and preparation of a bibliographical essay. Topics may be listed in Schedule of Course Offerings. Prerequisite: Departmental approval. 1-3 hrs.

HIST 6250 Problems in Cultural Resource Management
History and practice of various facets of administration, conservation, development and interpretation of cultural and historical sites, agencies and institutions. Topics may be listed in Schedule of Course Offerings. 1-3 hrs.

HIST 6350 Research Techniques in Medieval History
Introduction to the sources and methods used in the study of medieval Europe. Interpretation of written sources including narratives, chronicles, charters, early government records, etc., with emphasis on authentication, dating and localizing these materials. Survey of techniques for interpreting artifacts and material culture such as archaeology, numismatics, and epigraphy. 3 hrs.

HIST 6360 Documentary Latin Paleography, 1100-1500
Introduction to medieval Latin paleography and diplomatics, focusing on the Latin, scripts, abbreviations, and form of documents from historical archives of the High and Late Middle Ages, i.e., 1100-1500. Taught as a practicum offering students maximum practice in the transcription and reading of materials reproduced from various Spanish and Italian ecclesiastical and notarial archives, and from the royal Aragonese and papal chancelleries. 3 hrs.

HIST 6400 Museums Practicum
Supervised field assignment with focus on a research project dealing with a specific aspect of museum or site administration such as registration, collections development, conservation, interpretation, etc. Registration requires approval of the Department Chair. Prerequisite: Departmental approval. 3-6 hrs.

HIST 6420 Oral History
Techniques and methodology of orally transmitted historical data. Considers oral history in various cultural settings under both literate and nonliterate conditions. 3 hrs.

HIST 6440 Material Culture and the Built Environment
Social and cultural studies of artifacts, the design and furnishing of domestic space, and the social construction of the built environment in selected historical periods. Topics listed in Schedule of Course Offerings. 3 hrs.

HIST 6460 Historical Archaeology
Development of approaches and perspectives that link documentary sources and material culture. Considers archaeology’s artifactual focus and its application in areas such as ethnohistory, art history, the history of technology, and submerged cultural resources. Topics listed in Schedule of Course Offerings. 3 hrs.

HIST 6500 Special Projects
Participation in departmental research and interpretive projects. Topics may be listed in Schedule of Course Offerings. Registration requires approval of the Department Chair. Prerequisite: Departmental approval. 1-3 hrs.

HIST 6600 Theories of Gender and History
This readings seminar explores the variety of ways in which gender as a theoretical perspective and as an object of study has affected the discipline of history. Students will review and evaluate gender as a theoretical perspective, assessing its development as a field of study. They will then read and critique a series of texts illustrative of the new insights that a gender perspective has brought
to historical research. Specific works consulted will depend on the interests of the seminar members. Studies on
gender have reconsidered fundamental historical categories—modernity, progress, and the state—and range widely.
Students will present their own research in a substantial paper, applying the lens of gender to their specialization.
3 hrs.

HIST 6620 The Construction of Gender This graduate seminar explores
constructions of “gender” as a method of historical analysis; the historical developments of the categories of “man”,
“woman”, masculinity and/or femininity; and how these categories were produced and historically contested.
Students will become familiar with a range of theoretical and methodological approaches to studying gender in
history; and will study the application of gender as a method of analysis in a particular historical, geographical,
and/or topical context determined by the instructor. The instructor will determine whether the course is a reading or
research seminar. 3 hrs.

HIST 6680 Gender and Migration This course explores the intersection of gender with
the movement of peoples, goods, and ideas and the consequent encounters, exchanges, and transformations that
result from these movements. The focus of the course will vary by chronology and geography depending on the
instructor. Envisioned as one of several cluster courses in the History Department’s graduate emphasis on gender,
this course might be offered as either a readings seminar or research seminar, again depending on the intent of the
instructor and goals of the course. 3 hrs.

HIST 6700 Seminar in History Selected issues and problems in historical studies. Topics
announced in Schedule of Course Offerings. 3 hrs.

HIST 6720 Seminar in Local History Methodology Research design and execution
organized around interdisciplinary methodology. Presentations and research supervision by faculty with interest in
exhaustive, small-scale historical reconstruction in a variety of time periods and geographical settings such as
American, medieval, African and non-Western traditional, etc. Topics may be listed in Schedule of Course
Offerings. 3 hrs.

HIST 6750 Seminar in Early United States History Advanced research. Topics may be listed in
Schedule of Course Offerings. 3 hrs.

HIST 6760 Seminar in African American History Advanced research in African American
history. Topics may be listed in Schedule of Course Offerings. 3 hrs.

HIST 6780 Seminar in Recent United States History Advanced research. Topics may be listed in
Schedule of Course Offerings. 3 hrs.

HIST 6810 Byzantium and the West, 900—1400: Research Seminar The seminar explores the
political, economic, and cultural relations between the Byzantine Empire and Western Europe in the period between
900 and 1400. In the first half of the course, students will discuss accounts of Western travelers (pilgrims, diplomats,
and crusaders) to Byzantium and will familiarize themselves with relevant secondary works. The second half of the
course centers on a close reading and analysis of a Latin travel narrative. Prerequisites: HIST 6350 or
permission by the instructor. 3 hrs.

HIST 6820 Seminar in Medieval History Advanced research. Topics may be listed in Schedule
of Course Offerings. Prerequisites: HIST 6350 or consent of instructor. 3 hrs.

HIST 6840 Readings in Atlantic History Atlantic history as an area of academic inquiry
focuses on the connections among the peoples of Africa, Europe, and the Americas. This readings course will
introduce students to this field, enabling them to acquire the necessary conceptual and methodological framework to
pursue further studies in Atlantic history. In this course, we will examine scholarly works that address key topics in
Atlantic history, from the seventeenth to the nineteenth centuries. Topics may include the nature of African,
European, and American societies on the eve of contact; the transfer of peoples and pathogens to the Americas; the
movement of commodities; slavery and emancipation; revolution and the transfer of revolutionary ideas. 3 hrs.
HIST 6850  Seminar in Atlantic History  Advanced research in the history of the Atlantic world, ca. 1500 to present. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6860  Seminar in Modern European History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6880  Seminar in Global and Contemporary History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6890  Seminar in Public History  Advanced research. Topics may be listed in Schedule of Course Offerings.  3 hrs.

HIST 6980  College Teaching and Professional Activity  Introduces students to full range of teaching and other professional activities of historians as well as how to prepare for the job market: syllabi preparation and writing, class presentations, evaluation methods, grant applications techniques, publishing, conference presentations and vita preparation. Instructor mentors students in independent teaching assignments.  3 hrs.

HIST 7000  Master's Thesis  Prerequisite: Departmental approval.  6 hrs.

HIST 7100  Independent Research  Prerequisite: Departmental approval.  2-6 hrs.

HIST 7120  Professional Field Experience  Prerequisite: Departmental approval.  2-12 hrs.

HIST 7300  Doctoral Dissertation  Prerequisite: Departmental approval.  12-18 hrs.

HIST 7350  Graduate Research  Prerequisite: Departmental approval.  2-10 hrs.

International and Area Studies

INTL 5000  Topics in Global and International Studies  Topics may be listed in Schedule of Course Offerings.  1-3 hrs.

INTL 6040  Graduate Foreign Studies Seminar  Seminars in the Social Sciences conducted outside the U.S. Students may receive credit in Africana Studies, Anthropology, Economics, Geography, History, Political Science, or Sociology, if the credit is approved by the chairperson of the department prior to registering for the seminar. Topics may be listed in the Schedule of Course Offerings. Prerequisite: Approval of the student's graduate advisor and the instructor.  1-6 hrs.

INTL 6050  Graduate Foreign Studies Seminar  Seminars in the Humanities conducted outside the U.S. Students who complete such a seminar may receive credit in Communication, Comparative Religion, English, Foreign Languages, Philosophy, Spanish, and the departments of the College of Fine Arts, if the credit is approved by the chairperson of the department prior to registering for the seminar. Topics may be listed in the Schedule of Course Offerings. Prerequisite: Approval of the student's graduate advisor and the instructor.  1-6 hrs.

Mathematics

MATH 5070  Numerical Analysis I  The analysis and use of numerical algorithms for the solution of nonlinear equations, systems of linear equations, interpolation, numerical differentiation and integration. Prerequisites: MATH 3740 and a computer programming language beyond Basic, e.g., FORTRAN or C.  3 hrs.

MATH 5100  Applied Matrix Algebra  An introduction to the study of methods to solve linear systems of equations, least squares approximation problems, and eigenvalue problems. Topics covered include the algebra of real and complex matrices with particular emphasis on LU-decompositions, QR-decompositions, singular value decompositions, generalized inverses, Hermitian symmetric matrices, positive definite matrices and the Spectral Theorem. Applications from multivariate calculus will be discussed. Prerequisites: Either MATH 2300 or (MATH 2720 and MATH 3740). 3 hrs.
MATH 5220 Introduction to Topology  
Topics to be chosen from: Topological spaces and continuous functions, metric spaces, connectivity, separation axioms, compactness, product and quotient spaces, paracompactness, and manifolds.  Prerequisite: MATH 3300 or MATH 5700.  3 hrs.

MATH 5270 Differential Geometry of Curves and Surfaces  
An introduction to Riemannian Geometry with emphasis on curves and surfaces. Topics may include isometries, orientation, differential forms, curvature, metrics, and geodesics.  Prerequisites: MATH 2720 and either MATH 2300 or 3740. (MATH 3140 is recommended.)  3 hrs.

MATH 5300 Linear Algebra  
Properties of finite dimensional abstract vector spaces, linear transformations, and matrix algebra are studied.  Prerequisite: MATH 3300. 3 hrs.

MATH 5540 Algebra in the Elementary/Middle School Teachers  
This course is devoted to the learning of algebra in elementary and middle grades. Concepts and skills are developed and reinforced using a variety of approaches and materials. Computing technologies are used throughout the course to develop concepts; to explore the connections among numeric, graphic, and symbolic representations of mathematical ideas; and to model and solve problems involving quantitative variables.  Prerequisites: MATH 1500, 1510, 2650, and 3520 with grades of “B” or better or instructor approval.  4 hrs.

MATH 5550 Mathematical Modeling and Problem Solving in the Elementary/Middle School Teachers.  
This course provides experiences in mathematical modeling and problem solving for elementary/middle school teachers. Problem contexts are selected to deepen students understanding of important ideas in number theory, algebra, geometry, probability, statistics, and the conceptual underpinnings of calculus.  Prerequisites: MATH 5540 with a grade of “C” or better or instructor approval.  4 hrs.

MATH 5700 Advanced Calculus I  
Properties of real numbers, Cauchy sequences, series, limits, continuity, differentiation, Riemann integral, sequences and series of functions.  Prerequisites: MATH 2720 and 3140 (MATH 3300 is recommended.) 4 hrs.

MATH 5710 Advanced Calculus II  
Topology of n-dimensional space, continuity and differentiability of functions of one variable; Riemann-Stieltjes integral; convergence of sequences and series of functions; Fourier series; analysis of functions of several variables.  Prerequisite: MATH 5700 or approval of advisor.  3 hrs.

MATH 5720 Vector Calculus and Complex Variables  
Functions of several variables, implicit and inverse functions, Jacobians, multiple integrals, Green’s Theorem, divergence, curl, the Laplacian, Stokes’ Theorem, analytic functions, Laurent expansions, residues, argument principle, and conformal mapping.  Prerequisite: MATH 3740.  4 hrs.

MATH 5740 Advanced Differential Equations  
Series solutions at ordinary and singular points of linear ordinary differential equations, Bessel and Legendre functions, self-adjoint boundary value problems, Fourier series, solution of partial differential equations by separation of variables.  Prerequisite: MATH 3740.  3 hrs.

MATH 5800 Number Theory  
Diophantine equations, congruences, quadratic residues, and properties of number-theoretic functions.  Prerequisite: MATH 3300.  3 hrs.

MATH 5900 In-Service Professional Development in Mathematics  
This course develops specific professional skills related to the teaching and learning of pre-college mathematics. Final course outcomes have demonstrated applications to the mathematics classroom.  Prerequisite: Permission of instructor.  1-3 hrs.

MATH 5950 Topics in Elementary/Middle School Mathematics  
This course addresses topics in mathematics content and pedagogy relative to the teaching and learning of elementary/middle school mathematics.  Prerequisite: MATH 3520 or consent of instructor.  3 hrs.

MATH 5990 Independent Study in Mathematics  
Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are
chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Approval of chairperson of department. 1-6 hrs.

MATH 6020 Mathematical Modeling I This course considers the methodology of modeling a series of practical problems. The mathematical tools used may include dimensional analysis, optimization, differential and difference equations, graph theory and network flow theory. The practical problems may include population dynamics, economic theory of prices and production, scale models, scheduling problems, pollution, social group interaction, epidemics, and facility location. Prerequisite: MATH 5740 or consent of instructor. 3 hrs.

MATH 6050 Optimization This course will cover one or several topics from the area of optimization. The topic(s) may include nonlinear programming, dynamic programming, optimal control, variational analysis, discrete optimization, stochastic optimization, and network optimization. If the material covered is significantly different, this course may be repeated for credit with approval of the instructor. Prerequisites: MATH 2720 and consent of the instructor. 3 hrs.

MATH 6070 Numerical Analysis II The analysis and use of numerical algorithms for the solution of ordinary and partial differential equations, and approximation theory. Prerequisite: MATH 5070. 3 hrs.

MATH 6080 Linear Programming Linear inequalities; convex geometry; optimization in linear systems; zero-sum games; applications. Prerequisite: An introductory course in linear algebra. 3 hrs.

MATH 6090 Studies in Applied Math Advanced work organized around topics related to the field of study indicated at the time the course is scheduled. Students may take this course more than once. 3 hrs.

MATH 6110 Mathematical Applications An introduction to the philosophy of, machinery for, and methodology in applications of mathematics. Topics will be chosen from graph theory, linear algebra, numerical approximation, optimization and graphical linear programming, probability, and linear differential equations. Prerequisite: Consent of the advisor. 3 hrs.

MATH 6150 Intermediate Analysis This course will include the following topics: limits, continuity, differentiation, integration, applications. It will stress concepts rather than techniques. Prerequisite: Consent of advisor. 3 hrs.

MATH 6160 Survey of Algebra This course will discuss groups, rings, integral domains and fields, including such topics as homomorphisms and isomorphisms, subalgebras and ideals, with examples involving permutation groups, transformation groups, polynomial rings and finite fields. Prerequisite: Consent of advisor. 3 hrs.

MATH 6170 Discrete Dynamical Systems This course features a blend of theory and experimentation using computer software to study dynamical systems with a special emphasis on chaotic systems. Topics investigated include iteration and orbits, graphical analysis, periodic points, bifurcation theory, fractals, Julia Sets, the Mandelbrot Set, and symbolic dynamics. Prerequisite: Consent of advisor. 3 hrs.

MATH 6190 Computer Methods in Secondary School Mathematics This course emphasizes the applications of computing technology to the teaching and learning of mathematics in grades 7-12. Particular attention is given to the role of technology in mathematical problem solving and concept development. Technology-oriented curriculum materials will be examined and developed. Prerequisite: Consent of advisor. 3 hrs.

MATH 6210 Algebraic Topology—Fundamental Group Topics may include: Homotopy, the fundamental group, covering spaces, the classification of covering spaces, the classification of compact surfaces, the Seifert-Van Kampen Theorem, and applications. Prerequisite: MATH 5220. 3 hrs.

MATH 6240 Algebraic Topology—Homology Theory Topics will include simplicial complexes, homology and cohomology theories, including singular homology theory. Prerequisite: MATH 5220. 3 hrs.
MATH 6250 Differential Topology  Topics may include: Differentiable manifolds and smooth maps, tangent bundles, immersions, embeddings, submanifolds, transversality, Sard’s Theorem, intersection theory, and additional topics. Prerequisite: MATH 5220.  3 hrs.

MATH 6290 Studies in Topology  Advanced work organized around topics related to the field of study indicated in the above title.  3-4 hrs.

MATH 6300 Abstract Algebra I  A general study of groups, rings, and modules. A specific study of finite groups, polynomial rings, and Euclidean domains. Prerequisite: MATH 5300.  3 hrs.

MATH 6310 Abstract Algebra II  A continuation of MATH 6300. Modules, structure theory of modules over principal ideal domains, applications to finitely generated abelian groups, rational and Jordan canonical forms of a linear transformation, bilinear and quadratic forms. Prerequisite: MATH 6300.  3 hrs.

MATH 6370 Numerical Linear Algebra  The analysis and use of numerical algorithms for solving problems from linear algebra, including matrix norms, singular value decompositions, Gaussian elimination, least squares methods, eigenvalues and iterative methods. Prerequisites: MATH 5100 or 5300, and 5070. 3 hrs.

MATH 6390 Studies in Algebra Advanced work organized around topics related to the field of study indicated in the above title. 3 hrs.

MATH 6400 Graph Theory I  This course and MATH 641 cover the following topics: Fundamental concepts; eulerian graphs; adjacency and incidence matrices; trees; planar graphs; graph embeddings; connectivity; hamiltonian graphs; matchings; factorization; graphs and groups; Cayley color graphs; line graphs; the Reconstruction Problem; spectra of graphs; graph and map colorings; extremal graph theory; Ramsey theory. Prerequisite: Approval of advisor. 4 hrs.

MATH 6410 Graph Theory II  Continuation of MATH 6400. Prerequisite: MATH 6400. 4 hrs.

MATH 6440 Graphs, Groups, and Surfaces  Study of the interaction of graphs, groups, and surfaces. Topics covered include map-coloring problems, symmetrical maps, automorphism groups of graphs, Cayley graphs of groups, genus of graphs, genus of groups, generation of block designs, and applications to church bell ringing. Prerequisite: Consent of instructor. 3 hrs.

MATH 6450 Studies in Combinatorics  Advanced work organized around topics related to the field of study indicated in the above title. Students may take this course more than once. Prerequisite: Approval of instructor. 3 hrs.

MATH 6490 Studies in Geometry  Advanced work organized around topics related to the field of study indicated in the above title. 3 hrs.

MATH 6510 Studies in Teaching Elementary School Mathematics  This is an advanced methods class devoted to analysis of current theoretical and research-based perspectives on mathematics teaching and learning and their implications for instructional practice and evaluation of student performance at the elementary school level. Explicit attention is given to the impact of technology on the teaching/learning process. Prerequisite: Consent of advisor. 3 hrs.

MATH 6520 Studies in Teaching Middle School Mathematics  This is an advanced methods class devoted to analysis of current theoretical and research-based perspectives on mathematics teaching and learning and their implications for instructional practice and evaluation of student performance at the middle school level. Explicit attention is given to the impact of technology on the teaching/learning process. Prerequisite: Consent of advisor. 3 hrs.

MATH 6530 Studies in Teaching Secondary School Mathematics  This is an advanced methods class devoted to analysis of current theoretical and research-based perspectives on mathematics teaching and learning and their implications for instructional practice and evaluation of student performance at the secondary school level.
Explicit attention is given to the impact of technology on the teaching/learning process. Prerequisite: Consent of advisor. 3 hrs.

MATH 6540 Secondary School Mathematics Curriculum Studies Participants in this course examine curricular issues and trends in secondary school mathematics and analyze recent experimental and commercial curriculum materials. This course may be taken more than once with the approval of the student’s advisor. Prerequisite: Consent of advisor. 3 hrs.

MATH 6550 Issues and Trends in Secondary School Mathematics This course examines current policy issues and curricular and instructional trends in secondary school mathematics and related research studies. It is designed to provide a transition to advanced graduate work in mathematics education. Prerequisites: Completion of at least 21 graduate credit hours, including MATH 6530 (or MATH 6520) and MATH 6540, or consent of advisor. 3 hrs.

MATH 6560 Teaching of College Mathematics In this course consideration is given to curricular problems and trends in post-high school mathematics; research on specific problems of teaching mathematics effectively to college students will be emphasized. Prerequisite: Consent of advisor. 2 hrs.

MATH 6570 Mathematics Curriculum Issues and Trends This course focuses on curricular and instructional issues and trends in K-14 mathematics education, including an examination of major historical themes that have shaped mathematics policy and practice at these levels. Prerequisite: Consent of advisor. 3 hrs.

MATH 6580 Psychology of Learning Mathematics This course focuses on theories of mathematical thinking and knowing and on an examination of major research paradigms and research findings on mathematical learning in children and adults and their implications for instruction. Prerequisite: Consent of advisor. 3 hrs.

MATH 6590 Research in Mathematics Education This course focuses on research issues, methodologies, and trends within mathematics education along with techniques for critical analysis of research. Students are expected to design and present an individual research study. Prerequisite: Consent of advisor. 3 hrs.

MATH 6700 Real Analysis I The first of a two semester sequence in real analysis. Topics covered in the two semesters will include topology and continuous functions, Lebesgue and general measure and integration, differentiation and the Radon-Nikodym theorem. Hilbert spaces, Banach spaces, and product spaces and Fubini’s theorem. Prerequisites: MATH 5220 and 5710. 3 hrs.

MATH 6710 Real Analysis II The second of a two semester sequence in real analysis. Topics covered in the two semesters will include topology and continuous functions; Lebesgue and general measure and integration, differentiation and the Radon-Nikodym theorem; Hilbert spaces, Banach spaces, and product spaces and Fubini’s theorem. Prerequisite: MATH 670. 3 hrs.

MATH 6760 Complex Analysis Topics include: Cauchy Theory, series expansion, power series, types of singularities, calculus of residues. Prerequisite: MATH 5710. 3 hrs.

MATH 6780 Introduction to Functional Analysis Metric spaces; category; compactness; Banach spaces; Hahn-Banach theorem; completely continuous operators; Hilbert spaces; self-adjoint operators; elementary spectral theory. Prerequisite: MATH 6710. 3 hrs.

MATH 6790 Studies in Analysis Advanced work organized around topics related to the field of study indicated in the above title. Students may take this course more than once. 3 hrs.

MATH 6880 Research Tools in the Mathematical Sciences This course consists of various computer applications and computer network activities that are commonly used in mathematics or mathematics education research, including mathematical word processing, computer algebra systems, literature searches, qualitative data analysis tools, and the use of internet resources. Enrollment is limited to students in a graduate
degree program in mathematics or mathematics education. Students must satisfactorily complete an approved number of modules per credit hour selected. If the course is repeated, different modules must be completed. Certain departmental degree programs may require the completion of specific modules. Prerequisite: Permission of the department chairperson. 1-3 hrs.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>MATH 6890</td>
<td>Studies in Number Theory</td>
<td>Advanced work organized around topics related to the field of study indicated in the title. Students may take this course more than once. 3 hrs.</td>
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<tr>
<td>MATH 6900</td>
<td>Seminar in Applied Mathematics</td>
<td>1-3 hrs.</td>
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<tr>
<td>MATH 6920</td>
<td>Seminar in Topology</td>
<td>1-3 hrs.</td>
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<td>MATH 6930</td>
<td>Seminar in Algebra</td>
<td>1-3 hrs.</td>
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<td>MATH 6940</td>
<td>Seminar in Graph Theory</td>
<td>1-3 hrs.</td>
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<td>MATH 6950</td>
<td>Seminar in Mathematics Education</td>
<td>1-4 hrs.</td>
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<tr>
<td>MATH 6970</td>
<td>Seminar in Analysis</td>
<td>1-3 hrs.</td>
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<tr>
<td>MATH 6990</td>
<td>Reading and Research</td>
<td>1-6 hrs.</td>
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<td>MATH 7120</td>
<td>Professional Field Experience</td>
<td>2-12 hrs.</td>
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<td>MATH 7250</td>
<td>Doctoral Research Seminar</td>
<td>2-6 hrs.</td>
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<td>MATH 7300</td>
<td>Doctoral Dissertation</td>
<td>15 hrs.</td>
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<td>MATH 7350</td>
<td>Graduate Research</td>
<td>2-10 hrs.</td>
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**Medieval Studies**

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<tbody>
<tr>
<td>MDVL 5000</td>
<td>Interdisciplinary Studies in Medieval Culture</td>
<td>An interdisciplinary course organized around selected topics in medieval and Renaissance studies. The focus may be in a specific period (The Twelfth Century), a religious movement (Monasticism), a political structure (Venice-A Renaissance City-State), or the social fabric (Medieval People: Image and Reality). In each case faculty from several departments will approach the semester's topic from the perspective and with the methodological tools of their respective disciplines, such as art, history, literature, music, philosophy, political science, and religion. The overall aim of the course is to demonstrate to students why one needs to acquire a variety of disciplines to understand a single complex problem, and how to put traditional building blocks together in new ways. 3 hrs.</td>
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<tr>
<td>MDVL 5970</td>
<td>Directed Study</td>
<td>Research on a selected topic in the field of Medieval Studies directed and supervised by a faculty member. Prerequisites: Registration requires at least junior standing and approval by the Director of the Medieval Institute. 1-3 hrs.</td>
</tr>
<tr>
<td>MDVL 6000</td>
<td>Advanced Seminar in Medieval Studies</td>
<td>A research seminar for advanced graduate students with the focus on research and the preparation of papers in highly specialized areas of Medieval Studies. The specific topic of each seminar will be announced in the Schedule of Course Offerings. 2-4 hrs.</td>
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<tr>
<td>MDVL 7000</td>
<td>Master's Thesis</td>
<td>6 hrs.</td>
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<tr>
<td>MDVL 7100</td>
<td>Independent Research</td>
<td>2-6 hrs.</td>
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<tr>
<td>MDVL 7120</td>
<td>Professional Field Experience</td>
<td>2-12 hrs.</td>
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**Philosophy**

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<tbody>
<tr>
<td>PHIL 5070</td>
<td>The Continental Tradition in Philosophy</td>
<td>An examination of the Continental tradition in Philosophy. Topics may vary from term to term. Examples include: phenomenology, existentialism, post-modernism, structuralism, deconstructionism, critical theory, and hermeneutics. May be repeated for credit, with</td>
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</table>
advisor’s approval, when topics vary. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.

PHIL 5120 Aesthetics  An investigation of the many philosophical issues which arise from the study of the arts and aesthetic experience. Topics include such issues as the ontology and identity of works of art, whether art can be defined so as to distinguish art from non-art, the status of aesthetic values, the relation of ethics to aesthetics, the status of feminist perspectives in the arts, and significance of the arts in human life. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies. 2 - 4 hrs.

PHIL 5200 Philosophical Applications of Symbolic Logic  This course is designed to expose graduate students to the range of philosophical applications of modern symbolic logic. Starting with the sentential and predicate calculi, the course explores various extensions which may include alethic modal logic, deontic logic, tense logic, relevance logic and counterfactuals. In addition, the course will address salient issues in the philosophy of logic and may include an investigation of the logical paradoxes and/or the controversy surrounding quantified modal logic. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies. 3 hours

PHIL 5250 Decision Theory  Can there be a formal theory of what it is to be rational in one’s beliefs and actions? This course is an introduction to decision theory, which claims to be just such a theory of rationality. Attention will be given to both its mathematical development and the issues it raises in the philosophy of science, the theory of knowledge, and action theory. A working knowledge of high school algebra is assumed. Prerequisites: PHIL 2200, 2250 or 3200; and two other courses in philosophy, mathematics (above the level of MATH 1100), or computer science (above the level of CS 1050). 4 hrs.

PHIL 5340 Moral and Philosophical Foundations of Health Care  In this course philosophical reflection and biological science are combined in a critical examination of the nature and purpose of the health sciences. Topics to be considered include: the aims of the health sciences, the interplay of fact and value in health care, competing images of humankind embedded in health science, patient autonomy, dignity and medical paternalism. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies. 3 hrs.

PHIL 5400 Philosophy of Mind  A study of the philosophical problems surrounding our understanding of the nature of mind, mental states, and consciousness, and their relation to matter, and states of the brain and/or central nervous system. Possible topics include cognitive science, artificial intelligence, the relation of mind to body and/or behavior, teleological and mechanistic explanations of human behavior, the philosophical foundations of psychology, behaviorism, functionalism, the nature of intentionality, the concept of a person, the privacy of mental states, knowledge of other minds, and questions regarding free will and determinism. Prerequisite: 12 credit hours in Philosophy, including PHIL 3010. 2-4 hrs.

PHIL 5440 Practical Ethics  This course will examine the relationships between ethical theory and practice, especially in the area of professional life. We will consider questions concerning moral imagination, deliberation, and justification, as well as how principles and norms guide our complex activities. Case illustrations from various professions (e.g., medicine, laws, government, science, psychiatry, etc.) will be used to highlight some of these issues. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.. 3 hrs.

PHIL 5550 Advanced Philosophy of Science  A detailed examination of some of the central problems in contemporary philosophy of science. Topics may vary from term to term. Typical topics include: nature of scientific explanation, theory structure and change, scientific realism vs. various anti-realisms, or issues in the special sciences, e.g., the physical, biological or social sciences. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies. 2 - 4 hours

PHIL 5600 Philosophy at Pre-College Levels  A content-oriented course that explores topics, reading materials, and ways of approaching them in the teaching of philosophy at the pre-college level. A special
emphasis is put on critical and creative thinking. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  

PHIL 5700 Philosophical Topics  An examination of special philosophical topics. Topics to be listed in the Schedule of Course Offerings. May be repeated for credit, with advisor’s approval, when topics vary. May be offered in an accelerated format. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  1-4 hrs.

PHIL 5980 Readings in Philosophy  Research on some selected period or topic under supervision of a member of the Philosophy faculty. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  1-4 hrs.

PHIL 6000 Colloquium  A seminar in which one or more faculty involve the students in their current research. Topics may vary from term to term. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  2 - 4 hours

PHIL 6100 Seminar in the History of Philosophy  A close reading and discussion of selected classics written by major philosophers from the ancient, medieval, or modern period. Selections may vary from term to term. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  2 - 4 hours

PHIL 6200 Philosophy of Language and Logic  An examination of the relation of language to the world, and/or the philosophical basis of standard and nonstandard logics. Possible topics include the nature of reference and predication, the distinctions between a priori and a posteriori, between analytic and synthetic, and between necessary and contingent propositions, the roles of proper names, general terms, and pronouns, and the truth conditions of sentences, as well as questions concerning the philosophy of modal logic, tense logic, free logic, deontic logic, epistemic logic, paraconsistent logic, first and second order logics, and probability calculus. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  2 - 4 hours

PHIL 6310 Ethical Theory  A study of theories of ethics and morality. Topics may vary from semester to semester. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  2 - 4 hours

PHIL 6320 Theory of Knowledge  An examination of the nature of truth, belief, and evidence. Topics may vary from term to term. Examples include: questions about the nature of perception, a priori and a posteriori knowledge, skepticism, epistemic foundations, epistemic justification, and other related topics. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  2 - 4 hours

PHIL 6330 Metaphysics  An examination of the underlying nature of reality. Topics may vary from term to term. Examples include: questions about the fundamental kinds of entities that comprise reality, the existence of God, universals and particulars, space and time, causation and free will, mind and matter, identity and change, and other related topics. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  2 - 4 hours

PHIL 6500 Philosophy of Religion  An examination of philosophical issues related to religion. Topics may vary from term to term. Examples include: the nature and existence of God, the problem of evil, theistic and scientific explanations, pantheism, the relation between faith and reason, the nature of religious experience, life after death, miracles, religious epistemology, and the theological foundations of ethics. Graduate students must be admitted into the M.A. program, unless an exception is granted by the department’s Director of Graduate Studies.  2 - 4 hours

PHIL 7000 Master's Thesis  1-6 hrs.

PHIL 7100 Independent Research  2-6 hrs.
Physics

PHYS 5620 Atomic and Molecular Physics
This course consists of some applications of quantum mechanics. Topics include the helium atom, multielectron atoms, the Raman, Zeeman, and Stark effects, stimulated emission, transition rates, selection rules, the diatomic molecule, and molecular physics. Prerequisite: PHYS 4600 or consent of instructor. 3 hrs.

PHYS 5630 Solid State Physics
After an initial study of symmetry and crystal structure, quantum mechanics is used to describe the cohesion of solids, x-ray and neutron diffraction, the elasticity of solids, lattice vibrations, and the thermal and electrical properties of solids, with particular emphasis on metals. Prerequisite: PHYS 4600 or consent of instructor. 3 hrs.

PHYS 5640 Nuclear and Particle Physics
This course covers such topics as properties of nuclei, collision theory, nuclear reactions, nuclear models, fundamental interactions, and classification techniques used in particle physics. Discussions of experimental methods as well as theoretical treatments using quantum mechanics are included. Prerequisite: PHYS 4600 or consent of instructor. 3 hrs.

PHYS 5980 Selected Topics
This course affords an opportunity for advanced students with good scholastic records in physics to pursue independently the study of some subject of interest to them. Prerequisite: Consent of instructor. 1-4 hrs.

PHYS 6100 Research Seminar
This is a required course for first-year graduate students and will be offered every spring semester. The course consists of faculty research talks and student talks (one by each student) on papers chosen by the students and approved by the faculty members. 1 hr.

PHYS 6150 Mathematical Physics
This course provides the background needed for the application of mathematics to physical problems encountered in graduate physics courses. Relevant topics in group theory, complex variables, and functional analysis are included. 3 hrs.

PHYS 6220 Quantum Mechanics I
This course is designed to provide a foundation of fundamental techniques for more advanced work in the physics and chemistry of atoms, molecules, nuclei, and solids. The Schrödinger equation and operator theory are applied to simple systems such as the one-electron atom and potential scattering. 3 hrs.

PHYS 6230 Quantum Mechanics II
This course is a continuation of 6220. It employs state-vector formulation to study several problems of general interest, such as time-dependent perturbation theory, systems of identical particles, and angular momentum. Prerequisite: PHYS 6220. 3 hrs.

PHYS 6240 Statistical Mechanics
Statistical methods, employing ensemble theory, are used to study the equilibrium properties of systems having many degrees of freedom. Classical and quantum theories are developed and applied to selected problems of interest in physics and chemistry. The relationships between microscopic models and macroscopic properties are emphasized. 3 hrs.

PHYS 6300 Classical Mechanics
Lagrange's equations are developed early in the course and are used in the analysis of both point-mass and rigid-body problems. The modifications of classical mechanics required by the theory of relativity are reviewed. The Hamilton equations of motion and Hamilton-Jacobi theory are introduced, and some of the analogies between classical and quantum mechanics are discussed. 4 hrs.

PHYS 6500 Relativistic Quantum Mechanics
This course deals with the Dirac and Klein-Gordon equations, quantum electrodynamics, Feynman diagrams, and the properties of the strong and electro weak interaction of elementary particles. Prerequisite: PHYS 6230. 3 hrs.
PHYS 6620 Electricity and Magnetism I This course deals with the static electromagnetic field, its interaction with matter, time-varying fields, Maxwell's equations, wave propagation, wave guides, and simple radiating systems. 4 hrs.

PHYS 6630 Electricity and Magnetism II This course deals with the scattering of electromagnetic waves, plasma physics, special relativity, relativistic dynamics, collisions between charged particles, bremsstrahlung, and multipole fields. Prerequisite: PHYS 6620. 4 hrs.

PHYS 6700 Atomic Physics This course covers atomic structure, atomic spectra, second quantization of the electromagnetic field, the interaction of radiation and matter, resonance phenomena, and the formal theory of scattering with applications to atomic collisions. Prerequisite: PHYS 6230 or consent of instructor. 3 hrs.

PHYS 6710 Nuclear Physics This course covers nuclear models, nuclear matter, electromagnetic properties, reactions, and scattering. Prerequisite: PHYS 6230 or consent of instructor. 3 hrs.

PHYS 6720 Condensed Matter Physics This course includes both static and dynamic properties of condensed matter with particular emphasis on transport properties, optical properties, magnetism, and superconductivity. Prerequisites: PHYS 6220 and 6240 or consent of instructor. 3 hrs.

PHYS 6800 Research in Atomic Physics This course is available for students performing doctoral research in atomic physics. A student must have a research advisor to enroll in PHYS 6800. Prerequisite: Consent of research advisor. 1-6 hrs.

PHYS 6810 Research in Nuclear Physics This course is available for students performing doctoral research in nuclear physics. A student must have a research advisor to enroll in PHYS 6810. Prerequisite: Consent of research advisor. 1-6 hrs.

PHYS 6820 Research in Condensed Matter Physics This course is available for students performing doctoral research in condensed matter physics. A student must have a research advisor to enroll in PHYS 6820. Prerequisite: Consent of research advisor. 1-6 hrs.

PHYS 7000 Master's Thesis 6 hrs.
PHYS 7100 Independent Research 2-6 hrs.
PHYS 7300 Doctoral Dissertation 15 hrs.
PHYS 7350 Graduate Research 2-10 hrs.

Political Science
PSCI 5060 Topics in American Government A critical examination of selected issues facing national, state, or local governments with emphasis upon contemporary theoretical and applied perspectives on the question 3-4 hrs.

PSCI 5320 Administration in Developing Countries This course compares public administration systems in a development context. It analyzes the role of the administrator in middle- and low-income countries, notably the administrator's varied responsibilities as a career public official, and as an agent of change. The course will cover administration of development projects in both rural and urban settings and discuss different strategies that have worked. 3 hours

PSCI 5490 Topics in Comparative Politics This course will examine selected topics in comparative politics. The specific topic will be announced each semester. May be repeated for credit when topics vary. 3 - 4 hours

PSCI 5530 United Nations A study of the United Nations in action. Attention is focused on significant political problems confronting world organization, i.e., functional and dysfunctional aspects of the UN;
nationalism vs. internationalism; conflict resolution and UN peace-keeping efforts; specific UN accomplishments in maintaining a dynamic international equilibrium; UN weaknesses and the future of world organization. 3 hrs.

PSCI 5980 Studies in Political Science An opportunity for advanced students with good scholastic records to pursue independently the study of some subject of interest to them. Subjects are chosen and arrangements made to suit the needs of individual students. Prerequisite: Approval of department chairperson and instructor. 1-4 hrs.

PSCI 6000 Seminar in American Politics Research and study in selected topics in American politics. 3 hrs.

PSCI 6010 Foundations of American Politics An examination of the formal institutions of government at the national level and the representation of citizen interest through political participation including elections, political parties and interest groups, and public opinion. 3 hrs.

PSCI 6030 Seminar in American Political Behavior This course will review current literature in the area of political behavior and psychology. Special attention will be paid to controversies in voting behavior and the meaning and significance of vital concepts such as partisanship, ideology, issue voting, belief systems, political sophistication, affective reactions to politics, and the dynamics of citizen participation. 3 hrs.

PSCI 6040 American National Politics and Public Policy This course provides a graduate-level introduction to American public policy. The focus of this course is on the stages or elements of the policy process as a means of analysis. While this approach has traditionally included policy formation, implementation and evaluation, it is expanded to include policy studies and other important theoretical aspects of public policy. Consequently, the course will attempt to provide a synthesis between classical and behavioral political science. 3 hrs.

PSCI 6200 Topics in Public Administration An examination of selected issues in the field of public policy. 3-4 hrs.

PSCI 6300 Seminar: Public Administration Study of selected topics in public administration. 3 hrs.

PSCI 6311 Monitoring and Evaluation of International Development Projects This course considers how monitoring and evaluation can be used to enhance the effectiveness of programs and projects in developing countries. We address the main methodologies employed in project evaluation and standards for assessing the quality of evaluations, and we study and critique several completed evaluations. 3 hours

PSCI 6330 Comparative National Development Strategies This course examines the causes and consequences of more and less effective development strategies primarily at the national level. While the main focus is on experiences with industrialization, the courses also considered approaches to agriculture, public health, and other areas of development. 3 hours

PSCI 6360 Seminar: Development Methods and Skills The seminar is devoted to teaching skills, methods and approaches related to administration in developing areas. Topics may include the logical framework, stakeholder analysis, cost benefit analysis, monitoring, evaluation, and participatory methods. The project paper will be shared with other students in the seminar. 3 hours

PSCI 6380 Seminar: Planning Development Programs As a capstone to the MDA program, this research seminar calls upon the student to examine the design and implementation of a particular development policy. We address constraints encountered in the policy implementation process and students develop a proposal that would improve conditions in the selected area. Prerequisite: Approval of the MDA Director. 3 hours

PSCI 6390 Peace Corps Field Paper As a capstone to the MDA program for students taking the Peace Corps Option, this course calls upon the student to analyze a particular development policy, program or
A typical field paper might address the country context, the program plan, expected impacts, organizational arrangement, monitoring and evaluation systems, experiences with implementation, the evolving strategy, program results, and lessons to be learned. This course is restricted to students taking the MDA Peace Corps Option.  

PSCI 6400 Seminar in Comparative Politics  Research and study in selected topics in comparative politics. Topics will usually be thematic but may also encompass a regional or country study. In all cases significant issues in the study of the field will be stressed.  3 hrs.

PSCI 6410 Foundations of Comparative Politics  This course surveys the core of the research field of comparative politics, which is concerned principally with the discovery and confirmation of knowledge about institutions and behavior of their governments and their citizens. The course introduces students to the history of the field, important approaches and theories, major concepts and topics, and its eclectic methodologies.  3 hrs.

PSCI 6440 Economic and Social Development Theory  The course examines theories of economic and social development at the national level since World War II and applications of these theories in specific cases.  3 hours

PSCI 6460 Comparative Public Policy  This course focuses on the development of policy over time and across state and national boundaries. It deals with how and why policies emerge in particular forms in different countries. Selected substantive issues will be examined comparatively in greater detail.  3 hrs.

PSCI 6490 Rural Development  The seminar will discuss the challenges faced as well as some successful approaches in rural development in developing countries around the world. Dynamics of agrarian societies and national and local level development policies and programs will be examined. The links between rural development, agriculture, food security, poverty reduction strategies, and resource availability are analyzed. Challenges leaders face in designing and/or reforming administrative structures, institutions, and policies and programs to pursue effective rural development are considered.  3 hours

PSCI 6500 Developing Countries Seminar  Variable topics examining the course of political development among the developing countries, with special reference to the relationship between administrative needs and democratic objectives.  3 hours

PSCI 6600 Seminar: Political Thought  An analysis of problems and subject matter considered by political philosophers that are significant to the social sciences. Various issues arising in political thought, certain periods in history, or regions of the world may be considered.  3 hrs.

PSCI 6610 Contemporary Political Theory  Focus will be on twentieth and twenty-first century writers. Topics may include contemporary forms of liberalism, contemporary theories of justice, contemporary civic republican theory, communitarian theory, critical theory, Continental theory, post-structuralist theory, feminist theory, multicultural political theory, Marxist theory, pragmatism, contemporary forms of conservatism, libertarianism, and rational choice theory. Basic concepts and political processes will be examined critically.  3 hrs.

PSCI 6620 Political Philosophy I  A synthesis of the history of political philosophy and the formal analysis of those positive and normative concepts and processes necessary to the understanding of political systems. The course covers the period from classical Greece through the Renaissance. Superimposed on the overall chronological format are critical inquiries into basic concepts and processes.  3 hrs.

PSCI 6630 Political Philosophy II  A synthesis of the history of political philosophy from the seventeenth century to contemporary times. The course also includes a formal analysis of applicable positive and normative concepts necessary to the understanding of political systems. Superimposed on the overall chronological format are critical inquiries into basic concepts and processes.  3 hrs.

PSCI 6640 The Nature of Political Inquiry and Analysis  An examination of the principles underlying the systematic study of politics. Included are discussions of such basic questions as: How do we obtain knowledge of politics?; How do we explain political phenomena? and What is the relationship between the
empirical analysis and normative evaluation of political phenomena? Attention will be given to leading approaches to the study of politics and the formulation and use of concepts, generalizations and theories. 3 hrs.

**PSCI 6650 Modern Democratic Theory**
A comprehensive survey of the main currents in modern democratic theory, including elitist, participatory, deliberative, agonistic, feminist and radical perspectives. The course will also cover important topics within each of these currents, such as theories of representation, identity politics and social movements. 3 hrs.

**PSCI 6900 Seminar in Advanced Political Analysis**
Variable topics in advanced political analysis and research methods are addressed. Topics may include time-series analysis, experimental design, formal methods, game theory, and comparative methods. 3 hrs.

**PSCI 6910 Political Analysis I**
Introduction to the research process in political science including research design, sampling and case selection, sources of data (e.g., surveys, interviews, archives, government agencies, etc.), and basic descriptive statistics. 3 hrs.

**PSCI 6920 Political Analysis II**
The application of statistical and mathematical models to the analysis of political data with emphasis on methodological assumptions and problems: correlation; analysis of variance; and simple and multiple regression. Prerequisite: PSCI 6910 or equivalent. 3 hrs.

**PSCI 6940 Teaching Political Science**
This course addresses the basics of teaching in higher education: class preparation, leading discussions, classroom policies, university policies, classroom management, dealing with problem situations, and basic teaching skills, among others. 1 hr.

**PSCI 6950 Teaching Excellence**
This course introduces advanced graduate students and teaching assistants to ideas, information and methods that are innovative and encourages them to approach teaching in a way that goes beyond the traditional lecture format. Critical thinking exercises, group projects, project-oriented learning, portfolio learning, computer-aided instruction and computer simulations are possible topics. Recent research on the nature of the learning process, both among late adolescents and adults, will also be included. 2 hrs.

**PSCI 6960 Research and Professional Skills**
Goals in this course include acquaintance with the department's research agenda; familiarization with the state of the discipline; overcoming common writing problems faced by professionals; demystifying certain professional activities such as conference participation, article submission and grant writing; familiarization with on-campus facilities, including library and computer support; and introduction to computer programs and databases commonly used in political science. 2 hrs.

**PSCI 6970 Proposal Workshop**
During the course of this workshop, the student will develop a dissertation proposal (and attending grant proposals, where appropriate). While this will be done primarily in conjunction with the committee, the workshop will provide a weekly support structure in which students will discuss their research question, progress and any complications. 1 hr.

**PSCI 7000 Master's Thesis**
6 hrs.

**PSCI 7100 Independent Research**
2-6 hrs.

**PSCI 7120 Professional Field Experience**
2-12 hrs.

**PSCI 7300 Dissertation**
21 hrs.

**Psychology**

**PSY 5100 Advanced General Psychology**
Readings, lecture, and discussion designed to introduce students to modern behavior theory. Emphasis will be upon human behavior, both normal and abnormal, with a significant portion of the course devoted to the higher cognitive processes. Recommended as a cognate course in Psychology. Prerequisites: Majors only and permission of instructor. 3 hrs.

**PSY 5170 Psychology in the Schools**
This course provides an overview of psychology in the schools, with an emphasis on interventions for children or adolescents presenting difficulties with learning or...
behavior. This course will provide an overview of how to design, implement and evaluate interventions in schools for individual and groups of children. An overview of the role of the school psychologist will be provided. Prerequisite: Psychology majors only. 3 hrs.

**PSY 5240 Human Sexuality**
In this course students will learn about the range of human sexual behaviors. Topics covered will include anatomical and physiological functioning as well as psychological aspects of sexual behavior. Class time will involve lectures, discussions, in-class activities, videos, and guest speakers. The course is not intended to provide therapy training. Prerequisite: Psychology majors only. 3 hrs.

**PSY 5260 Human Drug Use and Abuse**
This course provides a general overview of basic pharmacological principles, discusses the behavioral and physiological mechanisms of action of several classes of medicinal and recreational drugs, and surveys the factors thought to contribute to responsible and irresponsible drug intake. Although human drug use and abuse are the primary focus of the course, nonhuman research findings are emphasized where appropriate. Prerequisite: Psychology majors only. 3 hrs.

**PSY 5400 Psychology of Safety**
The purpose of this course is to teach students about current research and trends in the psychology of safety. Students review, critically analyze and discuss current trends in safety research, including behavior-based safety, injury/illness prevention and other relevant topics. Students receive training in the application of behavioral principles to solve specific safety problems in organizations through changing behavior and improving performance. Students gain valuable, practical experience by completing behavior-based safety assessments in business settings under the supervision of the course instructor. The assessment site is obtained by the student, with the assistance of the instructor. Prerequisite: Psychology majors or permission of instructor. 3 hrs.

**PSY 5470 Practicum: Organizational Performance Improvement**
Training in the application of principles of behavior to solve specific organizational problems through changing behavior and improving performance. Students conduct a performance improvement project in a local organization and empirically evaluate the results. The practicum site is obtained by the student, and with the assistance of the instructor. Practicum students meet as a group frequently with the instructor to discuss and troubleshoot the projects. Prerequisite: Permission of instructor. 3 hrs.

**PSY 5480 E-Learning Practicum**
This course covers the application of behavioral and learning principles to the design and evaluation of education and training programs via computer or over the web. Prerequisites: Undergraduate students – instructor approval: Graduate students – PSY 6100 or instructor approval. 3 hrs

**PSY 5610 Introduction to Clinical Psychology**
This course addresses the subdiscipline of clinical psychology in a manner that provides the psychology major with useful information regarding it as a potential specialty. In addition to coverage of contemporary professional activity engaged in by specialists in this field, like practice and research, it addresses career development issues such as selecting graduate schools, training models used by universities and private schools, internship training, licensure, and the types of degrees granted. It is a course appropriate for mid- to upper-level undergraduates and graduate students who are returning to study after having been away from the field for some time. Prerequisites: Psychology majors; Psychology graduate students with permission of instructor. 3 hrs.

**PSY 5740 Cross Cultural Psychology**
This course is designed to introduce the psychology major to the general area and basic concepts of Cross Cultural Psychology. Through readings and lectures the students will become familiar with the role culture plays in various indigenous psychologies including those commonly found in Western, Japanese, Chinese, Arabic, and African cultures. This course is specifically not a course in American ethnicity. It will instead explore a variety of world cultures in search of an understanding of how human behavior is interpreted according to cultural tenets that are unique to a region’s history and evolution. The course will also examine the importance, especially in contemporary Western Society, of professional psychologists developing more than casual familiarity with predominant indigenous psychologies. The plight of persons undergoing increasingly forced and voluntary migration in today’s world provides one foundation for exploring the need for such understanding. The course will prepare the student to read and interpret the psychological literature
from several cultures, to conduct library research addressing the influence of culture on the interpretation of human behavior, and to appreciate the importance of cultural considerations in the wide variety of psychological specialties. Prerequisites: Psychology majors; Psychology graduate students with permission of instructor. 3 hrs.

PSY 5950 History of Psychology The historical and philosophical foundations of contemporary psychology are examined. Approximately equal emphasis is placed upon theoretical and applied aspects of the evolution of the modern science. The origin and development of current behavioral approaches constitute a major focus. Prerequisite: Psychology majors; Psychology graduate students. 3 hrs.

PSY 5970 Topical Studies in Psychology A survey and discussion of selected research topics of current interest. Topics may include both basic science and applied aspects of the discipline. Courses Prerequisite: Psychology majors only. 1-4 hrs.

PSY 5980 Special Projects in Psychology This course provides the graduate student with the opportunity for independent reading and/or research under the direction of a faculty member. Prerequisites: Permission of instructor. Approved application required. 1-5 hrs.

PSY 5990 Practicum in Psychology This course provides training in the application of the principles of psychology to a specific and restricted problem area in the discipline. The practicum application is often identified by the location of the research site or professional service agency published in the Schedule of Course Offerings. Each one-hour of credit requires 100 clock hours. Prerequisite: Approved application required. 1-4 hrs.

PSY 6010 An Introduction to Assessment This course is designed to introduce the student of professional psychology to the general area of psychological assessment. Through course readings and lectures the student will acquire a background in issues such as Principles of Measurement, Types of Measurement Tools, Use of Rapid Assessment Devices, and criteria for selecting measures for practice. Additional areas covered will compare and contrast traditional psychometric considerations with behavioral assessment concerns, examine the latest version of the diagnostic and statistical manual of the DSM and behavioral assessment, address behavioral interviewing, as well as direct observation of behavior. The course will prepare the student to operate with sufficient understanding of assessment issues in the various clinical and research roles anticipated during the early professional psychology training career at Western Michigan University. 1 hr.

PSY 6020 Introduction to Theoretical Issues This course is designed to introduce the student of professional psychology to selected systems of behavior change and their theoretical underpinnings. Problems characteristically addressed by these theoretical models will be outlined. Client populations most suitably treated by the various systems will also be identified. Considerable emphasis will be devoted to comparing and contrasting a radical behavioral model with alternative conceptual schemes. Freudian analytical, cognitive, and behavioral approaches will be considered in lecture and readings. The student will develop an appreciation for the position of technical eclecticism while maintaining a theoretical preference. 1 hr.

PSY 6050 Professional and Research Ethics This course is designed to introduce advanced students of Psychology to many of the standards and contemporary issues affecting professional conduct. The topics to be covered revolve around ethical conduct in practice and research as well as the decision-making foundations for resolving ethical issues. Also addressed will be selected legal issues affecting professional practice. 3 hrs.

PSY 6080 Research Methods in Applied Behavior Analysis This advanced course on research methods in behavior analysis addresses research with human and nonhuman subjects, placing an emphasis on applied, human research. Research issues and specific research methods are discussed at philosophical, strategic, and practical levels. Research decisions are placed within the context of the philosophy of science underlying all scientific research endeavors. Topics include: the mission of science; behavioral assessment and measurement; experimental design, with emphasis on single-subject designs; analysis and interpretation of data; dissemination of scientific research; and, ethical issues in research. Students demonstrate their mastery of research issues through the proposal of a research project. Prerequisites: Courses in applied behavior analysis. 3 hrs.
PSY 6090 Advanced Seminar in Applied Behavior Analysis Research  An advanced course emphasizing: a) research, conceptual and professional issues in applied behavior analysis; b) review, integration and critical analysis or research topics in psychology. Prerequisites: Previous enrollment in PSY 6080 and permission of instructor. 3 hrs.

PSY 6100 Conditioning and Learning  This course examines conditioning and learning from the perspective of the experimental analysis of behavior. Emphasis is placed on basic laboratory research procedures and findings. 3 hrs.

PSY 6110 Current Research in Experimental Analysis  This course examines basic research areas of current interest to behavior analysts. A central component of the course is detailed consideration of articles published in the Journal of the Experimental Analysis of Behavior. Prerequisite: PSY 6100. 3 hrs.

PSY 6120 Advanced Physiological Psychology  A survey of the interrelationships of physiological and behavioral processes. Lecture and laboratory. Prerequisite: Permission of the instructor. 3 hrs.

PSY 6130 Behavioral Pharmacology  This course examines drug effects from a behavior-analytic perspective. Emphasis is placed on general mechanisms of drug action, variables that modulate drug effects, strategies for studying those effects, and the behavioral actions of commonly encountered drugs. Prerequisite: PSY 6100. 3 hrs.

PSY 6170 Applied Behavior Analysis in Education  This course is designed to teach principles of learning and behavior and the application of those principles to individual and classroom instruction for teachers, school psychologists, and other educational professionals. Also, this course provides information needed for planning effective, data-based classroom interventions. Further, it provides important basic knowledge for future courses in assessment, interventions, behavioral research methods, and school psychology practicum. It is expected that students will bring to class a basic entry knowledge of learning theory, with an emphasis on operant methodology. 3 hrs.

PSY 6200 Analysis of Abnormal Behavior  An advanced study of behavioral disorders as characterized by the standard classification systems, the DMS III-R and ICD-9-M, with respect to their etiology, prognosis and treatment. 3 hrs.

PSY 6210 Developmental Psychopathology  The purpose of this course is to provide students with exposure to theories and empirical findings in contemporary child psychopathology. The goals of the course are to help students (1) acquire a working knowledge of the disorders described in the current classification system (DSM-IV) as they pertain to children and adolescents; (2) gain a critical understanding of the conceptual issues surrounding classification and an appreciation for alternative perspectives; (3) understand prominent theories attempting to explain/describe the variables leading to and/or maintaining psychopathological behavior; and (4) evaluate the empirical data base that informs treatment for the various disorders. 3 hrs.

PSY 6340 Experimental Design and Analysis I  Topics include statistical decision theory, one factor analysis of variance, multiple comparison procedures, factorial designs, randomized block designs, fixed, random and mixed models, and basic issues in experimental design. Prerequisite: An elementary course on statistics. 3 hrs.

PSY 6350 Correlation and Regression Analysis  An advanced course covering simple correlation methods, inferential methods for one or many correlations (including meta-analysis), interpretation issues (including sampling error, sampling bias, scaling error, measurement error, functional form, cause, homoscedasticity) variants of and alternatives to Pearson correlation, multiple correlation and regression, part and partial correlation, analysis of variance of regression for simple and complex models, model comparison procedures, methods for nonlinear data (including polynomial regression and logistic regression models) and regression diagnostics. Prerequisite: PSY 6340 (or some other course covering the analysis of variance). 3 hrs.
PSY 6360 Experimental Design and Analysis II
Advanced methods for designing, analyzing, and interpreting complex between-subjects and repeated-measurement design. Topics include power analysis for planning experiments, and inferential analysis methods including ANOVA, multiple comparison procedures, simple main effects tests, interaction contrasts tests, simultaneous confidence intervals, nonparametric methods, monotone alternative tests, and analysis of covariance for univariate experiments. Also discussed are methods for analyzing nonorthogonal design, procedures for analyzing experiments containing multiple response measures (such as multivariate analysis of variance and modified Bonferroni procedures), and current concepts of experimental validity. Prerequisites: PSY 6340 and 6350. 3 hrs.

PSY 6370 The Design and Analysis of Quasi-experiments and Observational Studies
This course covers the design and analysis of studies in which it is not feasible to randomly assign subjects to treatment. The focus is on three useful quasi-experimental designs (viz. The regression-discontinuity design, the interrupted time-series design, and the nonequivalent-group quasi-experiment) and the observational study. Analytic procedures recently developed for these designs are covered in detail. Opaque methods that have recently become popular for analyzing observational studies are critiqued. The conceptual framework for much of the course is based on the Rubin causal model. Prerequisites: PSY 6340 and 6350. 3 hrs.

PSY 6430 Personnel Selection and Placement
This course is designed to teach students: (1) the legal and professional requirements for personnel selection and placement programs; (2) how to design and conduct job analyses, interviews, and tests that conform to the legal and professional requirements; and (3) how to evaluate the adequacy (the reliability and validity) of personnel selection and placement instruments. Prerequisite: An undergraduate course in statistics. 3 hrs.

PSY 6440 Personnel Training and Development
The course emphasizes the principles of learning as well as techniques and administrative procedures used in the development of human resources at all levels. 3 hrs.

PSY 6450 Psychology of Work
This course is an advanced course designed to examine human behavior in organizations from a behavioral psychology perspective. Topics covered include: the history of industrial/organizational psychology, motivation, performance improvement techniques, compensation, quality, job satisfaction and its relation to productivity, and the ethics of personnel management. Students entering the course are expected to have an understanding of the basic principles of operant and respondent conditioning because these concepts are used to interpret and analyze worker behavior. Prerequisite: Admissions to a graduate Psychology program or instructor approval. 3 hours

PSY 6510 Applied Behavior Analysis: A Systems Approach
The application of systems analysis concepts to the design of systems which yield behavioral measures of complex social situations. 3 hrs.

PSY 6520 Systems Analysis Practicum
This course integrates behavior analysis with organizational systems analysis to improve the design and management of human performance systems. Students conduct analyses for organizational clients and work with organizational team members to redesign and/or create new performance systems at the organizational level, the work process level, and the individual job performer level. Prerequisite: PSY 6510 or instructor approval. 3 hrs.

PSY 6570 Autism: Etiology, Assessment, and Behavioral Treatment
This is a course for psychology graduate students who intend to work with individuals with autism. The course provides a survey of etiological theories of autism, a review of best practices in diagnosis with accompanying practice ion assessment, and an overview of best practices in behavioral treatment of autism. Lectures are supplemented by course projects, invited speakers, and homework exercises that are designed to increase student proficiency in assessing and treating individuals with autism. Prerequisite: Full-time graduate student status in Psychology. 3 hrs.

PSY 6580 Cognitive Processes
This course offers an advanced introduction to current theorizing and empirical research in domains considered central to the field of cognitive psychology. These domains include perception, attention, memory, problem-solving, reasoning, decision-making, expertise, and language. The focus will be on human cognition and its contribution to understanding complex behavior. Prerequisite: Admission to a graduate program in Psychology or instructor approval. 3 hours
PSY 6590 Treatment of Anxiety Disorders This course provides a review of selected anxiety disorders and their treatment. Specific treatment techniques will be reviewed in detail and their relevance to theory and empirical literature discussed. Through lecture, demonstration, and audio-visual presentations the course addresses basic approaches to understanding anxious behavior and associated emotions. Also covered are historical and scientific concerns, paradigms for the study of anxiety, classification and assessment of anxiety, and research methods appropriate for the study of anxiety. Finally, the course examines the role played by anxiety across several disorders otherwise officially classified. The course is conducted in seminar fashion and student participation is expected and encouraged. Prerequisites: PSY 6200. 3 hrs.

PSY 6610 Psychotherapy: Theory and Methods This is a treatment course which reviews several theoretical approaches to, and problem solving strategies for, a variety of client disorders. The course concentrates on the stages of treatment, the issues involved in treatment and various techniques of treatment. Prerequisite: Permission of instructor. 3 hrs.

PSY 6630 Marital Therapy Theory and application of problem solving interventions for a variety of problems associated with couples. A social learning and strategic systems approach is emphasized. Prerequisite: Permission of instructor. 3 hrs.

PSY 6640 Behavior Therapy This is a treatment course designed to familiarize the student with the methods, applications, theory and clinical literature of behavior therapy. Prerequisite: Permission of the instructor. 3 hrs.

PSY 6650 Behavioral Approaches to Treatment This is a treatment course designed to familiarize the students with pragmatic issues in the application of behavior management and behavior analysis techniques and the underlying conceptual foundations. Among the topics to be covered are: functional analysis, token economies, behavioral contracting, response accelerating and decelerating techniques, and packaged behavior-management programs in areas such as social skills and assertiveness. 3 hrs.

PSY 6660 Family Therapy This is a treatment course involving problem solving interventions for a variety of problems associated with family units. The specific intervention model emphasized in the course may vary with the instructor. Prerequisite: Permission of instructor. 3 hrs.

PSY 6680 Analysis and Treatment of Developmental Disabilities This is a treatment course designed to familiarize students with pragmatic issues in the application of behavior management and behavior analysis techniques to clients who are mentally retarded or traumatically brain injured. Prerequisite: PSY 6080 AND PSY 6100. 3 hrs.

PSY 6690 Child Behavior Therapy An introduction to behavioral clinical approaches to emotional, social, and behavioral problems of children. The course content emphasizes both the theoretical basis and practical implementation of a range of behavioral therapeutic techniques, including those based on classical and operant conditioning processes, social learning, and cognitive-behavioral models. Prerequisite: PSY 6100. 3 hrs.

PSY 6710 Higher-order Behavioral Processes and Their Applications This course is a continuation of PSY 6700. The emphasis is on the rule governance of complex behavior of verbal human beings. Areas of analysis include behavioral medicine, and rehabilitation, behavioral anthropology, family life, child rearing, community interventions, education, self-management, organizational behavior management, developmental disabilities, autistic behavior, neurotic behavior, and sexual behavior. PSY 6700 and 6710 combine to provide a behavior-analytic world view. Prerequisite: PSY 6700. 3 hrs.

PSY 6740 Verbal Behavior This course covers the experimental analysis of language and verbal behavior, with an emphasis upon the analysis of language as presented in the writings of B. F. Skinner. Prerequisites: PSY 6080 and PSY 6100. 3 hrs.
PSY 6760 Skinner's Behaviorism  A consideration of About Behaviorism, Beyond Freedom and Dignity, and Contingencies of Reinforcement, especially as they consider issues of broad scientific, philosophic, and social significance. Prerequisite: PSY 6740. 3 hrs.

PSY 6810 Personality Assessment  An introductory course in individual assessment with particular emphasis on psychometrics, objective personality assessment, and behavioral assessment. This course covers basic psychometric concepts directly related to test administration and interpretation and will prepare students to operate with sufficient understanding of assessment issues in various clinical and research roles. The course examines basic concepts in personality assessment including administration, scoring, and interpretation of objective personality assessment techniques. The course also covers behavioral assessment strategies and functional analysis of behavior self-report measures, behavioral interviewing, direct observation techniques, and physical recording. Prerequisites: PSY 6020 and PSY 6210 and graduate program status. 3 hours

PSY 6830 Assessment II  A course on the theory and practice of advanced individual assessment techniques with particular emphasis on intellectual, aptitude, and basic neuropsychological assessment. This course examines the complexities of measuring theoretical notions like intelligence and aptitude. It also covers administration, scoring, and interpretation of individual assessment techniques in cognitive and neuropsychological functioning. The course places and emphasis on integrative report writing. Prerequisites: Graduate program status; PSY 6200 and PSY 6210. 3 hours

PSY 6880 Advanced Behavioral Assessment  The course is intended to develop knowledge in the functional analysis of behavior using self-report measures, behavioral interviewing, direct observation techniques, and physical recording. Reliability and validity issues with respect to each assessment method are covered. Behavioral consultation, and efficient alternative to one-on-one counseling in which therapist contact is primarily with the mediator rather than the client, is introduced. Prerequisite: PSY 6020. 3 hrs.

PSY 6900 Behavioral Approaches to Training and Education  This course addresses selection and use of text materials, the role of lecture and discussion, examinations, grading practices, all considered from a behavioral perspective. Higher education is emphasized. 3 hrs.

PSY 6910 College Teaching Practicum  Supervised practice in the instruction of psychology at the undergraduate level. The student will be responsible for the design, execution, and evaluation of a college course section involving undergraduate students. 3 hrs.

PSY 6950 Doctoral Internship in Behavior Analysis  This is an off-campus internship course for doctoral students in the Behavior Analysis Program. Requires a written application and permission from the Behavior Analysis Program Committee. Prerequisite: Approved application required. 1-3 hrs

PSY 6970 Advanced Topical Studies in Psychology  An in depth examination, discussion, and survey of selected research and/or professional topics. Prerequisite: Permission of instructor. 2-4 hrs.

PSY 6980 Clinical Practicum in Psychology I  This is the entry-level practicum for students in the Clinical Psychology program. Students enrolled in this course will gain a range of therapy and assessment experiences in the Psychology Clinic under the supervision of licensed Clinical faculty. Written permission must be obtained from the Department Clinical Committee. Prerequisites: PSY 6640 and PSY 6690. 1-3 hrs.

PSY 6990 Clinical Practicum in Psychology II  Experience in a broad range of professional functions included in the practice of psychology under the supervision of a licensed psychologist. The experience includes, but is not limited to, psychotherapy, diagnostic testing and consultation. The experience involves not less than 500 clock hours (15 weeks) in an organized health care setting. Written permission must be obtained from the Department Clinical Committee. Prerequisite: PSY 6980 1-3 hrs.

PSY 7000 Master’s Thesis  6 hrs.
PSY 7100 Independent Research  1-6 hrs.
PSY 7120 Professional Field experience  2-12 hrs.
PSY 7200 Specialist Project  6 hrs.
PSY 7250 Doctoral Research Seminar 2-6 hrs.
PSY 7300 Doctoral Dissertation 1-15 hrs.
PSY 7320 Doctoral Clinical Internship 1-4 hrs.
PSY 7350 Graduate Research 1-6 hrs.

Public Affairs and Administration

PADM 5830 Grant Writing for Nonprofit Organizations This course focuses on the art and process of proactive grant writing. The course is conducted in a workshop format with emphasis on writing a grant proposal and on logical relationships between sections of a proposal. Emphasis is placed in integrating research into the proposal development process, writing effective goals and objectives, and incorporating summative and formative evaluation processes into the grant. Collaborative aspects of grant writing are emphasized. 3 hours

PADM 5840 Promoting Nonprofit Organizations This practicum applies marketing principles to nonprofit organizations. Emphasis will be placed on techniques for defining and identifying the organization’s contributor, volunteer, and client markets. Strategies for conducting a market assessment, measuring customer satisfaction, and using information to develop a marketing plan will be covered. These strategies will include the identification of marketing offers, communication messages and methods, cause related marketing, and the development of market budgets. 3 hours

PADM 5870 Fund Raising for Nonprofit Organizations This practicum enables students to develop fund raising and fund management skills. Emphasis is on understanding the various forms of fund raising, such as the annual fund, special events, deferred giving, major gifts, special project campaigns, corporate/foundation gifts, and direct mail. Students will also be provided with a working knowledge of permanent endowment funds. Students will learn to assess the fund raising readiness of organizations and develop fund raising plans unique to their organizations. 3 hours

PADM 5980 Readings in Public Administration This course offers a program of independent study to provide well qualified MPA candidates with an opportunity to explore in depth a topic or problem of interest under the guidance of a faculty member. Planning a topic for investigation is the joint responsibility of the candidate and supervising faculty. Approval is contingent upon the merits of the proposal. Consent of both the supervising faculty member and the School Director is required prior to enrolling in this course. 1 to 3 hours

PADM 5990 Topics in Public Administration This changing topics course deals with particular issues of interest and concern to students of public affairs and administration. Since content varies, students are advised to read course descriptions distributed by the School prior to enrollment. The course may vary in the number of credit hours awarded and may last more or less than a semester's or session's length. 1 to 4 hours

PADM 6000 Historical and Legal Foundations of American Public Administration This course is designed to introduce major ideas, developments, and figures in the field of public administration. The course also introduces professional codes of ethics as well as American legal institutions and processes and discusses the relationship between the public service and the legal system. 3 hours

PADM 6060 Analytical Methods This course focuses on formulating questions, selecting analytical methods, developing conclusions and recommendations, and understanding the use of appropriate research methodologies in public administration. The course demonstrates the application of the following to both practical professional analysis and scholarly inquiry; the exploration of the relevant scholarly and professional literature, the design of research approaches, the utilization of various quantitative and qualitative research methods and techniques; the collection, manipulation, interpretation, and presentation of data gathered; and the use of information thus obtained in the solution of policy problems confronting professional administrators. Prerequisite: PADM 6070 or instructor approval. 3 hours
PADM 6070 Quantitative Data Analysis This course is an introduction to quantitative analytical techniques employed by professional administrators in the collection, manipulation, interpretation, and presentation of data utilized to test hypotheses and analyze policy problems. Quantitative methods may include frequency distribution, sampling techniques, measures of central tendency, probability, variability, regression, measures of association, correlation, and various other applied quantitative measures. MPA students must enroll in this course prior to enrolling in PADM 6060. 3 hours

PADM 6080 Organization Theory and Behavior This course has the following objectives: a) to familiarize participants with the basic concepts, models, and theories of organization; b) to develop a better understanding of individual, group, and organization behavior; c) to provide a conceptual foundation upon which theoretical knowledge can be applied to organizational and managerial problems. In pursuit of these objectives, the following subjects will be considered: theories of organization and management; individual behavior; group dynamics; organization change; organizational performance, efficiency, and effectiveness. 3 hours

PADM 6090 Organization Development This course is an introduction to the theories, models, and intervention modalities of Organization Development (OD). Topics to be explored and discussed include: the underlying organizational philosophy of OD; the OD view of persons in an organizational setting; the major subdivisions or schools of thought in this field; role playing in selected OD interventions; and specific applications of OD in organizational settings. The objective of this course is to develop competence in the application of OD practices in a variety of agency settings. 3 hours

PADM 6110 Administrative Law and Governmental Regulation This course examines how administrative laws and public regulations control and regulate the activities of local, state and federal government officials and the agencies by which they are employed. It will consider the requirements for, and limits on, the exercise of power by elected and appointed officials. Special attention is devoted to the development, adoption, and enforcement of administrative laws and government regulation. 3 hours

PADM 6120 Principles of Public Budgeting This course utilizes a combination of “hands-on” exercises and theory to examine the preparation of government budgets. Topics to be addressed include criteria for evaluating sources of government revenue, the politics of budgeting, alternative budget formats such as line item and performance, cost center accounting, and the methodologies for developing revenue projections, capital improvement programs and operating budgets. Ability to use spreadsheets such as Excel or Lotus is required. 3 hours

PADM 6130 Local Government Administration This course addresses the management challenges faced by local public administrators in managing American local government under conditions of substantial physical, economic, social, and political change. Students will review current societal trends affecting local communities and then examine how these trends, and the roles and relationships of major stakeholders in local government, impact local policy decision-making and governmental administration. Students will develop skills in applying public administration principles and methods to managing public organizational adaptation and change. 3 hours

PADM 6140 Managing Community Growth and Development The course is intended for public managers involved in guiding community growth and/or managing local economic development. The course will focus on the dynamics of developing the community’s economy and managing its physical growth and expansion in ways that enhance and sustain the quality of local and regional community life. Students will examine policies, programs, and techniques in the public management of economic development, business attraction and retention, land use, growth management, housing, public facilities and infrastructure, and environmental preservation. The course will also address the economic, demographic, spatial, and political forces driving urban change and impacting community sustainability. 3 hours

PADM 6150 State and Local Government Finance This course examines a variety of financial tools that enhance a public official’s ability to cope with the crosscurrents of expanding government responsibilities and public resistance to higher taxes and fees. The tools that are addressed by this course include governmental accounting concepts and procedures; methods of financing infrastructure projects; risk management; calculating the costs of providing goods and services; and cost-benefit, cost effectiveness, and cost revenue analysis. 3 hours
PADM 6170  Intergovernmental and Interorganizational Relations  This course examines the interactions among governmental and non-governmental entities. A majority of the course examines the political, economic, constitutional, legal, and historical foundations of intergovernmental relations, the types and implications of grants-in-aid, and fluctuations in the powers and responsibilities of local, state, and national governments. The remainder of the course analyzes the relationships among public agencies, legislative bodies, the executive, and interest groups.  3 hours

PADM 6180  The Political and Economic Environment of Public Administration  This course examines the interplay of political and economic forces that impact roles and capacities of public administrators in the governmental and non-profit sectors. The course also reviews trends in the global economic system affecting the roles of public-serving organizations in the economy in regulating, stimulating and mitigating the social and political impacts of the private economy. Covered topics may include: the administrative politics of interest group influence and agency constituency building; the politics of bureaucratic accountability, performance and legislative control; interactions between citizens and bureaucracy; bureaucratic ethics; the economic roles of government and the non-profit sector in the global economy; and ties between the administration of public-serving organizations and economic institutions and processes. Students are encouraged to obtain a fundamental knowledge of basic economic concepts prior to taking the course. This course should be taken early in the Master’s program.  3 hours

PADM 6270  Human Resources Administration  A survey course that examines the concepts and practices of human resource management and reviews the functions performed by human resource administrators and other agency officials. Areas of consideration may include, but are not limited to, human resources planning and recruitment, training and development, compensation, information systems, and employee relations.  3 hours

PADM 6290  Supervisory Skills for Administrators  This elective course includes a consideration of the five most important functions of middle level managers and first line supervisors: decision making, planning, organizing, leading, and controlling. In order to assist participants develop their supervisory skills, this course utilizes case studies, small group discussions, role playing, simulations, and other practical skill building exercises.  3 hours

PADM 6390  Managing Public Performance and Information Technology  This course explores the management and measurement of public (government and nonprofit) agency performance and productivity. It focuses on defining public-serving organizational performance and productivity in practical terms; exploring management principles and practices designed to enhance the performance and productivity of these agencies, and managing the design and application of information technology to enhance public performance and citizen access.  3 hours

PADM 6400  Nonprofit Governance  This course examines the governance of nonprofit organizations with special emphasis on a nonprofit’s responsibilities to the state and federal government. Topics include the history and role of nonprofit organizations in U.S. society, size and scope of the various nonprofit subsectors, the legal establishments and maintenance of nonprofit organizations, dynamics between board and staff, and identifying and addressing ethical issues.  3 hours

PADM 6431  Budget Development and Accounting for Nonprofit Organizations  This course will examine procedures for projecting revenues, how tax policies affect private contributions to nonprofits, and the process for developing operating budgets. Accounting and financial reporting standards as well as financial analysis techniques, internal controls, board oversight, and external auditors will also be addressed. An ability to use spreadsheets (e.g., Excel or Lotus) is necessary.  3 hours

PADM 6441  Human Resources for Nonprofit Organizations  This course examines current theories, practices, and issues of human resources management in the context of ethical strategic management in nonprofit organizations. Human resources systems for both employees and volunteers are explored with selected foci in human resources planning, recruitment, retention, recognition, rewards, and risk management.  3 hours
PADM 6461 Evaluation of Nonprofit Organizations  Examination of how nonprofit programs are assessed for need and evaluated as to their operations and outcomes. The course includes discussion of the role and conduct of research in the program evaluation process, performance expectations of multiple stakeholders, as well as the methods of effective evaluation and analysis. 3 hours

PADM 6471 Leadership in Nonprofit Organizations  This course integrates theory-based and practice-based approaches to leader-follower dynamics and service delivery in the nonprofit organization setting. The course focuses on such topics as leader styles, characteristics and strategies; leading in a diverse world, leading in times of crisis and complexity; and leading for the future. This course replaces SWRK 6230 in the curriculum of both the MPA and NLA programs. 3 hours

PADM 6481 Planning in Nonprofit Organizations  This course focuses on planning programs within the context of strategic planning. Tools for developing a strategy and new programs to fulfill the strategy will be examined. Both strategic and program planning are viewed as creative, dynamic processes carried out by a team. The stages and tasks of strategic and program planning are studies from analytical, technical and interactive perspectives. 3 hours

PADM 6510 Health Services Delivery  This course provides a comprehensive overview of health services delivery systems in the U.S. with an emphasis on access, cost, and quality of care. This course deals with various issues, including causes and characteristics of health services utilization, cost and financing of health services, providers of health services, different dimensions of quality of care, and different delivery systems from other countries. 3 hours

PADM 6520 Financial Management of Health Care Organizations  By applying basic accounting and financial management techniques and principles from the intra-organizational perspective, this course examines the use of financial statements to assess financial viability and performance of health care organizations, different ways to allocate cost, pricing and service decision-making, and financial planning and budgeting. 3 hours

PADM 6530 Health Policy Analysis  This course examines the public policy process as applicable to the physical and mental health fields. The impact of federal, state, and local policy on the delivery of health services within organizations is discussed and compared with international health delivery systems. Underlying legal and ethical issues confronting today's health delivery system are explored. 3 hours

PADM 6540 Strategic Planning and Management in Health Care Organizations  This course provides an overview of the principles and methods of strategic planning and management. It examines the application of health administration principles to several practice settings. Emphasis is placed on decision-making, organizational performance, market analysis, reimbursement control, strategic thinking, strategy formulation, and the importance of leadership in contemporary health care organizations. 3 hours

PADM 6550 The Administration of Health Services  This course addresses the managerial functions in health care organizations. The responsibilities of health care managers in leadership, planning, controlling, organizing, staffing, budgeting, and evaluating performance are considered. Underlying ethical issues confronting the administration of health services are also explored. Techniques on how to manage rapid organizational change are an integral part of the course. 3 hours

PADM 6570 Management of Managed Care Organizations  This course provides an overview of issues related to management and planning of managed care organizations. This course covers the recent evolution of health care reform, different types of managed care organizations, integrated health care delivery systems, open versus closed panel plans, negotiating with providers including physicians and hospitals, Medicaid and Medicare managed care, and legal issues in provider contracting, how to develop PMPM premium rate, revenue maximization and cost control, and quality and performance measurement. 3 hours

PADM 6610 Intellectual History of Public Administration  This course traces the development of public administration theory from the founding of the American colonies to the present day, implementing
research techniques in common use by intellectual historians. The course utilizes an historical approach to understand the contextual influence of thinkers and movements related to American public administration. 3 hours

PADM 6630 Leading the Public Organization This course uses a theoretical and methodological research literature, documentation in a variety of media, and practical work experiences to examine the roles of leadership, human behaviors, and human resources systems in public organizations. The course addresses leadership and human behaviors within systems and chaos models in the public arena of work. Attention is given to the management of functions of human resources as well as to the activities of the employees in an organization. External influences, competing organizational systems, and identified public outcomes are also examined to complete an understanding of leader and follower roles. 3 hours

PADM 6650 Public Policy, Theory, and Research This course will trace the development of theory in thinking about public policy. It will explore alternative models suggesting the way that public policy is formulated and implemented. Each model reflects a different way of perceiving the relationship between government and society. The application component will require students to apply one or more of the models to a substantive policy area. Emphasis will be placed on primary sources in preparing an analytical paper. 3 hours

PADM 6660 Contemporary Issues in Public Management Contemporary public management faces critical challenges in its present standing and future role in American society. This seminar focuses on the future of public management in government and the not-for-profit sector by (1) examining current policy and issue trends, as well as reform movements, impacting public management today; (2) reviewing the implications of these trends and movements for the future of administering American public organizations; and (3) exploring scenarios for managing public organizations in the future in selected issue and policy areas. 3 hours

PADM 6670 Research Seminar This course provides students an opportunity to develop research that was initiated in earlier doctoral courses into conference presentations or journal submissions. 3 hours

PADM 6780 Program Evaluation Pressure to reduce the nature, size and scope of government has heightened interest in evaluating the impact of governmental activities. This course will focus on how to measure the effectiveness of agency programs. 3 hours

PADM 6800 Project Paper Seminar In this capstone seminar, MPA candidates will conduct an original, analytical research project (non-thesis) consisting of professional analysis of a management problem leading to practical implementation in governmental or nonprofit settings, or theoretical inquiry in the field of public administration. That project will produce either academic research that provides new generalized knowledge on the field or a solution to a public management problem in a specified agency. Other forms of professional inquiry and analysis may be acceptable if approved by the instructor. Prerequisite: Departmental approval. 3 hours

PADM 6840 Management of Public Financial Resources This course relies on theory, lab assignments, and practical experience to address constitutional, statutory, political, economic, cultural, and social factors affecting fiscal policy. Public finance theory and lab assignments familiarize students with the major facets (revenue projection, capital requests, and operating expenditure requests) of the budgeting process. The role of politics, alternative mechanisms for generating revenue, methods for assessing the fiscal health of organizations, and the implications of utilizing various budget formats are also examined. Students are expected to apply the methodologies from their research courses to a financial issue. 3 hours

PADM 6860 State Agency Administration This course examines the organization and administration of state government agencies, with special emphasis on the functions performed by major departments and their principal subunits. Executive agencies in Michigan will serve as a basis for comparing and contrasting services provided by similar agencies in other states. Each course participant will be required to analyze the current status of services provided by a particular state agency and project service demand into the future. Course participants will develop a comprehensive understanding of administration in agencies of state government. 3 hours
PADM 6870 Legislative Relations for Public Administrators  This course prepares participants to interact with policy making bodies: city councils, county commissions, or the state legislature. Participants will learn to estimate the possible impact upon their agency of legislation under consideration, to assess the probable effect of proposed legislation upon their clientele, and to project the amount of revenue to be generated by a proposed tax, fine, or fee.  3 hours

PADM 6880 Program Planning and Proposal Writing  This course seeks to build skill in program planning, program management, and proposal writing. The first part of this course will be devoted to the grantsmanship process, including how to: formulate and promote a project concept; prepare the project proposal; submit the project proposal; and follow-up after acceptance or rejection of the proposal. Emphasis will be placed upon the project proposal as an integral component of agency planning, program management, and assessment activities, from both grantor and grantee perspectives. In the second part of this course, each participant will prepare a project proposal.  3 hours

PADM 6900 Fund Accounting  This course offers an opportunity to become thoroughly familiar with many different aspects of not-for-profit accounting and financial reporting. In addition to the governmental fund accounting system, the student is also able to explore college and trust accounting systems.  3 hours

PADM 6970 Dissertation Seminar  Dissertation Seminar is intended to assist doctoral students in the preparation of a dissertation proposal and to facilitate the transition from course work to dissertation. This course will review of proposal components, with particular emphasis on research design and developing the literature review, and will also focus on key issues such as dissertation format standards, psychological and time management demands, committee formation, HSIRB training, and project management. In most cases this course should be taken after comprehensive exams have been successfully passed and after all methods courses for the doctoral program are completed.  3 hours

PADM 7100 Independent Research  Designed for highly qualified graduate students or small groups who wish to pursue independent studies or group projects under the direction of a Graduate Faculty member. An application form, signed by the Graduate Advisor and faculty supervisor, must be submitted to registration at the time of enrollment.  3 hours

PADM 7120 Professional Field Experience  This practicum is designed for MPA degree candidates who are to participate in a supervised professional field experience/internship in an agency setting. An application form, signed by the candidate's academic advisor and Internship Supervisor, can be submitted to the Registrar’s Office at the time of enrollment.  3 to 6 hours

PADM 7300 Doctoral Dissertation  12 hours

Science Education

SCI 5600 Science Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of science. The course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. Intended for delivery in one- to two-week workshop format. Prerequisite: Teacher certification or baccalaureate plus work toward certification.  1-3 hrs.

SCI 5700 Life Science Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of biology. This course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format. Prerequisite: Teacher certification or baccalaureate plus work toward certification.  1-3 hrs.

SCI 5800 Chemistry Workshop for Teachers  This course will involve participants in several activities especially designed to help them achieve and understanding of some of the important concepts of
chemistry. This course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format. Prerequisite: Teacher certification or baccalaureate plus work toward certification. 1-3 hrs.

SCI 5850 Physics Workshop for Teachers This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of physics. This course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format. Prerequisite: Teacher certification or baccalaureate plus work toward certification. 1-3 hrs.

SCI 5900 Earth Sciences for School Science Education This course will involve participants in several activities especially designed to help them achieve an understanding of some of the important concepts of earth science. This course is designed and taught to address the needs of K-12 teachers. It is a variable topics course and may be repeated for credit if different topics are involved. It is intended for delivery in one to two week workshop format. Prerequisite: Teacher certification or baccalaureate plus work toward certification. 3 hours

SCI 5980 Readings in Science To be used by students seeking work in topics not otherwise available. The student is limited to not more than four hours in all reading courses and work must be completed under a member of the graduate faculty. 1-4 hrs.

SCI 6010 Problems in Science Education This independent study course allows students to study various problems in Science Education under the direction of a supervising faculty member. Individual or small groups of qualified students may be involved in these problem areas reflecting the current concerns of Science Education. The course is designed to meet the needs of students for first-hand experience in field or laboratory research, pilot projects testing new ideas or concepts, or developing learning materials or resources. 1-4 hrs.

SCI 6140 Science: Historical and Philosophical Perspectives This course utilizes work in the history and philosophy of science to provide a critical perspective for dealing with the question: “What about science is most important for a student to know?” The course will address: the nature of scientific disciplines (the theories and problems which characterize them); the relations between theory and the empirical work; and the nature of theory change in the sciences. SCI 6140 is meant to provide a broad foundation for subsequent curriculum development, instructional design, and research into the teaching and learning of the sciences. 3 hrs.

SCI 6150 Science Education: Historical and Philosophical Foundations This course will familiarize students with the history of science education in the United States, leading up to current national reform efforts. This historical approach will provide a foundation to address curricular and literacy issues as well as the relevance of the history and philosophy of those concerns. The course will address two themes or “commonplaces” of education in a science education context-the social milieu and the curriculum. 3 hrs.

SCI 6160 Science Education: Models of Learning and Teaching This course will complement SCI 6150 in addressing the remaining themes or “commonplaces” of education in a science education context, namely learning and teaching. The major models of learning and approaches to teaching which are compatible with those models will be examined, including their relevance to classroom practice. 3 hrs.

SCI 6170 Science Education: Research Traditions This course is designed to familiarize students with the more productive research traditions in science education and with their historical, philosophical, and methodological foundations. Each offering of the course will focus upon a particular tradition, for example, problem solving research or conceptual change research. Prerequisite: Permission of instructor for M.A. students to enroll. 3 hrs.

SCI 6180 Teaching and Learning in the College Science Classroom This course is to prepare students to teach post-secondary science. The course focuses on theoretical background, course and lesson development, and instructional and assessment strategies essential for successful college level science teaching. Doctoral students may take the course twice. There are additional course requirements for second-timers. 3 hrs.
SCI 6200 Topics in Science Education
This course will present, analyze, and evaluate methods and techniques of teaching science. Topics may include new approaches for teaching science, new science curriculum, laboratory practices, science education research, motivational techniques, and other methodological problems confronting science teachers. 2-6 hrs.

SCI 6210 Topics in Science
This course is designed to examine various science concepts and new developments of science of interest to science teachers. Each course will be subtitled, and the content will vary to reflect the various sciences, new developments and emphases, and the needs of the science teaching community. 2-6 hrs.

SCI 6250 Environmental Science Seminar
Analysis of case studies of environmental problems. Covers the scientific, social, and political problems involved in environmental action and will include experiences with management of energy and material resources. 2-4 hrs.

SCI 6260 Curriculum Studies in Science Education
This course examines fundamental issues related to science curricula and curricular studies, primarily at the K-12 levels, while utilizing examples from historical and current efforts in science education. Students will explore the history of science curriculum reform efforts through current practices. Students will develop expertise in science curriculum analysis, the development of science curriculum materials, including formative assessment. 3 hrs

SCI 6900 Science Education Seminar
Designed to provide an integrating experience for students in the Science Education master’s and doctoral programs. 3 hrs.

SCI 7000 Master's Thesis
6 hrs.

SCI 7100 Independent Research
2-6 hrs.

SCI 7300 Doctoral Dissertation
15 hrs.

SCI 7350 Graduate Research
2-10 hrs.

Sociology

SOC 5150 Sociology of Mental Illness
This course will be concerned with examining the contemporary meaning of concepts of mental health and mental illness. The course will also consider the amount and kind of mental illnesses, especially the differences by social class, age, gender, race, marital status, urban versus rural living, and migration, the structure of the mental health care delivery system, the nature of help-seeking for mental illness, and community care and public policy for mental illness. Prerequisite: SOC 2000 or graduate standing. 3 hrs.

SOC 5200 Studies in Social Psychology: Variable Topics
Further analysis of selected topics in social psychology not intensively covered in other courses. Specific topic will be designated in the course title when scheduled. Prerequisite: SOC 3200 or graduate standing. 3 hrs.

SOC 5210 Social Psychology of Emotions
An examination of human emotions as they relate to thinking, motivation, and social action. Emphasis will be given to the ways in which emotions signal the importance of social events for the individual self, the role of group norms in defining situationally appropriate emotional feeling and expression, the management of emotions, and the ways that emotions function as both determinants and consequences of patterns of interpersonal activity. Prerequisite: SOC 3200 or graduate standing. 3 hrs.

SOC 5220 Social Psychology of Prejudice
An analysis of the processes through which prejudice is learned and influences individual thought and social interaction. The nature of contemporary forms of prejudice will be analyzed, along with their cultural, cognitive, and motivational bases. Emphasis will be placed on how stereotypes are acquired and maintained, the consequences of prejudice for social interaction and intergroup conflict, and classic and contemporary strategies for the reduction of prejudice and discrimination. Students will be encouraged to conduct research projects involving topics of their choice. Prerequisite: SOC 3200 or graduate standing. 3 hrs.
SOC 5250  Research Design and Analysis in Social Psychology

This course will provide students with the knowledge necessary to evaluate research, to understand the relationship between theory and the research operations that are used to test and generate theory, and to design and carry out original research on social psychological topics. Students will learn about the appropriate use of survey, observational, experimental and quasi-experimental methods as applied to both field and laboratory settings. Class projects will teach students to design and conduct original research in social psychology, and to analyze data using relevant statistical techniques. Prerequisites: SOC 2820 and 3200, or graduate standing. 3 hrs.

SOC 5600  Corporate and Governmental Crime

An examination of the crimes committed by business corporations and government agencies. The course describes the nature, extent, and costs of these organizational crimes, explains the structural and organizational forces which give rise to such crimes and analyzes the problem of controlling organizational offenders. The course also examines the political process whereby corporations and governments come to be defined as deviant or criminal. Prerequisites: SOC 2000 or SOC 2100, SOC 2600, and SOC 3620 and one other 3000- or 4000-level course or graduate standing. 3 hrs.

SOC 5610  Violence and U.S. Society

This course analyzes the nature, extent and causes of violence associated with the United States. The forms of violence to be analyzed include interpersonal, institutional, and structural violence; recent theory and research on violence will be reviewed and various prevention and control policies will be discussed. Prerequisites: Graduate standing or SOC 2000 or SOC 2100, SOC 2600, SOC 3620 and one other 3000- or 4000-level course. 3 hrs.

SOC 5620  Victimology

The study of crime victims, the probabilities of victimization, victim-offender relationships, the treatment of victims by the criminal justice system and the economic, social, and psychological impact of victimization. Prerequisites: SOC 2000 or SOC 2100, SOC 2600, and SOC 3620 and one other 3000- or 4000-level course or graduate standing. 3 hrs.

SOC 5630  Gender and Justice

This course provides an overview of the relatively recent field of women, crime and justice, with particular direction guided by an issues approach. A wide variety of current research and theory in this realm are critically examined. The specific subtopics covered in this course encompass gender and discrimination in society at large, within the sociological/criminological academy, and within the criminal justice system. Broad feminist theoretical and methodological perspectives are drawn upon to contour the examination of women as criminal offenders, as victims of crimes such as rape and intimate violence, and as professional workers within the criminal justice system. Prerequisites: Graduate standing or SOC 2000 or 2100, SOC 2600, SOC 3620, and one other 3000- or 4000-level course (SOC 3140 is encouraged). 3 hrs.

SOC 5680  Race, Ethnicity, and Justice

This course addresses the multicultural dynamics that effect the definitions (s) and distribution of justice in the United States. The primary focus is the differential treatment of African Americans, American Indians, Latinos, and Asian Americans throughout the major institutions of society, particularly the legal institution. A critical analysis of the social, political, and economic forces that support the current social structure will direct the inquiry. Prerequisites: Graduate standing or SOC 2000 or 2100, SOC 2600, SOC 3620, and one other 3000- or 4000-level course. 3 hrs.

SOC 5780  Sociology of Law

An examination of legal organization, the legal profession, and legal norms in the United States and other western societies. Emphasis will be placed upon the relationship between the legal system and the society in which it functions. Prerequisite: SOC 2000 or equivalent or graduate standing. 3 hrs.

SOC 5900  Variable Topics in Sociology

An examination of a selected topic in the field of sociology. The focus of the course may be theoretical, methodological, or substantive. Possible topics could include feminist theory, sampling and survey design, poverty, and cultural studies. 3 hrs.

SOC 5980  Directed Individual Study

A program of independent study (reading or research) to provide the unusually qualified sociology student with the opportunity to explore a topic or problem of interest, under the guidance of one of the faculty of the department. The initiative for planning the topic for investigation must come from the student. Approval is contingent upon the merit of the proposal. Maximum of four hours may be
applied toward master's degree. Enrollment beyond the first semester may be either for the same topic or for a new topic. Prerequisite: Consent of instructor and the department chairperson. 4 hrs.

SOC 6000 Proseminar in Sociology There are three major goals for this course. First, it will expose new graduate students to the full range of departmental faculty, their research, and their teaching interests. Second, it will assess the current state of the discipline, focusing on substantive, methodological, and/or theoretical issues. Third, it will begin the professional socialization of the student with respect to departmental policies, procedures, and requirements. 3 hrs.

SOC 6020 Classical Sociological Theory An intensive and critical study of major sociological theories developed in the 19th and early 20th centuries. The course will examine the logical structure of classical theories, patterns of influence among theorists, and the central issues raised in their works. Theories will be examined with respect to both historical context and their influence on contemporary sociology. 3 hrs.

SOC 6030 Contemporary Theory: Culture, Social Action, and Society An intensive and critical study of contemporary sociological theories. The course will focus on the problem of how the society that human beings make-and live through their social action-is structured by historically created cultural systems. Both modernist and post-modernist critiques of culture will be examined. Prerequisite: SOC 6020. 3 hrs.

SOC 6040 Contemporary Theory: Agency, Interaction, and Structure An intensive study of contemporary sociological and social psychological theories that address and critique the classical dualism between individual and social structure. The course will focus on theories of human interaction, and will attempt to show connections between micro and macro theories and/or level of analysis. Both foundational theories of interaction and integrative theories of agency and structure will be examined. Prerequisite: SOC 6020. 3 hrs.

SOC 6050 Studies in Sociological Theory: Variable Topics Advanced study and exploration, following seminar format, of topics of interest to faculty and students, for example: various role theory formulations and their usefulness in understanding social behavior, ethno-methodology, philosophy of science, experimental design, Marx, Weber, or other selected theorists. Prerequisite: Consent of instructor. 3 hrs.

SOC 6060 Research Design and Data Collection I This course is designed to provide experience with the formulation of research problems and exposure to a range of quantitative and qualitative data gathering techniques. Logistical and ethical issues associated with the various techniques will be discussed (e.g., sampling, informed consent). Students will have experience identifying and collecting archival and observational data, as well as constructing and executing a simple experiment. 3 hrs.

SOC 6070 Logic and Analysis of Social Research I This course is designed to provide a thorough grounding in basic univariate and bivariate descriptive and inferential statistics for social scientists. Manipulation and processing of data using SPSS also will be covered. Prerequisite: SOC 6060. 3 hrs.

SOC 6200 Research Design and Data Collection II This course focuses on some of the methodological problems and issues related to the design of sociological research and the collection of data (e.g., validity, reliability). Emphasis will be placed on the selection and design of appropriate qualitative and quantitative research methods and their consequences for the research process. Students will have experience with the analysis of textual or documentary information, the design and administration of focus groups, and the construction of a sample survey. Prerequisite: SOC 6060. 3 hrs.

SOC 6210 Logic and Analysis of Social Research II This course offers an in depth coverage of multiple regression, including diagnosis and correction of assumption violations, use of discrete variables in multiple regression analysis, and an introduction to path analysis. Prerequisite: SOC 6070. 3 hrs.

SOC 6240 Professional Writing and Teaching Practicum This course is a practicum in two primary skills needed by professional sociologists: writing and teaching. Lectures, discussions, activities and assignments will be equally divided between the types of professional writing common for sociologists (including but not limited to funding proposals, technical reports, and scholarly journal articles) and the components of successful teaching at
the college level (including but not limited to syllabus development, course structure and content, and developing lectures). Credit/No Credit only. 3 hours

SOC 6300 Studies in Social Problems: Designated Topics A detailed study of a social problem area through student reports and seminar discussion. Instructor will select specific topic. Course is intended to provide intensive joint exploration of significant sociological issues. Prerequisite: Consent of instructor. 3 hrs.

SOC 6310 Deviance and Social Problems Theory An intensive and critical examination of the historical development and current status of the major theoretical orientations in the study of deviance and social problems theory. 3 hrs.

SOC 6430 Seminar in Medical Sociology An advanced seminar in some specialized aspect of medical sociology. Prerequisite: Consent of instructor. 3 hrs.

SOC 6510 Social Psychological Theory A study of major theoretical approaches in social psychology and their methodological and substantive implications. 3 hrs.

SOC 6560 Seminar in Social Stratification This seminar will deal with the sociological explanations of stratification. The functional, conflict and evolutionary paradigms will be used to analyze and explain the nature, causes and consequences of class and status within social systems. The usefulness of such concepts as power, prestige, social class and status within social systems will be stressed. 3 hrs.

SOC 6600 Theoretical Issues in Criminology This course provides a basic overview of criminological theories and theoretical perspectives. With this as a foundation, theories will be critically analyzed and applied to criminal and delinquent behavior. In addition, issues of theory building and integration will be addressed. 3 hrs.

SOC 6610 Seminar on Current Issues in Criminology This course will deal with the current debates and controversies in criminology, radical versus traditional perspectives, economic and white-collar crime as areas of research, the ethics of criminological research, environmental design and crime, and other timely and relevant issues emerging from current literature and conference debates. 3 hrs.

SOC 6630 Comparative Criminology An analysis in depth of crime as this phenomenon is viewed in Sweden, Germany, Poland, and other eastern and western European countries. Emphasis is placed on theoretical and etiological approaches in different societies, and the applicability and tests of theories in these societies. 3 hrs.

SOC 6640 Studies in Criminology: Variable Topics This seminar is designed to provide in depth analysis and assessment of various substantive topics within criminology, including race and crime, gender and crime, capital punishment, and/or specific types of criminal behaviors. 3 hrs.

SOC 6650 Research Issues in Criminology An advanced course emphasizing: (1) The examination of current issues in the measurement and analysis of crime, and (2) Development of research skills relevant to criminological research. Students will demonstrate their mastery of research skills by conducting their own analysis of crime data. 3 hrs.

SOC 6730 Formal Organization This course analyzes the nature of large-scale, formal organizations, concentrating on their structure, types of organizational goals, processes of control, authority and leadership, and the relationship of organizations to their social environment. Examples of organizations will be selected from different areas such as education, government, medicine, science, leisure, and industry. 3 hrs.

SOC 6750 Studies in Comparative Sociology: Variable Topics Intensive analysis of selected topics using a comparative frame of reference. The seminar will focus on such topics as major theoretical perspectives, methodological issues, and interpretation of studies of such institutions as: educational systems, industrial systems, and family systems. Prerequisite: Consent of instructor. 3 hrs.
SOC 6800 Studies in Research Methodology: Variable Topics  A seminar on advanced theoretical and methodological problems which are important to systematic research in sociology. Suggested specialized topics include: philosophy of the social sciences relationship between theory and research, and model building and testing. Prerequisite: Consent of instructor.  3 hrs.

SOC 6810 Advanced Multivariate Analysis  This course covers multivariate statistical techniques, including such topics as time-series analysis; structural equation modeling; confirmatory factor analysis; hierarchical modeling techniques; linear probability, logit, tobit, and probit estimation of models with discrete dependent variables; and logistic regression. Prerequisite: SOC 621.  3 hrs.

SOC 6820 Qualitative Methods  This course covers important techniques in qualitative sociological research, including participant observation and in-depth interviewing. Students will study and practice these methods, incorporating issues of recording and coding data and the ethical norms governing such research. They will also address theoretical and epistemological issues related to the place of qualitative methods in the sociological toolkit.  3 hrs.

SOC 6860 Applied Sociology  Provides an overview of the development of applied sociology and an introduction to essential skills. Among the topics covered are proposal writing, budget preparation, systems analysis, presentation of data to clients, and the writing of research reports. Case study material will be used to introduce students to applied sociology in public, private, and non-profit settings.  3 hrs.

SOC 6870 Evaluation Research I  The basic purpose of this course is to familiarize students with the various research techniques for evaluating action agencies through a survey of the literature, study of evaluation models, and study of techniques and procedures used in evaluation.  3 hours

SOC 6880 Methods of Survey Research  This course is a research seminar structured to provide practical experience in the use of social surveys. Both applied and disciplinary utilizations will be studied as will the conceptualization and measurement phases of survey design, the implications of the cognitive processes at work in survey research, the analysis of survey data, and the administration of large scale survey projects.  3 hrs.

Spanish

LANG 5800 Foreign Language for Special Purposes  The study of or practice in a specialized area in the field of foreign language and culture such as court interpreting, medical or engineering terminology, or public school administration. The content of this course may vary from semester to semester. Students may repeat the course for credit, provided the subject matter differs. Prerequisite: Completion of four courses in area of specialization; departmental approval required.  1-12 hrs.

LANG 5580 Modern Language Instruction (in French, German, Spanish, or other language)  Required for modern language teaching majors and minors. This course will acquaint prospective language teachers with various approaches and strategies involved in modern language teaching. Specifically, in a performance-oriented program, students will learn theory and practice related to teaching the listening, speaking, reading and writing skills, as well as the culture component. Students must complete this course before beginning directed teaching. Prerequisite: Minimum of four courses including a language at the 3160 and 3170 level, or equivalent, or permission of instructor.  3 hrs.

SPAN 5020 Spanish for Graduate Study  Spanish instruction for graduate students enrolled in a degree program who need knowledge of Spanish for their field of study. Students will sit in appropriate level course
for learning. Prerequisites: Approval of department of student’s graduate program and approval of Department of Spanish. 3-4 hrs.

SPAN 5260 Survey of Spanish Literature to the 18th Century A survey of Spanish literature from its origin to, and including, the seventeenth century. Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5270 Survey of Spanish Literature from the 18th Century to the Present A survey of Spanish literature from the eighteenth century to the present. Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5280 Survey of Spanish American Literature to Modernismo A survey of Spanish American literature from its origin to the era of Modernismo (late 19th century). Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5290 Survey of Spanish American Literature from Modernismo to the Present A survey of Spanish American literature from late 19th century to the present. Prerequisites: SPAN 3160, 3170, and 3250. 3 hrs.

SPAN 5500 Independent Study in Spanish Directed, individual study of a specific topic in a Spanish literary or linguistic area. Departmental approval required for admission. Prerequisite: One of the following: SPAN 5260, 5270, 5280, or 5290 and permission of department. 1-3 hrs.

SPAN 5600 Studies in Spanish Literatures Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 5600. Thus, a student may take any or all of the offerings at various times. Representative topics which may be treated in this area include: Cervantes- Don Quijote and other works of Cervantes together with his life and thought: seventeenth century Theater-Main works of Lope de Vega through Calderón de la Barca. nineteenth century-the Romantic movement, nineteenth century novel-development of the regional novel from Fernán Caballero through Blasco Ibañez. Generation of '98-Thought and works of typical representatives such as Unamuno, Azorín, Baroja, and A. Machado, contemporary theater-evolution and analysis of the characteristics. Spanish-American short story-significant short stories along with the cultural and social background, contemporary Spanish-American novel-the new Spanish-American novel along with the cultural and social background. Prerequisite: Three hours of SPAN 5260, 5270, 5280, 5290, or departmental permission. 3 hrs.

SPAN 6000 Don Quijote An in depth study of Cervantes' masterpiece. Emphasis is on literary analysis, but attention will also be paid to Cervantes' language. 3 hrs.

SPAN 6050 Foundation in Spanish Linguistics Recommended for graduate students of Spanish with little or no prior experience in linguistics. This course provides a foundation in the fundamental areas of Spanish linguistics: phonology and phonetics, morphology, syntax, and variation in these levels of language. The course prepares students for the advanced study of more specialized topics in Spanish linguistics. Prerequisite: Acceptance into M.A. or Ph.D. in Spanish, or PTG status and permission of instructor. 3 hrs.

SPAN 6100 Topics in Hispanic Culture The advanced study of selected aspects of Hispanic culture. Course varies according to topic and may be repeated with permission of advisor. 3 hrs.

SPAN 6200 Topics in Spanish Literature The advanced study of selected aspects of Spanish literature. Course varies according to topic and may be repeated with permission of advisor. 3 hrs.

SPAN 6260 Graduate Survey of Spanish Literature to the 18th Century A survey of Spanish literature from its origins to the eighteenth century. Prerequisite: Graduate student or Graduate Non-degree student. 3 hours

SPAN 6270 Graduate Survey of Spanish Literature from the 18th Century to the Present A survey of Spanish literature from the eighteenth century to the present. Prerequisite: Graduate student or Graduate Non-degree student. 3 hours
SPAN 6280 Graduate Survey of Latin American Literature to Modernismo  A survey of Spanish American literature from its origins to Modernismo.  Prerequisite: Graduate student or Graduate Non-degree student.  3 hours

SPAN 6290 Graduate Survey of Latin American Literature from Modernismo to the Present  A survey of Spanish American literature from Modernismo to the present.  Prerequisite: Graduate student or Graduate Non-degree student.  3 hours

SPAN 6300 Topics in Spanish American Literature  The advanced study of selected aspects of Spanish American Literature. Course varies according to topic and may be repeated with permission of advisor.  3 hrs.

SPAN 6400 Topics in Spanish Linguistics and Methodology  The advanced study of selected aspects of Spanish linguistics and methodology. Course varies according to topic and may be repeated with permission of advisor.  3 hrs.

SPAN 6500 Methods of Teaching College Spanish  Recommended for new teaching assistants in Spanish. Establishes the methodology for teaching Spanish language at the university level. Some areas covered are: How to teach in the target language; the development of appropriate classroom tasks and activities; evaluating and testing; and aspects of second language acquisition theory. Participants create and share materials to be used in their own language classrooms.  Prerequisite: Acceptance into Spanish M.A. program, or PTG status and permission of instructor.  3 hrs.

SPAN 6600 History of the Spanish Language  This course focuses on different aspects involved in the development of the Spanish language. Topics to be considered may include, among others, the evolution of different linguistic systems of Spanish and the sociocultural factors and context that influenced its development. The course will entail analysis of texts that reflect changes in language usage and attitudes toward language.  Prerequisite: Open only to graduate students admitted to Spanish curriculum or by permission of Spanish graduate advisor.  3 hrs.

SPAN 6700 Trends in Literary Criticism  This course introduces students to significant trends in modern literary theory by focusing on representative theorists and the application of various critical methodologies. Literary genres and texts will be examined in light of specific theoretical writings. Prerequisite: Open only to graduate students admitted to Spanish curriculum or by permission of Spanish graduate advisor.  3 hrs.

SPAN 6770 Foreign Study  Prerequisite: Approval of Spanish graduate advisor and departmental chairperson.  Variable

SPAN 6800 Research and Writing  A study of the techniques of research and the art of expression, leading to the completion of a scholarly monograph. (Enrollment limited to ten students.)  3 hrs.

SPAN 6900 Seminar  Intensive study of a particular author or of a literary, linguistic, or cultural topic. Course varies according to topic and may be repeated with permission of advisor.  1-3 hrs.

SPAN 7100 Independent Research  2-6 hrs.
SPAN 7300 Doctoral Dissertation  15 hrs.

Statistics
STAT 5020 Statistics for Graduate Study  Statistics instruction in existing courses at appropriate level for graduate students enrolled in a degree program who need knowledge of Statistics for their field of study. May be repeated for credit. May not be taken by undergraduate students in any field nor by graduate students in Statistics.  Prerequisites: F&S Approval of department of student’s graduate program and approval of Department of Statistics.  3 to 4 hours
STAT 5030 Statistical Data Analysis with Excel  A course in statistical computation using Excel software. Topics will include: data management and manipulation, numerous types of graphical presentations. Descriptive statistics for one and several variables, categorical variables and tables, multiple analyses, macro programming, and simulations, Excel results to be organized in high quality reports and presented on the web. Prerequisites: MATH 1000 or satisfactory score in the Mathematics Department placement exam. Students cannot receive credit for both STAT 3030 and STAT 5030.  3 hrs.

STAT 5600 Applied Probability  A first course in probability for upper division and graduate students interested in applications. Topics will include: probability spaces, expectation, moment generating functions, central limit theorem, special discrete and continuous distributions. Applications will include reliability and production problems, and Markov chain methods. Not recommended for students who have taken STAT 3620 or 6600. Prerequisite: MATH 2720. 3 hrs.

STAT 5610 Applied Multivariate Statistical Methods  An applied treatment of multivariate procedures is presented. Classical procedures such as Hotelling's T-squared methods are discussed for the one and two sample problems and MANOVA for standard designs. Topics that will be accentuated are principal components, discriminant analysis, cluster analysis, and factor analysis. Emphasis will be on graphical methods and applications. Prerequisites: An introductory statistics course such as STAT 2600 or STAT 3640 and a course in linear algebra.  3 hrs.

STAT 5620 Statistical Theory  A first course in statistical theory. Topics include random variables, distributions of statistics, limiting distributions, and elementary theory of estimation and hypothesis testing. Prerequisites: MATH 2300, STAT 3640, (5600 or 4600) or equivalent.  4 hrs.

STAT 5630 Sample Survey Methods  This course consists of a broad overview of the techniques of survey data collection and analysis and contains a minimum of theory. Topics may include: simple random, stratified, systematic, single-stage cluster, and two-stage cluster sampling; ratio and regression estimation; subpopulation analyses; problems of nonresponse; surveys of sensitive issues; minimization of survey costs; sample size determination. Real surveys are discussed and actual survey data are analyzed. Prerequisites: An introductory statistics course such as STAT 2600 or STAT 3640 and consent of instructor.  3 hrs.

STAT 5650 Design of Experiments for Quality Improvement  This course covers statistical methods useful for improving the quality of products and systems in an industrial setting. It provides a comprehensive set of tools to use in building better products and in reducing manufacturing and other costs. The focus will be on solving real engineering problems through case studies. Taguchi methods will be discussed along with modifications from standard statistical practice. Topics will include planning an experiment, experimental strategy, Analysis of Variance concepts, factorial designs, orthogonal arrays, loss functions, signal-to-noise ratios, identifying significant factor effects, graphical methods, parameter design and tolerance design. Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  3 hrs.

STAT 5660 Nonparametric Statistical Methods  This course presents a broad overview of statistical methods commonly referred to as nonparametric or distribution-free methods. Topics include: inferences for proportions, contingency tables, goodness of fit problems, estimation and hypothesis testing based on ranking methods, measures of rank correlation, efficiency. Emphasis will be on the application of nonparametric statistical methods to data from many different applied fields. Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  3 hrs.

STAT 5670 Statistical Design and Analysis of Experiments  A course in experimental design and the analysis of variance with particular emphasis on industrial experiments. Topics include: completely randomized, randomized complete block, Latin square, and split-plot designs; orthogonal contrasts and polynomials; multiple comparisons; factorial arrangement of treatments; confounding; fractional replication. This course is molded around the complete analysis of good applied problems. Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  4 hrs.

STAT 5680 Regression Analysis  An applied course in regression analysis: simple and multiple linear regression; resolution of fit of a model, including residual analysis, precision of estimation, and tests of
general hypotheses; model building; step-wise regression; use of indicator variables; non-linear regression.  
Prerequisite: An introductory statistics course such as STAT 2600 or STAT 3640.  3 hrs.

STAT 5820 Time Series Analysis  The development and practical use of seasonal and non-seasonal ARIMA (Autoregressive Integrated Moving Average) Box-Jenkins time series models is presented. Identification of correct time series models, estimation of model parameters, and diagnostic checks of identified models will be covered. The uses of these models for forecasting future trends and assessing interventions will be examined. Extensive data analysis using SAS, MINITAB, and Splus/R statistical packages are included. Topics include: regression time series models, autocorrelation partial autocorrelation, Yule-Walker equations, differencing, stationarity, autocorrelation models, moving average models, seasonality, invertibility, and Box-Pierce tests.  
Prerequisites: STAT 3640 and STAT 5680. 3 hours

STAT 5990 Independent Study in Statistics  Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are chosen and arrangements are made to suit the needs of each particular student.  
Prerequisite: Approval of chairperson of department.  1-6 hrs.

STAT 6120 Data Analysis  Variation is the central concept of the course—how to understand it, what techniques to use, how to draw conclusions from data and evaluate the strength of such conclusions. Emphasis will be placed on graphical methods, simulations, computer usage, sampling, and experience with real data from the world around us and from experiments. Statistical thinking will be stressed.  
Prerequisite: Consent of advisor.  3 hrs.

STAT 6220 Preparation of Large Data Sets for Statistical Analysis  Students will use standard database software, spreadsheets and relational databases, to learn how to handle large data sets in preparation for statistical analysis. They will learn how to enter and query databases that have already been constructed and be exposed to basics of building relational databases. It is anticipated that Excel, Access, and Oracle are software packages to be used in the course, but choice is dependent on course instructor.  
Prerequisites: An introductory course in statistics such as STAT 2600 or STAT 3640. Experience with spreadsheets and/or programming language is beneficial.  3 hrs.

STAT 6600 Statistical Inference I  An advanced course in statistical theory. Topics include measures of quality of estimators, theories of estimation, functions of sufficient statistics, confidence intervals, theories of testing, likelihood ratio tests, and selected topics in statistics.  
Prerequisite: STAT 5620.  4 hrs.

STAT 6610 Multivariate Statistical Analysis  A theoretical treatment of multivariate statistical problems and techniques. Topics include: multivariate normal distribution; quadratic forms; multiple and partial correlation; sample correlation coefficients; Hotelling's statistic; Wishart distribution; applications to tests of the mean vector and covariance matrix; principal components; factor analysis; cluster analysis; discriminant analysis.  
Prerequisite: STAT 6630. 3 hrs.

STAT 6620 Applied Linear Models  An advanced course in applied statistics. Linear models will be used to treat a wide range of regression and analysis of variance methods. Topics include: matrix review; multiple, curvilinear, nonlinear, and stepwise regression; correlation; residual analysis; model building; use of the regression computer packages at WMU; use of indicator variables for analysis of variance and covariance models.  
Prerequisites: MATH 2300, STAT 3640, (5600 or 4600) or equivalent.  3 hrs.

STAT 6630 Linear Models  A theoretical study of the general linear model including random vectors, quadratic forms, multivariate normal distributions, least squares estimation, hypothesis testing for full and reduced models, generalized inverses.  
Prerequisites: STAT 6600 and 6620.  3 hrs.

STAT 6640 Design of Experiments I  An applied course in the design and analysis of experiments. Topics include: general considerations in the design of an experiment; standard designs such as Latin square, balanced incomplete block, split plot, and nested; pooling of experiments; multiple comparison techniques; orthogonal contrasts and polynomials; factorial arrangement of treatments; fixed, random, and mixed models; confounded designs; fractional replication.  
Prerequisite: STAT 6620.  3 hrs.
STAT 6650  Statistical Inference II  Theories of statistical inference are discussed. Topics include (but not limited to) asymptotic theory, sufficiency, maximum likelihood methodology, Bayesian procedures, robust procedures, nonparametrics, resampling, and asymptotic efficiency. Prerequisite: STAT 6600. 3 hrs.

STAT 6660  Nonparametric Statistical Theory  A theoretical study of nonparametric statistics and robust statistical procedures. Topics may include: order statistics, empirical cdfs, R-estimates, rank statistics, optimality considerations, asymptotic distribution theory. Prerequisite: STAT 6600. 3 hrs.

STAT 6670  Introduction to Random Processes  This course is a treatment of random sequences and Markov processes. Discrete and continuous Markov processes; transition and rate matrices; Chapman-Kolmogrov systems; transient and limiting behavior; examples and illustrations; random walks, birth-and-death processes, etc.; stationary processes. Prerequisite: STAT 5600 or equivalent. 3 hrs.

STAT 6680  Categorical Data Analysis  Statistical methods for discrete multivariate data and contingency tables will be discussed. The log linear model for two way and higher dimensional tables will be emphasized. Subtopics include: maximum likelihood estimates, iterative proportional fitting, model selection, goodness of fit, logistic models, incomplete tables, symmetry, marginal homogeneity, and conditional independence models. Prerequisites: STAT 6600, 6620. 3 hrs.

STAT 6690  Studies in Probability and Statistics  The subject matter for this course is variable. Advanced work is considered and organized around topics not usually considered in the other courses. 3 hrs.

STAT 6700  Statistical Consulting Practicum  Applied statisticians typically work in collaboration with professionals in other fields. The course is designed to train students to be statistical consultants by giving them the opportunity to consult on real research projects with professionals in other fields. The main goals of this course are to: 1) integrate and apply theoretical knowledge acquired in the field of statistics to real-life problems, and 2) develop communication skills, written and verbal, necessary for effective statistical consulting. Students taking this course provide consulting service to graduate students, university staff and faculty, and researchers on campus on the following areas: Design of Experiments, Regression Methods, Categorical Data Analysis, Survival Analysis, Multivariate Analysis, Statistical Software Support, Data Analysis and Interpretation of Results, Statistical Computation and Graphics, and others. Prerequisite: STAT 5680 or STAT 5670 or other upper level statistics course. 3 hrs.

STAT 6800  SAS Programming  Students will use SAS to manipulate data, create effective tables and plots, and write programs for nonstandard problems. Prerequisite: STAT 6620 or consent of instructor. 3 hrs.

STAT 6810  Survival Data Analysis  This course consists primarily of biostatistical methods used in pharmaceutical and medical research with particular application to cancer studies and toxological animal studies. Some attention is given to related failure-time methods used in industry to test product reliability. Theoretical development of some of these methods is discussed. Extensive data analyses are done using SAS (or comparable statistical packages). Topics include: censoring, Kaplan-Meier survival curves, life tables, two-sample nonparametric procedures for comparison of survival curves (Gehan, Cox-Mantel, log rank and generalized Wilcoxon), relative risk, odds ratio, the Mantel-Haenszel procedure, parametric failure-time models (exponential, gamma, Weibull, and lognormal), logistic regression, and Cox's proportional hazards model. Prerequisites: STAT 6600 and 6620. 3 hrs.

STAT 6830  Robust Statistical Analysis  Robust statistical procedures for inference in location, linear and multivariate models are presented. This will include broad classes of robust estimates, including R-<, M-< and L-<estimates of both regular and bounded influence types. Concepts such as breakdown point, influence function, and asymptotic theory are used to obtain properties of these procedures. Computational aspects of these estimates are discussed along with small sample properties and applications of these procedures. Prerequisites: STAT 6600 and 6620. 3 hrs.

413
STAT 6840 Design of Experiments II  This course is a continuation of Design of Experiments I. The additional topics include: repeated measurement designs, analysis of covariance designs, response surface designs, partially balanced incomplete block designs, mixture models, analysis of models with missing data using Types I, II, III, and IV SAS sums of squares, analysis of large experiments with many crossed and nested factors, and some Taguchi methods. Prerequisite: STAT 6640. 3 hrs.

STAT 6850 Applied Data Mining  Examine the philosophy and practice the methods of using gigantic data collections to discover actionable information. Topics include: Statistical evaluation of gigantic data collections; data warehousing; data form; data transformations; missing data; data reduction; application of neural networks; genetic algorithms; and hybrid models. Prerequisite: STAT 6640. 3 hrs.

STAT 6860 Regulatory Environmental Statistics  This is a course in regulatory environmental statistics, with a primary focus on statistical methods recommended by the United States Environmental Protection Agency (EPA) and by various State environmental regulatory agencies. Particular emphasis is devoted to the normal, lognormal, and non-parametric probability models for fitting environmental data, which are methods recommended in several EPA guidance documents. Descriptive, graphical and model adequacy methods include: box-plots, normal probability plots, q-q plots, outlier tests, and goodness-of-fit tests. Statistical inference methods include prediction intervals, tolerance intervals, analysis of variance, and upper and lower confidence intervals for both parametric and non-parametric models. The use of correlation analyses, trend analyses, control charts, and multiple regression analyses may be illustrated. Emphasis will be devoted to the proper analysis of censored or non-detect environmental data. The SAS, SPULS, or other statistical packages may be utilized. Emphasis may be placed on report-writing and oral presentations with real data collected in actual regulatory environmental contexts. Prerequisites: STAT 5620 or 6620 or permission of instructor. 3 hrs.

STAT 6910 Practicum in Statistical Consulting  Provides graduate students with the opportunity to participate as statistical consultants on real projects. The student consultants are involved with all aspects of the statistical consulting experience from data manipulation and analysis to the design of the statistical aspects of the project and from interaction and effective communication with a client to the production of a final written report on the statistical aspects of the project. Prerequisites: STAT 6620 (or concurrent enrollment) and at least one of STAT 5630, 5660, 5670, or 5680. 1 hr.

STAT 6960 Seminar in Probability and Statistics  1-3 hrs.

STAT 6980 Statistical Consulting Internship  The statistical consulting internship program provides a graduate student with the opportunity to work as a member of the staff in the Statistical Computation Lab. The student gains considerable experience in all aspects of the consulting experience and the operation of a consulting center. Prerequisite: Consent of Advisor. 2-6 hrs.

STAT 6990 Reading and Research  1-6 hrs.

STAT 7120 Professional Field Experience  2-12 hrs.

STAT 7250 Doctoral Research Seminar  2-6 hrs.

STAT 7300 Doctoral Dissertation  15 hrs.

STAT 7350 Graduate Research  2-10 hrs.

Gender and Women’s Studies

WMS 5500 Contemporary Feminist Theory  An advanced course focusing on the analysis of American and European texts in feminist theory. The course will also consider the relation of these texts to other contemporary theoretical approaches. Prerequisite: For undergraduates, WMS 4010. 3 hrs.

WMS 5970 Issues in Women’s Studies: Variable Topics  Group study of special issues in Women’s Studies. Variable topics may address theoretical, critical, or practical issues in the historical or contemporary context. The courses will be offered in response to the special needs and interests of students and may be organized around special events or available guest speakers. 1-3 hrs.
WMS 5980  Readings in Women's Studies  Individual study project available to the advanced student by
permission of faculty advisor with departmental approval of project application.  1-4 hrs.

Haworth College of Business

**Accountancy**

ACTY 6010  Financial Accountancy  This course is designed for graduate students who have no
academic background in accounting. It is a study of the fundamental concepts and applications of financial and
managerial accounting. The course emphasizes the use of accounting information and the analysis of accounting
statements rather than the recording of transactions and the preparation of accounting statements. Students may not
receive credit for both ACTY 6010 and equivalent courses. M.S.A. students may not enroll in ACTY 6010.
Prerequisite: Admission to the MBA program or departmental approval.  3 hrs.

ACTY 6100  Financial Accounting and Reporting  This course examines the pronouncements
of authoritative, regulatory organizations, including the American Institute of Certified Public Accountants, the
Securities and Exchange Commission, and the Financial Accounting Standards Board. The underlying logic (or lack
thereof) behind these pronouncements is investigated. These pronouncements are studies in their broad concepts,
including asset and liability recognition and measurement issues, revenue recognition alternatives, the timing of
expense matching, and funds flow reporting. Practical, “real world” cases emphasizing these concepts form a major
portion of the course. The impact of financial reporting on capital markets, from a user perspective, is also
discussed.  Prerequisite: ACTY 3110 or consent of the Chair of the Department or the Director of the MBA
Program.  3 hrs.

ACTY 6110  Managerial Accounting  This course emphasizes the use of accounting information for
planning, control, and decision making. The managerial accounting topics covered include job order costing, cost
allocation, service costing, activity-based costing, standard costing, transfer pricing, and global accounting issues.
The course is not available for credit to students who have completed ACTY 3220 or its equivalent; M.S.A. students
are not permitted to enroll in ACTY 6110. Prerequisite: ACTY 6010 or equivalent.  3 hrs.

ACTY 6170  Attestation and Assurance Services  A critical study and examination of the
theory of auditing and auditing practices, including the demand and supply for auditing services and current issues
facing auditors in the United States and elsewhere.  Prerequisite: ACTY 4160 with a “C”.  3 hrs.

ACTY 6210  International Accounting  This course examines international dimensions of accounting
and the uses of accounting information for decision making in a multinational environment. Major emphasis is
placed upon accounting and managerial issues of multinational corporations such as currency translation, financial
reporting and disclosure, international taxation, transfer pricing, and current issues and developments.  Prerequisite:
ACTY 6110 with a “C” or consent of the Chair of the Department.  3 hrs.

ACTY 6220  Seminar in Management Accounting  This course examines a variety of advanced
cost management concepts and techniques for manufacturing and service organizations. The topics may include
advanced cost-volume-profit analyses, activity-based costing and activity-based management, strategic cost
management, total quality management, re-engineering and process improvement, transfer pricing, and other cost
management issues in a global environment. Prerequisite: ACTY 3220 with a “C” or ACTY 6110 with a “C”.  3 hrs.

ACTY 6240  Business Tax Planning  An advanced course in business taxation involving the
identification and analysis of tax problems. Income tax strategy is studied involving the timing of income, types of
business organizations, and the various alternative tax treatments. Case studies will be used, and research in taxation
will be emphasized. Prerequisite: ACTY 3240 with a “C”.  3 hrs.

ACTY 6270  Accounting Fraud  This course identifies various aspects and elements of fraud as
it occurs in business. Three major categories of fraud will be examined: asset misappropriation, financial statement
misstatement, and corruption. The course begins with an introduction to the problem, and then analyzes how fraud
can be prevented. The course covers the various methodologies for detection and investigation of fraud as well as resolution attributes and related matters. Prerequisite: ACTY 4160. 3 hrs.

ACTY 6420 - 6450 Selected Topics in Accountancy The advanced study of selected topics in accountancy. Course varies according to topic. Prerequisite: M.S.A. admission or approval of the Chair of the Department. 3 hrs.

ACTY 7000 Master's Thesis 6 hrs.
ACTY 7100 Independent Research 2-6 hrs.
ACTY 7120 Professional Field Experience 2-12 hrs.

**Business Information Systems**

CIS 5550 Topics in Computer Information Systems Special topics appropriate to business applications such as data base management systems, structured concepts, networking, programming documentation and efficiency, planning, organizing and directing management information systems. Prerequisite: Permission by the instructor. 3 hrs.

CIS 6000 Seminar in Computer Information Systems Intensive problem solving in the area of computer information systems. 3-4 hrs.

CIS 6200 ERP System Configuration Through hands-on experiences, students learn how to configure an integrated Enterprise Requirements Planning (ERP) system to manage a firm’s business processes and gain a better understanding of the nature of these processes. Management issues associated with implementing these packages are also explored. Prerequisites: ACTY 6110, BUS 6180, MGMT/MKTG 6140. 3 hrs.

CIS 6300 ERP Data Management The focus of this course is database design, management, administration, implementation and data migration from legacy systems to an ERP system. Modern database management systems and ERP software such as Oracle DBMS, PL/SQL development environment, SAP implementation/configuration tools, and SAP SQL will be used for course instruction and project development. Prerequisite: BUS 6180. 3 hrs.

CIS 6620 ERP Project Management This course enables students to gain a clear and comprehensive understanding of structured project management. It introduces foundations for effective project management in projects with a high technological content. The course focuses on how to complete projects on schedule and within budget while meeting performance and quality objectives. Highly participative, the course involves interactive lectures, discussions, small-group work, and a unique information system project simulation exercise. Prerequisite: BUS 6180. 3 hrs.

CIS 6640 Business Intelligence This course is focused on major strategic and managerial issues of gathering, integrating, distribution, and analyzing enterprise-wide information quickly and effectively, which is a vital component in ERP systems management. Topics include introduction to BI spectrum and its road map, data extraction and reporting, OLAP, BI cycles, Extended BI through data warehousing and data mining, and total integration at enterprise level through model optimization and bridging the analysis gap. Emphasis on the use of conceptual, analytical, and technological models tools and techniques will be an integral part of the course. Business Intelligence course enables students/future knowledge workers to be more productive by effectively guiding the progress of business enterprises in accordance to the business goals, objectives, and strategies. Prerequisite: BUS 6180. 3 hrs.

CIS 6660 Enterprise Information Security Management The focus of this course is to explore the major issues in Enterprise Information Security Management. Prospective topics include introduction to information security management, security and contingency planning, security policy and programs, risk management, legal and regulatory issues, security personnel, and enterprise information security project management. This course is designed to provide the professional manager with an understanding of the identification and prioritization of information assets and their threats, information security strategy and architecture,
how to plan for and respond to system intrusions, the implications of security and privacy issues, and the information disaster recovery plan after an accident. Prerequisite: BUS 6180. 3 hrs.

CIS 6740 ERP Portal Management  This course focuses on ERP Portal Management. In particular, the course explores the justifications, requirements, implementation, and management of Enterprise Web Portals. Throughout the semester students will learn how to customize, maintain, and manage ERP Web Portals to maximize their effectiveness and efficiency in various business environments. Prerequisite: BUS 6180. 3 hrs.

CIS 7100 Independent Research  2-6 hrs.
CIS 7120 Professional Field Experience  2-12 hrs.

**Finance and Commercial Law**

FCL 6000 Seminar in Business  Intensive problem solving in the primary business fields. Consent of instructor required. 3 hrs.

FIN 6020 Corporate Finance  This course will introduce students to financial principles and techniques which are essential for understanding the financial management function of a firm. 3 hrs.

FIN 6120 Financial Management  This course will focus on a contemporary study of issues and problems in financial management. Issues to be examined include short-term financing, capital budgeting, asset pricing theory, sources of long-term capital, optimal capital structure, corporate restructuring and international dimensions of corporate financial management. Prerequisite: FIN 6020 or equivalent. 3 hrs.

FIN 6190 Financial Markets and Institutions  Study of money and capital markets, financial instruments, and intermediaries in a global context. Topics include interest rate and security price determination, term structure theory, hedging techniques with derivatives, commercial and investment banking practices, and monetary policy methodology and influences. Prerequisite: FIN 6120. 3 hrs.

FIN 6220 Financial Restructuring  An investigation and analysis of the financial aspects of corporate restructuring. The course emphasizes valuation of public and private companies. In addition, it examines the financial implications of leveraged buyouts, spin-offs, and other types of divestitures. Prerequisite: FIN 6120. 3 hrs.

FIN 6250 Financial Strategy  The main focus of this course is on value creation. It attempts to bridge the gap between theory and practice. Topics include financial analysis and forecasting, risk management, working capital management, capital budgeting, capital structure theory and dividend policy. Students identify problems facing the financial executive and recommend the best course of action utilizing financial theory. Prerequisites: FIN 6120. 3 hrs.

FIN 6420 International Finance  A study of contemporary issues in the areas of multinational financial management and international investments with emphasis on the management of currency risk. The areas to be examined include international treasury cash management, multinational capital budgeting and hedging of transactions, operations and translation exposure. Prerequisite: FIN 6120. 3 hrs.

FIN 6450 Computer Applications in Finance  Spreadsheets, web resources, and statistical analyses are used to analyze finance issues with current computer software. Web research includes searching security databases, downloading stock prices, and using stock screening programs. Statistical analyses use regression. The cases cover topics such as capital budgeting, cash budgeting, estimating beta, financial forecasting, and ratio analysis. Students work in teams to solve cases and give presentations. Prerequisite: FIN 6120. 3 hrs.

FIN 6540 Investment Analysis and Management  A detailed analysis of the investigation of corporate securities as long-term investment media, largely from the standpoint of the individual investor. Investigates the techniques for security valuation and portfolio management, with some discussion of financial institution investment procedures. Considers mechanics, markets, institutions, and instruments important to the
investment process. Not open to students with credit earned in FIN 4530 or its equivalent. Prerequisite: FIN 6120. 3 hrs.

FIN 6550 Portfolio Theory and Analysis A study of the theoretical structures (models and their applications). Theoretical concepts are used to study model development and evaluate competing models. Extensive use of market-based data for computer applications of models such as Markowitz analysis, single and multiple index models, simplified techniques, duration and convexity. Prerequisite: FIN 6120. 3 hrs.

FIN 6620 Health Care Financial Management This course deals with advanced financial management concepts affecting health care institutions. Working-capital management, capital-budgeting, and Medicare reimbursement programs are examined. Prerequisite: FIN 3200 or equivalent. 3 hrs.

FIN 6910 Seminar in Finance The analysis of specialized financial problem areas (e.g., financial futures markets, financial forecasting, commodities, and similar contemporary problems). Topics will vary from semester to semester. Prerequisite: FIN 6120. 3 hrs.

FIN 6980 Readings and Research in Finance Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of department chair. 1-3 hrs.

FIN 7000 Master's Thesis 6 hrs.
FIN 7100 Independent Research 2-6 hrs.
FIN 7120 Professional Field Experience 2-12 hrs.

LAW 6040 Legal, Regulatory, and Political Aspects of Business This course provides an introduction to the legal, regulatory, and political environments of business. The course will examine the role of law in society; the structure of the American legal, regulatory, and political systems; and basic legal principles governing business conduct. The course reviews major legal problems encountered by business managers. The manager's role in dispute resolution and factors affecting the organization of business are also examined. 3 hrs.

LAW 6810 Legal and Ethical Issues for Nonprofit Organizations This course will provide students with the basic understanding and practical applications of the legal framework pertaining to the establishment, operation, and funding of nonprofit organizations. It will also examine ethical behavior in the nonprofit world, provide examples of questionable conduct and unethical behavior, and offer solutions to ethical dilemmas. Not available for credit toward graduate business programs. 2 hrs.

LAW 6820 Managerial Aspects of Labor Law Provides an overview of the background and consequences for business of the laws governing collective relationships between employers and employees and their representatives. Special emphasis is given to the interpretation and evaluation of current legislation. Prerequisite: LAW 6040. 3 hrs.

LAW 6840 International Business Law Private international law and selected regional and national laws affecting foreign investment, licensing, and trade are reviewed. International sales, financing, transportation, intellectual property, and taxation topics are discussed. 3 hrs.

LAW 6860 Legal and Regulatory Issues in Marketing This course examines the legal, regulatory, and political issues which affect marketing. The course offers legal and regulatory information that parallels and affects marketing decision-making. 3 hrs.

LAW 6880 Health Law Administration The course provides a study of the law as it relates to the delivery of health care services. The cases, regulations and statutes in state and federal legal systems that affect the health care professional and institutions are examined. Legal concepts such as respondent superior, good Samaritan laws, informed consent, and confidentiality will be explored. Prerequisite: LAW 3800 or 6040. 3 hrs.

LAW 6890 Legal Problems of Health Care Organizations An analysis of the organization and structure of various health care entities. The Medicare reimbursement program, medical malpractice and risk
avoidance concepts will be discussed. Laws affecting the maintenance and disclosure of medical records and organizational certificate of needs will be examined. Prerequisite: LAW 688 or consent of department chair. 3 hrs.

LAW 6980 Readings and Research in Law  Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of department chair. 1-3 hrs.

LAW 7000 Master's Thesis 6 hrs.
LAW 7100 Independent Research 2-6 hrs.
LAW 7120 Professional Field Experience 2-12 hrs.

Management
MGMT 6000 Seminar in Management (Topic) Intensive problem solving in advanced management topics, including the preparation of a major staff report. Repeatable for different topics. 3 hrs.

MGMT 6100 International Management The purpose of this course is to develop the skills, knowledge, and sensitivities necessary to manage successfully in an international environment. Students will learn why and how companies internationalize their operations, and the implications of managing in diverse environments worldwide. Prerequisite: BUS 6150. 3 hrs.

MGMT 6140 Business Process Management Improving business processes is fundamental to competitive organizations and their significant supply chain partners. Students will be introduced to the increasingly integrated areas of purchasing, operations, and logistics and given an opportunity to examine the fundamental processes that shape business functions. Students will either develop and simulate new systems or improve existing systems within the supply chain of an organization. 3 hrs.

MGMT 6170 Managing Human Resources and Behavior Work is a dominant theme in the lives of most people. The way people are managed and relate to one another affects the quality of their lives and the effectiveness of their organizations. Understanding individual differences, sources of behavior, choices people make, and how issues come together in groups and organizations is imperative for today's managers. A clear understanding of how diverse managerial approaches positively impact the performance of a diverse workforce is of growing importance. The course instructional technology ranges from lecture to self-directed work. There is, however, an emphasis on participative and experiential learning. 3 hrs.

MGMT 6200 ERP System Configuration Through hands-on experiences, students learn how to configure an integrated Enterprise Requirements Planning (ERP) system to manage a firm’s business processes and gain a better understanding of the nature of these processes. Management issues associated with implementing these packages are also explored. Cross-listed with CIS 6200. Prerequisites: ACTY 6110 BUS 6180, MGMT/MKTG 6140. 3 hrs.

MGMT 6320 Incentive Compensation Incentive compensation covers pay related incentives useful for implementing business strategies. Topics covered include executive compensation (e.g. stock options), special group incentives, gain sharing, and ESOP’s. Students are expected to develop an incentive plan for an existing organization. 3 hrs.

MGMT 6410 Business Venturing Focuses on all aspects of starting a new business, with emphasis on the critical role of recognizing and creating opportunities. Topics include evaluation of opportunities, sources of financing, and challenges of rapid growth. Term project involves development and presentation of a professional business plan. Prerequisite: Completion of MBA core or consent of the HCOB Director of Graduate Business Programs 3 hrs.

MGMT 6500 Managing Change The process of change inside organizations with particular emphasis on managerial actions that influence effectiveness is investigated. Change is examined at the strategic, organizational and behavioral levels. 3 hrs.
MGMT 6520 Strategic Human Resource Management The role of HRM in generating sustained competitive advantage is examined. Theory, policies, and practices that guide effective management of diverse human resources are explored. Strategic choices regarding staffing, evaluation, rewards, dismissal, and employment relations in a changing work environment are discussed. Prerequisite: Admission to the MBA program or consent of the HCOB Director of Graduate Business Programs. 3 hrs.

MGMT 6540 Management History and Thought A study of the major management theories and executives and their contributions to the field of management from the start of the twentieth century to date, with primary emphasis on the years before 1980. Covers the contributions of such theorists as Frederick Taylor, Mary Parker Follett, Douglas McGregor, Theodore Levitt, and Peter Drucker, as well as of executives such as Henry Ford, Alfred Sloan, Chester Barnard, and Thomas Watson, Jr. Also includes a summary of the major labor acts such as the Wagner Act (1935) and how they influenced the development of management practice and labor relations in the United States. Prerequisite: MGMT 6170. 3 hrs.

MGMT 6550 Organization Theory Theories, models, and applications relevant to the structure of complex organizations and their subunits. Emphasis on alternative designs, their causes and consequences. 3 hrs.

MGMT 6580 International Human Resource Management The purpose of this course is to investigate issues in the management of human resources on a global basis. It includes topics such as globalization and business strategy, culture, employment law, expatriate staffing, performance appraisals, cross-cultural training, and international labor relations. 3 hrs.

MGMT 6610 Introduction to Management Science A systematic study and application of the scientific method to management decision-making. Introduction to techniques of linear programming, inventory theory, scheduling theory, and other optimizing decision models. For students who will take more specialized courses as well as those in other disciplines desiring a limited exposure to the field. Prerequisite: MATH 2160 or equivalent. 3 hrs.

MGMT 6800 Management of Innovation and Technology (MOIT) An understanding of the concepts involved in developing core technological competencies, managing existing technologies, and developing new technologies through innovation. Focus will be on the management dimension of technology and innovation. Topics covered will include: technology and strategy (including technological forecasting), management of technology (including development of core technical competencies and technology acquiring options), management of innovation (including internal entrepreneurship and organizational change, and managing R&D), the economics of innovation, and the relevance of Management of Innovation and Technology in helping a firm meet or surpass global competition. 3 hrs.

MGMT 6850 Quality Management Strategies The purpose of this course is to investigate strategic quality management issues as they apply to the management of business in today's competitive environment where customer satisfaction and continuous improvement have become requirements. Topics covered will include product and process quality, leadership, benchmarking, employee participation and empowerment, quality function deployment, and process innovation. Students will be assigned materials from the latest textbooks and journals. Practice and application will result from participation in group projects conducted in local firms. Prerequisite: MGMT 6140 or MKTG 6140. 3 hrs.

MGMT 6950 Advanced Independent Study Independent study of current trends and advanced problems in the organization and management of complex organizations. May be repeated for credit. Prerequisite: Approval of department chair. 3 hrs.

MGMT 6990 Policy Formulation and Administration This course focuses on the job of the general manager in formulating short and long run strategy. Using cases drawn from actual situations, the course develops ways of (1) perceiving specific opportunities from an analysis of evolving environmental trends, (2) understanding company strengths and (3) integrating strengths and opportunities in setting strategy and detailed operating plans. This is an integrative capstone course in that the tools and skills learned in other core courses are needed to develop practical, company-wide general management decisions. Prerequisite: Completion of MBA core courses. 3 hrs.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>MKTG 6130</td>
<td>Customer-Driven Marketing Management</td>
<td>An examination of marketing theory, concepts, and processes used by organizations to create customer value, achieve and sustain competitive advantage and accomplish their strategic mission and objectives. Emphasis on planning, implementing, and evaluating customer-driven marketing strategies to respond effectively to complex global, cultural, technological, competitive, and other market or environmental factors. 3 hrs.</td>
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<tr>
<td>MKTG 6140</td>
<td>Business Process Management</td>
<td>Improving business processes is fundamental to competitive organizations and their significant supply chain partners. Students will be introduced to the increasingly integrated areas of purchasing, operations, and logistics and given an opportunity to examine the fundamental processes that shape business functions. Students will either develop and simulate new systems or improve existing systems within the supply chain of an organization. Cross-listed with MGMT 6140. 3 hrs.</td>
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<tr>
<td>MKTG 6610</td>
<td>Healthcare Marketing</td>
<td>This course presents the field of marketing and its application to the healthcare industry. Emphasis is on the design and use of marketing analyses in areas of patient and client satisfaction, critical path and performance models, continuous quality improvement, and the managerial application of market research findings. A range of health care provider services are researched using marketing techniques such as segmentation, fail point and boundary analyses for healthcare services. 3 hrs.</td>
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<tr>
<td>MKTG 6630</td>
<td>Electronic Marketing</td>
<td>Electronic marketing links customers directly with companies, suppliers, and other participants for the development and delivery of products and services. This course examines electronic marketing in terms of specific industries and designated target markets. Students will gain knowledge about customer relationship management using electronic technology, for example the Internet, and related methods and tools used to attract, delight, and retain customers via electronic platforms. Prerequisite: MKTG 6130. 3 hrs.</td>
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<tr>
<td>MKTG 6710</td>
<td>Applied Marketing Research</td>
<td>Applications of marketing research methods for marketing management using a variety of analytical techniques. Required for all MBA marketing concentrations. Prerequisite: MKTG 6130 recommended 3 hrs.</td>
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<tr>
<td>MKTG 6720</td>
<td>Distribution Strategy</td>
<td>The design and implementation of distribution channels emphasizing customer service, least-total-cost design, and time-based competition. The course will include particular attention to the application of information technology; the integration of important strategic issues; the coordination of activities impacting channel efficiency; and the management of channel relationships. Prerequisite: MKTG 6130. 3 hrs.</td>
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<tr>
<td>MKTG 6730</td>
<td>New Product Management</td>
<td>A systematic examination of market-driven processes for developing and launching new products and managing them over their life cycles. Includes application of marketing research along with consideration of organizational, technological, competitive, and societal issues. Prerequisite: MKTG 6130, FIN 6120 (recommended). 3 hrs.</td>
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<tr>
<td>MKTG 6740</td>
<td>Integrated Marketing Communications Strategy</td>
<td>The course focuses on the study of the theoretical and practical sides of integrated marketing communications strategy development from a managerial perspective. Included is exposure to the elements of the integrated marketing communications mix (advertising, sales promotion, public relations, interactive marketing, and selected personal selling actions). Media strategy, creative strategy, integrated marketing communication objectives, and budget determination are also explored. Course format may include case studies and/or group projects. Prerequisite: MKTG 6130. 3 hrs.</td>
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<tr>
<td>MKTG 6750</td>
<td>Services Marketing</td>
<td>The study of services marketing with an emphasis on service quality and customer satisfaction. Topics will include the nature and environment of services, customer expectations</td>
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and satisfaction, TQM, competitive benchmarking, service quality measurement and gap analysis, relationship marketing, and strategy planning for services. Prerequisites: MKTG 6130 (recommended) 3 hrs.

MKTG 6760 Multinational Marketing Management Managerial analysis of the global marketing environment and evaluation of market entry strategies including exporting, licensing and direct investment; developing and assessing multinational product, pricing, promotional, and distribution strategies; critical discussion of contemporary international marketing issues. Prerequisites: BUS 6150 and MKTG 6130. 3 hrs.

MKTG 6770 Buyer Behavior This course presents the theoretical and practical foundations of consumer and organizational behavior from a managerial perspective. Students will develop an understanding of why consumers and organizational decision makers think and act as they do in the marketplace. Emphasis is placed on decision-making processes. Resource availability, cultural and intercultural contexts, psychological and sociological influences on decision making are explored. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6780 Special Topics in Marketing Critical examination of advanced topics within the marketing discipline. The course topic will be indicated in the student record. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6790 Market Planning and Strategy Emphasis on developing comprehensive customer-driven marketing strategies and plans within dynamic competitive environments. Experiential application of advanced marketing concepts and techniques to marketing problem-solving situations. Prerequisite: MKTG 6130. 3 hrs.

MKTG 6800 Global Sourcing and Logistics This course will examine concepts in international purchasing and logistics to provide an in-depth understanding of the international supply chain. This course will examine how sourcing and logistics activities change and become more complex in the global environment. These aspects will be discussed in terms of opportunities, challenges and changing customer requirements presented by trading blocs, emerging markets and developing countries. Prerequisite: BUS 6150, MKTG 6130 (recommended). 3 hrs.

MKTG 6970 Special Problems in Marketing Special problems based on individual and/or group need or interest under the direction of a member of the graduate faculty. Student application must be submitted to the individual faculty member and approved by the department chair prior to election of the course. Prerequisites: MKTG 6130 and 6710 and signed permission form. 3 hrs.

MKTG 7120 Professional Field Experience 2-12 hrs.

**Interdisciplinary Courses**

BUS 5940 International Business Seminar A foreign study seminar designed for qualified and capable undergraduate graduate and students, teachers and business executives. The seminar introduces participants to a firsthand knowledge of business operations abroad through on-site inspection of foreign manufacturing, marketing, financial, and governmental organizations, supplemented by coordinated faculty lectures and assigned readings. Undergraduate or graduate credit of up to six hours, in one of more the following departments upon consent of the department chair: Accountancy, Business Information Systems, Finance and Commercial Law, Management, or Marketing. 1 to 6 hours

BUS 6150 Global Business and Intercultural Communication This course enables the student to explore how business practices and policies are affected by international, cultural, political, legal, social, and economic environments. Viewed from the perspective of corporate managers and entrepreneurs, this course provides a global foundation for other business work; for example, in accounting, information management, finance, management, and marketing. Additionally, intercultural communication skills required to conduct business successfully in a global environment will be examined. Written and oral reports will be incorporated to provide practical knowledge about intercultural business communication. Prerequisites: (ACTY 6010 or ACTY 2100 or ACTY 210) and (FIN 6020 or FIN 3200 or FIN 320 or FCL 320) and (ECON 6010 or ECON 2010 or ECON 201) and (LAW 6040 or LAW 3800 or LAW 380 or FCL 380) or consent of the HCOB director of graduate programs. 3 hrs.
BUS 6160 Business Policy and the Social and Ethical Environment  This course introduces students to the concepts of social responsibility and ethics in strategic business settings. Coverage includes strategic business concepts and associated legal issues. An examination of a firm's mission, goals, and business strategy will be considered within an ethical and legal framework. Diverse viewpoints regarding the nature and limits of corporate social responsibility will be explored in the context of alternative strategic choices for the firm. The emphasis will be on understanding the conceptual tools to analyze behaviors in the context of business decision making. Prerequisites: (ACTY 6010 or ACTY 2100 or ACTY 210) and (FIN 6020 or FIN 3200 or FIN 320 or FCL 320) and (ECON 6010 or ECON 2010 or ECON 201) and (LAW 6040 or LAW 3800 or LAW 380 or FCL 380) or consent of the HCOB director of graduate programs. 3 hrs.

BUS 6180 Information Technology Management  This course enables the student to understand the use of information technology as part of business strategy. Issues surrounding information technology such as information and communication systems and services and enterprise-wide systems, traditional, networked, extended, and virtual, in organizations will be explored. The growing convergence of technologies-computer, video, and telecommunications - within sophisticated information networks also will be examined. Students should gain knowledge about strategic issues involving information technology management rather than the development of specific computer skills. Prerequisites: ACTY 6010, FIN 6020, ECON 6010, LAW 6040 or consent of the HCOB director of graduate programs. 3 hrs.

BUS 6990 Business Strategy  An advanced examination of the tasks of formulating long-run strategy for the organization. Using strategic cases and/or simulations, the course includes methods of (1) developing opportunities from analyses of environmental and market trends, (2) understanding company strengths, weaknesses, and competencies, and (3) directing the integration of strategy with operating plans through formal and informal networks. This is an integrative capstone course designed to provide a total business perspective. Prerequisites: (ACTY 6010 or ACTY 2100 or ACTY 210) and (FIN 6020 or FIN 3200 or FIN 320 or FCL 320) and (ECON 6010 or ECON 2010 or ECON 201) and (LAW 6040 or LAW 3800 or LAW 380 or FCL 380) or consent of the HCOB director of graduate programs. 3 hrs.

College of Education

Counselor Education and Counseling Psychology

CECP 5200 Foundations of Rehabilitation Counseling  This course surveys the role of the rehabilitation counselor in establishing eligibility, planning services, the tracking system, counseling, case management, work evaluation, work adjustment, supported employment, transition, client assistance programs, job analysis, job development, postemployment, and advocacy. Major emphasis is given to the operation of the state vocational/federal system. 3 hrs.

CECP 5830 Workshops in Counselor Education and Counseling Psychology  Workshops designed to enhance skill development related to Counselor Education and Counseling Psychology practices. Open to all students, but is not intended for counseling majors. 1-4 hrs.

CECP 6010 Research Methods  The study of research designs and techniques utilized in the field of Counselor Education and Counseling Psychology. Students are expected to formulate and submit a research project in their area of specialization. 3 hrs.

CECP 6020 Group Dynamics and Procedures  The study of group dynamics, i.e., the nature of groups and the laws affecting group development and process. An analysis of the various group procedures and the process associated with these procedures. 3 hrs.
CECP 6030 Tests and Measurement  Designed to develop skills in analyzing, scoring,
administering, and interpreting standardized tests. Students will examine selected aptitude, achievement,
intelligence, personality and vocational instruments, as well as analyze their use in the student's area of
specialization. Issues related to testing will be reviewed, including legal matters, ethical concerns, and use of tests
with persons of varying social, economic, cultural, and ethnic backgrounds. 3 hrs.

CECP 6040 Counseling Techniques  An introductory laboratory study of the concepts and skills
required in interviewing and counseling. In addition to developing basic techniques and skills, special attention will
be given to the impact of interview settings, interviewer/counselor attire, sex, ages of clients, and their social,
economic, cultural, and ethnic backgrounds. 3 hrs.

CECP 6050 Professional Issues and Ethics  Identification and discussion of issues in counseling,
psychological services, and related programs will be the focus of this course. The study of ethical standards of
relevant professional organizations. A presentation of case studies applicable to an understanding of current issues,
multicultural concerns, legal decisions, and ethics in the field. 3 hrs.

CECP 6070 Multicultural Counseling and Psychology  This course is designed to help students
develop knowledge, skills, and attitudes for more effective work as helping professionals with culturally different
groups and individuals. Substantial attention is given to interpersonal issues, concerns related to different cultures,
and programming in a variety of settings. 3 hrs.

CECP 6080 Counseling and Life Span Development  The course addresses counseling
implications for assessing and enhancing human development across the lifespan. The content includes: (a) theories
of human development; (b) theories of learning and personality development; (c) human behavior, including an
understanding of developmental crises, disability, exceptional behavior, addictive behavior, psychopathology, and
situational and environmental factors that affect both normal and abnormal behavior; (d) the stages of family
development; and (e) strategies for facilitating optimum development over the life span. 3 hrs.

CECP 6100 Career Development: Theory and Practice  Course content includes: (1) a study of the
world of work as it impacts the psychological and sociological life of the individual; (2) an examination of career
development theory, decision-making, and the application to counseling and psychotherapy; (3) the identification of
informational resources related to career choice; and (4) an exploration of the needs and concerns of clients from a
variety of cultural backgrounds. 3 hrs.

CECP 6110 Theories of Counseling  The nature, rationale, development, research and use of
theories in counseling are studied. Major points of view including the psychoanalytic, cognitive, behavioral,
phenomenological, existential, and family systems perspectives are studied and compared. Models of counseling
that are consistent with current professional research and practice in the field and application of theory and
intervention strategies to case studies are included. 3 hrs.

CECP 6120 Counseling Practicum  This course emphasizes practical work in the student's area of
specialization. Counseling experiences are provided in a laboratory setting so that students can apply knowledge and
skills acquired during previous studies. Each student, by participation and observation, will be expected to work
with clients from differing social, economic, cultural, and ethnic backgrounds. 4 hrs.

CECP 6130 Field Practicum  A supervised field placement in a setting appropriate to the student's
M.A. option arranged in consultation with advisor and department coordinator. A minimum of 600 clock hours on
site are required for all M.A. options. Prerequisite: Consent of advisor. 2-6 hrs.

CECP 6210 Psychopathology: Classification and Treatment  Basic concepts of history, current
paradigms, and assessment of psychopathology with special emphasis on the APA diagnostic classification system
and counseling/clinical approaches to treatment. 3 hrs.

CECP 6220 Psychoeducational Consultation  A study of the process of consultation with emphasis
upon methods, stages and strategies used with individuals, small groups and organizations. Consideration will be
given to the consultant's role in psycho-affective education and primary prevention. 3 hrs.
CECP 6230 College Student Development  
Explores the nature and development of college students pertaining to student affairs. Theories of college student development, administrative strategies and techniques of program implementation are studied.  
3 hrs.

CECP 6270 Community Counseling and Administration  
This course addresses a broad range of policies and procedures related to counseling and the administration of counseling services in a range of community settings. Selected principles of program evaluation drawn from various organizational settings will be discussed. The history, role and function of counselors in community settings will be analyzed. Evolving directions in the field of counselor education, including biopsychosocial assessment and diagnosis, will be addressed. Specific attention will be given to the unique role that counselors play in assessment and diagnosis in community settings.  
3 hours

CECP 6280 Foundations of Clinical Mental Health Counseling  
This course provides an overview of professional clinical mental health counseling including historical perspectives; ethical and legal issues; licensure, certification, and other credentialing; as well as rules and functions of clinical mental health counselors. Students will have opportunities to interact with mental health counselors, assess community mental health needs, and learn about the organization and function of mental health agencies. Additionally, counseling implications for working with racial minority and other disenfranchised groups will also be discussed.  
3 hours

CECP 6290 Organization and Principles of Elementary School Guidance  
A thorough investigation of philosophical concepts and principles underlining counseling and pupil personnel programs in elementary schools. The history, organization, and administration of the program services are surveyed and practical application of concepts are required.  
3 hrs.

CECP 6300 Organization and Principles of Secondary School Guidance  
Enables students to understand, apply, and formulate programs of guidance as they apply to secondary schools. In particular the history, philosophy, role, function, organization, administration, and development of guidance will be examined in depth so that the counselor in preparation will have the necessary skills to assume an entry level position in secondary education.  
3 hrs.

CECP 6340 Causes of Substance Abuse  
This course will examine the three major theories that explain the causes of psychoactive substance use: the biological, psychological, and sociological. The historical responses of society to substance use such as strategies including control, prevention, intervention, and treatment will be outlined and the research of various epidemiologic patterns and social correlates of substance use will also be studied. (Cross-listed with ADA 6060 and SWRK 6530).  
3 hours

CECP 6350 Foundations of College Counseling  
Explores college counseling as a profession, examines the diverse characteristics of today’s college students, and details the variety of roles and services provided by college counselors. Course is designed to provide an overview of the holistic, developmentally-based profession of college counseling.  
4 hrs.

CECP 6360 Recovery Oriented Systems of Care  
This course will examine the understanding that recovery from substance abuse and dependency is a process of change which occurs within a systemic model of care that includes prevention, intervention, treatment, and management of substance abuse disorders. Students will have exposure to various substance abuse screening and assessment instruments, counseling strategies, and treatment modalities in order to assess, treat, and refer to the appropriate service providers along the continuum of care. (Cross-listed with ADA 6340 and SWRK 6550).  
3 hours

CECP 6400 Principles of Human Resources Development  
The course provides an overview of the human resource development (HRD) function in an organization. This includes the role of the HRD professional, the nature of HRD structure and function, and the planning and operation of HRD. Special emphasis in the course is devoted to analysis of the HRD function in any organization to identify those elements and characteristics of HRD associated with successful, state-of-the-art and worthwhile operations. The course is a prerequisite for all HRD concentration students, and a good choice for any other person who wishes to gain a critical understanding of the HRD (staff development, inservice education) function.  
3 hrs.
CECP 6410 Fundamentals of Needs Analysis  Development of skills in identifying organizational needs for performance improvement related to human resources development. The course is intended for persons whose current or future professional roles involve them in the development of learning strategies and interventions to promote individual and organizational change. The course will emphasize a holistic, performance-oriented problem solving approach to needs analysis. The goals of the course are: 1) to familiarize students with principles and strategies related to needs analysis, and 2) to provide students with opportunities to develop skill in applying needs analysis concepts and methods.  3 hrs.

CECP 6420 Evaluation of Human Resources Development Transfer and Impact  The course addresses the theories, methods, and issues addressed by human resources development (HRD) practitioners as they recommend, design, install, and assess HRD interventions to meet needs in organizations. Evaluation of HRD interventions is viewed from a macro level versus the micro (instructional design) level to help students develop an understanding of the larger range of organizational and human performance factors that impinge on successful HRD efforts. Students analyze one or more major HRD interventions for a real or hypothetical organization, including plans for creating the pre- and post- training organizational environment needed to impact effective performance, and design and evaluation approach to assure and assess the quality of the intervention.  3 hrs.

CECP 6430 Project Management in Human Resources Development  This course responds to both general project management concerns as well as the particular demands and problems associated with managing human resources development and other educational projects. Students will develop an understanding of project management needs, problems, concepts and strategies. They will be introduced to and practice particular project management skills, such as project definition, work flow analysis, dependency charting, budgeting, planning, etc. Emphasis in the course is on acquisition of practical skills and knowledge. The course is intended especially for persons who have recently or will in the near future assume responsibility for managing a project and have had little previous management experience.  3 hrs.

CECP 6440 Learning and Organizational Effectiveness  Examination of characteristics and elements of effective organizations that can be positively impacted by educational concepts and interventions, with special attention to the roles of individual and organizational learning in organizational effectiveness, development of skills in conceptualizing, planning, and designing the use of human resources development (HRD) to improve organization effectiveness efforts in real and hypothetical settings. Prerequisite: Completion of HRD required core, or permission of instructor.  3 hrs.

CECP 6450 Practicum in Human Resources Development  This course is a supervised practicum integrated with a class meeting component. Students work together on human resources development projects with real clients in the Kalamazoo area. The bulk of work takes place in the field, in project work and client contact. Class meeting sessions will be spent in project reviews and group problem solving. Students will develop consultation skills and gain experience in solving HRD application problems.  3 hrs.

CECP 6500 Intellectual Assessment  This course provides instruction in clinical assessment with primary emphasis on individually administered intelligence tests. Emphasis is placed on accuracy of administration, scoring, and interpretation of psychological results via written and oral reports. Laboratory experience provides instruction in the administration of the Wechsler scales, Binet IV, and other individually administered measures of intellectual functioning. Additional topics include theories of intellectual development, neuropsychological assessment, test bias, and procedures for non-biased assessment. Prerequisite: CECP 6030.  3 hrs.

CECP 6510 Personality Assessment  Survey of theory of personality assessment and the basic concepts of non-projective measurement, with emphasis on the administration, scoring, and interpretation of various instruments. Primary attention given to the MMPI. Additional emphasis includes study of the Millon, 16-PF, CPI, and other measures. Prerequisite: CECP 6030.  3 hrs.

CECP 6610 Foundations of Systemic Family Therapy  An in depth focus on the theoretical foundations of family therapy. Emphasis is placed on systems theory and recent theoretical developments. Nomenclature and concepts particular to family therapy are stressed. Course content also includes an overview of the historical development, major models, and diversity issues related to family therapy.  3 hrs.
CECP 6620 Couple Interaction and Therapy  Application of a systemic perspective to the
assessment and treatment of couples who are seeking therapy. Models of couple therapy are examined and applied
to problems common to couples. Attention is given to gender, race, culture, and couple forms. Prerequisite:
CECP 6610. 3 hrs.

CECP 6630 Family Interaction and Therapy  Application of a systemic perspective to the
assessment and treatment of families who are seeking therapy. Models of family therapy are examined and applied
to a variety of families and common problems. Multicultural and gender perspectives on family life are integrated in
course content. Prerequisite: CECP 6610. 3 hrs.

CECP 6640 Advanced Family Therapy  This is an advanced didactic and experiential course
in marital and family therapy. Goals include the assimilation, integration, and application of the major approaches to
the field. Further emphasis is placed on the development of the student's therapeutic expertise in MFT intervention
techniques and strategies. Class activities include use of exemplary cases, video tapes, role playing, and possible
instructor participation in counseling as a consulting therapist. Prerequisite: CECP 6620 or 6630. 3 hrs.

CECP 6650 Sex Therapy  The subject of human sexuality is examined from a variety of social,
physiological, and cultural viewpoints. Various forms of sexual dysfunction are studied and examined for
understanding of both physiological and psychological components and role of each in the dysfunction. Finally,
there is in depth study of current approaches to therapy as well as attention to other issues such as conjoint treatment
of couples, resistance, sexual dysfunction in both partners, and sexual dysfunction and its relationship to marital
discord. Prerequisite: CECP 6660. 3 hrs.

CECP 6670 Practicum in Couple and Family Therapy  Practicum is a part-time clinical experience
completed concurrent with didactic course work. Practicum gives the student an opportunity to apply knowledge and
skills in couple and family therapy. Qualified couple and family therapy supervisors provide individual and group
supervision. The student develops a small caseload of clients and refines skills in case conceptualization,
assessment, treatment planning, clinical intervention, documentation, and case management. Students begin
practicum in a university laboratory setting, followed by community-based placements. Prerequisite: Permission
of instructor. 1-4 hrs.

CECP 6730 Advanced College Student Development Theory  This course continues the
examination of student development theories and their application to student affairs practice. The course will
increase the complexity of understanding about the development of college students. Traditional theories and new
theories will be critically reviewed for their inclusion of diverse populations and their applicability to the range and
diversity of current and future students. Prerequisite: CECP 6230 or equivalent. 3 hrs.

CECP 6740 Psychological Development Theory  The course surveys theories of
psychological development from a variety of perspectives such as analytic, humanistic, multicultural, social
learning, behavioral, and constructive models. This learning experience is designed to both acquaint students with
developmental theory and provide a basis for conceptualizing counseling issues within a developmental framework.
The course is recommended for students of advanced standing in their degree programs. 3 hrs.

CECP 6750 Counseling Theories and Practices  This is an advanced course in counseling
theory and practice, which examines the principles and practices of major theories of counseling such as analytic,
competive, humanistic, and integrative approaches to counseling in contemporary professional practice. Special
attention is given to understanding and evaluating the underlying assumptions and principles within a cultural
context. Empirically supported treatments and common factors in treatment are also examined. The learning
experience is designed to assist students in clarifying their personal approach to counseling relationships.
Prerequisites: CECP 6110, 6120, or equivalents. Prerequisites for the class include one formal course exposure to
counseling theory, supervised laboratory work, and experience in the field of counseling. 3 hrs.

CECP 6800 Professional Seminar in Counseling Psychology Issues and Ethics  This seminar
explores current professional issues, including professional identity, professional development, the history of
counseling psychology, professional organizations, the science and practice of counseling psychology, diverse
CECP 6810 Professional Seminar in Counselor Education  This seminar explores current professional issues such as professional identity, career options, professional organizations, and professional practice literature for doctoral students in Counselor Education. Prerequisite: Admission to the Counselor Education doctoral program or permission of instructor. 3 hrs.

CECP 6820 Advanced Multicultural Counseling  This course will assist advanced counseling students in enhancing the knowledge and skill components of their multicultural training. Emphasis will be on pedagogy relevant to current social and cultural issues, including social change theory and advocacy action planning. As such, course activities will address multicultural skill development, research competencies, and facilitation of group discussions on racial, ethnic, and diversity issues in counseling. Prerequisites: Admission to the Counselor Education doctoral program and CECP 6070 or permission of instructor. 3 hrs.

CECP 6840 College Teaching in Counseling  This course is designed for doctoral students who will become faculty in counselor education programs. The course examines the process of teaching styles and learning strategies appropriate for counselor preparation. Students will become familiar with the responsibilities and activities of counselor educators and learn how to prepare for employment as a counselor educator. Prerequisite: Admission to the Counselor Education doctoral program or permission of instructor. 3 hrs.

CECP 6860 Topical Seminars  Seminars to study current topics relevant to counseling psychological services and related fields. For advanced graduate students with sufficient maturity and experience to engage in seminar-structured learning. Topics will be designated by professors offering the seminars. 1-4 hrs.

CECP 6880 Advanced Multicultural Counseling Psychology  This course is designed to assist counseling psychology doctoral students in enhancing the depth and complexity of their multicultural awareness, knowledge, and skills. The primary focus of the course will be on race and ethnicity with coverage of contemporary theoretical, practical and research developments in multicultural counseling psychology. Prerequisites: Admission to the Counseling Psychology doctoral program. CECP 6070, 6120, or an equivalent. 3 hrs.

CECP 6910 Supervision in Counseling and Psychotherapy  This course is intended for practitioners and advanced graduate students who plan on assuming supervisory roles in counseling and psychotherapy. Attention will focus on models, techniques, roles and functions for supervision in a variety of organizational settings. Students will be expected to demonstrate supervisory style in the laboratory setting. Prerequisite: CECP 6930A, Individual Counseling & Psychotherapy. 3 hrs.

CECP 6930 Doctoral Practicum  Supervised practicum for doctoral students with emphasis in (a) Individual Counseling and Psychotherapy, (b) Group Counseling, (c) Marital and Family Therapy, (d) Career Counseling, and (e) Clinical Supervision. 1-4 hrs.

CECP 6940 Vocational Development Theory  An advanced course that involves the critical examination of existing theories of vocational development, the motivation to work and their application to the counseling therapeutic process. Research pertaining to vocational development and the world of work will be analyzed. Prerequisite: CECP 6100. 3 hrs.

CECP 6950 Doctoral Practicum in Counselor Education  The doctoral practicum provides students with a supervised experience in advanced clinical counseling. It links counselor practice to teaching and supervision. Advanced counseling skills and counseling-related issues are addressed, including, but not limited to, diagnosis and treatment, multicultural issues, consultation, group counseling, assessment, and ethical and legal considerations. Prerequisite: Admission to the Counselor Education doctoral program or permission of instructor. 4 hrs.
CECP 6980  Readings in Counselor Education and Counseling Psychology  
Advanced students with good academic records may elect to pursue independently the study of a special topic. The topic chosen must be approved by the instructor involved and arrangements made with instructor's consent.  1-4 hrs.

CECP 6990  Dissertation Seminar  
Designed to orient students to the dissertation process. Students interested in beginning the dissertation process may take the course with the concurrence of their doctoral committee chairperson.  3 hrs.

CECP 7000  Master's Thesis  6 hrs.
CECP 7100  Independent Research  2-6 hrs.
CECP 7120  Professional Field Experience  2-12 hrs.
CECP 7250  Doctoral Research Seminar  2-6 hrs.
CECP 7300  Doctoral Dissertation  12 hrs.
CECP 7320  Doctoral Clinical Internship  1-4 hrs.
CECP 7350  Graduate Research  2-10 hrs.

**Educational Leadership**

EDLD 6000  Academy  
Topics of interest to professionals in the field of educational leadership are examined in academies offered by the department.  1-4 hrs.

EDLD 6010  Workshop Seminar  
Specialized studies requiring integration of theory and practice with application of topics studied provided through site practices, (e.g., personnel evaluation, use of personnel assessment techniques, evaluation of curriculum and instruction).  1-4 hrs.

EDLD 6020  Educational Leadership, Systems and Change  
This course is an introduction to educational leadership and leadership theory and practice. It provides the foundation for leadership in educational programs and institutions. Students will be required to demonstrate an understanding of transformational leadership and other leadership theories, effective communication and problem solving, motivation and decision-making, organizational change and renewal, and consensus building and conflict resolution.  3 hours

EDLD 6040  Contemporary Educational Scene  
Study and critical analysis of issues and trends influencing design, funding, and delivery of educational programs. Special emphasis on changes in societal expectations and values. Discussion of multicultural and international issues and needs of special populations and groups. Prerequisite: EDLD 6020.  3 hrs.

EDLD 6060  Advanced Systems Thinking  
This course will focus on steps that leaders take in developing and maintaining a learning organization. The emphasis will be on providing students the tools to develop productive long-term organizational relationships that contribute to worker satisfaction and increased worker commitment. Students will be required to establish a framework to develop team learning, and demonstrate an understanding of shared vision, laws of the fifth discipline, organizational learning disabilities, archetypal patterns, and the importance of systems thinking on mental moods. This course is restricted to students in the Ed.S. or Ph.D. educational leadership programs.  3 hours

EDLD 6090  Theories of Leadership  
Critical examination of principles of leadership theory construction; practice with and development of skills in evaluating contending theoretical perspectives regarding leadership. Prerequisites: Admission to the Educational Leadership doctoral program, and the completion of EDLD 6020 or equivalent.  3 hrs.

EDLD 6300  Data-Informed Decision-Making Research and Evaluation  
This research course focuses on using data to as a tool to enhance decision making process for school improvement emphasizing the simultaneous use and analysis of multiple data streams to guide leaders through curriculum alignment development and enhancement, supervision of instructions, and targeted professional developments for teachers, administrators, and support staff.  3 hours
EDLD 6510 Foundations of Student Affairs in Higher Education  This course is designed to introduce students to: (a) the history and development of U.S. higher education; (b) history and philosophical foundation of the student affairs profession; (c) the college and university settings where the profession is practiced; (d) professional development and professional organizations in the field; and (e) the skills and competencies necessary to be a successful professional in student affairs.  3 hrs.

EDLD 6530 The College Student  This course examines the theoretical and research literature on contemporary college students from a variety of perspectives: demographic changes, patterns of growth and change during the college years, and the educational needs of diverse student groups. The impact of campus environments and various institutional contexts on students is explored, particularly focusing on the design of administrative and educational policy and practice.  3 hrs.

EDLD 6540 Administration and Assessment of College Environments  This course will emphasize the administration, management, and assessment of and within student affairs practice in higher education. Effective administration is about learning – as and about individuals and organizations. Using theory on organizations, student development, and effective tests and measures for assessment, students will develop understanding of and skills to address the scope of administration and assessment within student affairs. Prerequisite: EDLD 6510 and EDLD 6530  3 hrs.

EDLD 6550 Intervention Skills for Higher Education Professionals  This theory-to-practice course teaches basic interpersonal skills necessary for successful higher education professionals, as well as individual, group, and organizational interventions; crisis management skills, referral skills; and approaches to handling difficult students, parents, colleagues, and others in the higher education environment.  3 hrs.

EDLD 6570 Equity and Diversity in Higher Education  The purpose of this course is to understand the individual and organizational issues of diversity and multiculturalism in U.S. higher education. A broad definition of diversity will be utilized in an effort to capture the range of populations served by higher education in this country. Through the integration of relevant information from history, law, interpersonal development, organizational development, and philosophy, this course will attempt to develop a complex, comprehensive understanding of equity and diversity.  3 hrs.

EDLD 6580 Field Experience in Higher Education  This course emphasizes practical experience in the student’s area of specialized interest within higher education and student affairs. Student affairs administrative experiences are provided in selected supervised settings so that students can apply knowledge and skills acquired during previous studies. Graded on a credit/no credit basis. Prerequisite: Advisor approval (EDLD 6020, EDLD 6510, and EDLD 6540 strongly recommended; students should be toward the end of their program.) Graded on a Credit/No Credit basis.  3 hours

EDLD 6590 Higher Education Law  The number of legal areas that intersect on college campuses has made knowledge of legal issues related to liability, contracts, hiring and firing, free speech, disabilities, discrimination, and many other topics necessary for effective college administrators. Legal issues, legal enactments and precedents, constitutional provisions, court decisions and case law that impact higher education will be the focus of this course. Current legal issues affecting higher education will be monitored and discussed throughout this course. Prerequisite: Advisor approval.  3 hrs.

EDLD 6610 School Law  Study of federal and state constitutions, legislation, regulatory guidelines, and court decisions as related to operation of educational institutions and organizations. Development of awareness and knowledge of legal parameters related to education. Students will be required to synthesize legal mandates and district responsibilities, apply knowledge of common law and contractual requirements, analyze constitutional provisions such as the separation of church and state, analyze special education litigation, and demonstrate an understanding of legal provisions for student participation, student and parent rights, torts, and liabilities.  3 hrs.

EDLD 6620 School Business Management  Development of knowledge and skill in management of business operations in schools: budget planning, budget management, standardization, accounting, inventory of equipment and supplies, use of standard budget forms, preparation of required reports. Students will be required to
analyze fiscal and non-fiscal resources, plan for faculty and staff involvement in efficient budget planning, and demonstrate an understanding of managing fiscal and material assets, school accounting procedures, consensus building, and budget evaluation. 3 hrs.

EDLD 6630 Personnel Administration  Systematic study of personnel administration tasks and functions as applied to education and training. Subtopics include recruitment, selection, orientation, supervision, appraisal, and development of personnel. Emphasis placed on understanding of standards for legal and valid personnel administration practices. Effects of style and behaviors on employee satisfaction and/or productivity are studied. 3 hrs.

EDLD 6640 Curriculum Development  This course will provide an introduction to the principles of curriculum and instructional alignment, design, implementation, and evaluation. There will be a strong focus on the foundations and history of curriculum inquiry and school reform, hidden curriculum, ideology, and culture as they affect the organization and administration of the scope and sequence of curricular offerings in educational institutions. Students will be required to design a curriculum aligned with standards, benchmarks, and standardized tests. In addition, students will be required to demonstrate knowledge of ideological critique, effective instructional strategies, the use of technology, and curriculum evaluation. 3 hrs.

EDLD 6670 The Principalship  This course provides a systematic study of the tasks and functions of the school principal, covering all areas of K-12 education. Emphasis is given to planning within the context of the community, planning and evaluation for program development and school improvement, and planning for supervision of personnel and programs. Students will be required to develop a vision statement and strategic plan based upon the principles of transformative leadership, appraise the duties of various building staff members, and demonstrate an understanding of scheduling, parent and community involvement, procedures that support a safe and positive school climate, motivational strategies for effective instructional leadership, and legal and contractual issues related to the principalship. 3 hrs.

EDLD 6720 School Finance  Intensive instruction and discussion of political and economic value premises involved in the funding and financing of schools. Critical examination of alternative patterns for design of public funding formula and practices for funding public schools. Consideration of patterns of fiscal resource development other than public funds as a means of financing public or private education. 3 hrs.

EDLD 6730 Instructional Leadership and Supervision  This course is a study of the principles and practices for the effective supervision of personnel. It will focus on the practices of developmental supervision, mentoring, professional development and renewal, and effective instruction. Students will be required to demonstrate understanding of effective instruction and how to develop a learning organization that supports instructional improvement, models of effective staff development and school renewal, and mentoring and clinical supervision that enhance growth and development. Special attention is given to differing perspectives on the supervision function within organizational contexts. 3 hours

EDLD 6740 School Community Relations and Cultural Competence  This course will provide a thorough examination of the school and its interaction with the community. Consideration will be given to internal and external "communities" and the relationships between and among the communities of the school as an organization. Role of communications in school-community relations and consideration of the balance of rights and responsibilities between schools and communities will also be addressed. Students will be required to conduct a needs assessment, establish a conflict resolution program and a crisis intervention plan, and demonstrate an understanding of public relations, communication, and evaluation of school-community relations. 3 hours

EDLD 6791 Educational Leadership Masters Seminar  The course provides an overview of the Master’s Degree program including instruction on how to create an electronic on-line portfolio. This will be accomplished through the use of classroom discussion, writings, presentations and on-line discussions. Students will gain understanding of effective educational leadership strategies as reflected in the standards set forth by their professional disciplines. 1 hour

EDLD 6792 Capstone Experience  This course provides students a final opportunity to reflect upon merging educational leadership theory with best practices. This will be accomplished through the completion
of field-based assignments, completion of a Performance-Driven Leadership Portfolio and interaction with leaders in educational or other institutions. This final course in the Performance-Driven Leadership Master of Arts program has as a major theme the development of transformational leaders who understand and have the will to create effective relationships within their institutions. Prerequisites: Students must have completed all but one of their required classes in their Master of Arts in Educational Leadership prior to registering for EDLD 6792.

2 hours

EDLD 6800 The Superintendency Examination of the line and staff roles involved in the superintendency with emphasis on the role of the superintendent of schools as the chief executive officer in school and school-related organizations. Prerequisite: Master of Arts in Educational Leadership or equivalent master’s degree program, or permission of instructor. 3 hrs.

EDLD 6810 Policy Development The content of this course includes examination of policy issues, purposes, functions, methods, and approaches for policy development. Critical review of development of policies for educational institutions. Prerequisites: Master of Arts in Educational Leadership or equivalent master’s degree program, or permission of instructor. 3 hrs.

EDLD 6820 Computer Applications in Administration Study, design, and application of computer technologies in performance of administrative functions and tasks in educational organizations. 3 hrs.

EDLD 6850 School Facilities Planning This course will provide a study in evaluation, design, and planning of the present and future faculties and equipment requirements for the school organization. Attention will be given to the educational program and stated philosophy of schools and to the present and future needs of the student and the learning environment respective to facilities development. Integration of technology in the planning and design of facilities will be addressed as well as the human physiological and psychological needs. Current state and Federal regulations will be reviewed as they relate to new facilities and to remodeling of current facilities. 3 hrs.

EDLD 6861 Doctoral Studies Seminar I Viewed as a problem-posing or problem-identification seminar, this course is intended to be taken during the first year of a student’s doctoral program, with two primary goals. First, students will examine key issues facing education institutions today, both within the broader context and within their own organizations. Second, students are to be exposed to various research studies and associated methodologies related to their general areas of interests. This course is restricted to students in the Ed.S. or Ph.D. in Educational Leadership. 3 hours

EDLD 6862 Doctorial Studies Seminar II Offered as a combined seminar/field-work experience class this course is to be taken following EDLD 6861. The overall goal is to build upon the problem-posing focus students received within the seminar and further immerse them into identified research topics as part of a problem-development experience. Students will complete structured interviews and other internship-type experiences with various professionals in the field, as well as more intensive readings in these areas. Prerequisite: EDLD 6861 3 hours

EDLD 6870 Governance and Financing in Universities and Community Colleges Analysis of the key administrative and financing structures used within various types of higher education institutions. Examines the impact of social, political, economic, and legal environments on such structures, and the challenges faced by higher education leaders within these areas. 3 hrs.

EDLD 6880 Higher Education and the New Technological Frontier Examines how the evolving technological world is impacting higher education institutions, including its effect on curriculum, teaching, and learning, as well as governance and leadership. Reviews growing roles of virtual universities, extended university programs, and various types of distance learning. 3 hrs.

EDLD 6890 University and Community College Topical Seminar Various seminars focused on current topics relevant to higher education and/or adult learning leadership issues. Topics will be designated by professors offering the seminars. 1-4 hrs.
EDLD 6900  Professional Development Seminar  
Field-based and performance-based application of knowledge to major function/task areas of leadership in organizations with emphasis on schools as organizations. Emphasis on career planning and placement for persons enrolled.  3 hrs.

EDLD 6950  Dissertation Seminar  
This seminar is designed for the doctoral student who has identified the topic for his/her dissertation research and will focus on the production and evaluation of proposals for the doctoral dissertation.  Prerequisites: Successful completion of departmental core comprehensive examination, simultaneous registration in one hour of EDLD 7300, and approval of advisor.  3 hrs.

EDLD 6980  Readings in Educational Leadership  
Directed individual study of topics or bodies of knowledge not otherwise treated in department courses. A maximum of four hours earned in EDLD 6980 is applicable on degree programs.  Prerequisite: Permission of advisor. 1-4 hrs.

EDLD 7000  Master's Thesis  
6 hrs.
EDLD 7100  Independent Research  
2-6 hrs.
EDLD 7120  Professional Field Experience  
2-12 hr.
EDLD 7200  Specialist Project  
1-6 hrs.
EDLD 7250  Doctoral Research Seminar  
2-6 hrs.
EDLD 7300  Doctoral Dissertation  
1-15 hrs.
EDLD 7350  Graduate Research  
2-10 hrs.

**Educational Technology**

EDT 5030  Educational Technology Academy  
This course is designed to permit students to update knowledge and skills in current educational technology and apply this learning for use in educational programs for students in pre-kindergarten through college. Such applications include methods of using computers, video and audiovisual technologies in literacy development, content area programs, instructional management, and the arts, as well as others appropriate to preservice and inservice professions. Participation in the course presumes subject matter knowledge and basic computer literacy on the part of the students. Final course outcomes include application of material to the classroom/workplace. These ETA offerings bring students with specific needs, instructors with unique expertise, and facilities with appropriate resources together for intensive and highly-focused learning experiences.  1-3 hrs.

EDT 5400  Introduction to Computing and Technology for Productivity  
This course is a basic introduction to computing and technology for productivity software. Designed for the beginning computer user, this course covers necessary information for the student to operate successfully a computer and other technology devices (CD-ROM, laserdisc player, etc.). Operation includes running programs, accessing information, data manipulation, and publication. A variety of computer software programs that enhance personal productivity will be presented. Students will be provided with basic “hands-on” activities with many different software applications. Upon completing this course, the student will have a solid understanding of computer components and terminology. The student will be aware of the various types and purposes of software for learning and productivity and will be able to evaluate educational software for classroom application.  3 hrs.

EDT 5410  Telecommunications for Teaching and Learning  
The course focuses on the implementation of telecommunication tools for teaching and learning. Telecommunication technologies widely used in the field of education and emerging technologies will be presented. Students enrolled in this course will learn to operate various telecommunication tools to support their own personal productivity, teaching, and instruction. Students will also be equipped with skills necessary to review studies pertaining to the application of technology in education. Many of the telecommunication methods presented in this course will be used to deliver the course material. 3 hrs.

EDT 5420  Teaching with Technology: Design and Development for Learning  
This course focuses on the design, development, and integration of educational technology methods for teaching, learning, and personal productivity. This course provides an overview of learning theory and instructional design principles related to the development of educational technology programs. A review of the theory of individual learning styles
and application of technology will be presented. Upon completion of this course, students will possess knowledge in the planning, delivery, and evaluation of instruction through the implementation of various technologies. Students will design and develop educational technology products (computer based, hypermedia/multimedia, WWW, etc.) based upon learning theory and instructional design principles. 3 hrs.

EDT 5500 Photography and Multimedia Workshop Intended to sharpen visual perception while improving technical skills, this workshop course emphasizes the photographic process as a creative and expressive medium of visual communication in educational settings. Using digital photographic equipment, students are expected to produce new photographic images, edit the images using common computer editing tools, and publish the images using common desktop publishing, desktop presentation, and multimedia software for group critique. Each student will be required to find access to appropriate photographic/multimedia equipment and software. 1-3 hrs.

EDT 6410 Instructional Development Intended for human resources development specialist, media specialists, and experienced teachers, this course employs an accountability model for application of media research and technology to actual courses and units of instruction. Students follow a systematic instructional development procedure from task analysis to evaluation, working together with their own students or as assistants and consultants to other professionals. 3 hrs.

EDT 6440 Advanced Information Technologies for Instructional Technology This course provides a detailed review of the latest technological advancements and their potential impact on educational institutions. Students will receive information on the wide array of media types and methods for transmitting them. Students will also be exposed to and experience a variety of data, video, and audio technologies. Introduction to management issues with educational technology at the building level will be presented. This course focuses on two primary areas: 1) equipment and costs necessary to implement these systems and 2) the impact these technologies have on an educational system. Students will acquire skills that will enable them to connect, configure, troubleshoot, and maintain a variety of advanced technology systems. 3 hrs.

EDT 6450 Technical/Operational Issues of Educational Technology This course covers management issues related to the selection, purchase, installation, and maintenance of software programs for computers and computer network systems. Students will learn how to conduct a technology needs assessment for a school district. Using information gained from the needs assessment, students will also learn methods of planning for, implementing, and maintaining technology across an entire system. A detailed review of networking items including hardware, software, Internet connectivity, and troubleshooting issues will also be addressed. 3 hrs.

EDT 6460 Studies in Educational Technology Explores theory and innovative developments in educational technology and suggests practical, instructional applications. Such topics as the following may be considered: Design and Analysis of Individualized Instruction, Instructional Simulation and Gaming, Computer Applications in Instruction, and Diffusion and Adoption of Innovative Practices in Education. 1-3 hrs.

EDT 6480 Designing Staff Development for Educational Technology This course will provide students with necessary skills to assume leadership roles in the integration of technology for instruction across educational systems. The course focuses on teaching strategies to promote learning to teach with technology as well as planning and implementing staff development activities. This course will address teaching strategies for adult learners enabling technology leaders to implement successful training activities. Students will gain skills in designing instruction for a wide variety of adult audiences. 3 hrs.

EDT 6490 Planning and Implementing District Level Educational Technology This course focuses on the development of leadership skills for technology integration across an entire school district. Steps involved with planning, implementing, maintaining, and evaluating technology integration will be addressed. Specific management issues include creating technology plans and goals and managing technology finances for a school district. Policy and procedure issues such as staffing, scheduling, and technology security will also be presented. Students will be able to make informed decisions about technology selection, purchase, and implementation based upon school district technology goals and financial resources. 3 hrs.
Evaluation, Measurement and Research

EMR 6400 Fundamentals of Evaluation, Measurement, and Research
This course is designed to develop skills in the fundamentals of research design and the uses and interpretations of research findings. Each student is expected to prepare a review of literature and a design for a research study. 3 hrs.

EMR 6410 Fundamentals of Measurement in the Behavioral Sciences
The criteria by which instruments are selected and developed serve as the central focus of this course. Information regarding the theory and practice of measurement and testing are applied across educational, social, and behavioral settings. Students are expected critically to evaluate instrumentation as well as to develop a plan for the creation of an instrument. Prerequisite: EMR 6450. 3 hrs.

EMR 6420 Program Evaluation
Emphasis is on the theory of program evaluation, on techniques used in program evaluation, and on the standards of quality professional practice. Students are expected to apply the principles of evaluation to design problems. Prerequisite: EMR 6400. 3 hrs.

EMR 6430 Personnel Evaluation
Concepts and standards for design of personnel evaluation systems. Course requires design of a personnel evaluation system and an evaluation of the personnel evaluation system. Prerequisite: EMR 6400. 3 hrs.

EMR 6450 Elementary Statistics
The study of the principles of research design and data analysis is pursued at both the conceptual and applied levels. Emphasis is on the development of the conceptual skills of design analysis and interpretation. Techniques of statistical analysis include the use of computer programs for data analysis. Prerequisite: EMR 6400. 3 hrs.

EMR 6480 Qualitative Research Methods
A study of the philosophical and methodological foundations of naturalistic research in education. Students will develop skills in planning and conducting naturalistic studies in education. Standards for judging naturalistic inquiry will be studied and applied to selected naturalistic study reports. Prerequisite: EMR 6400. 3 hrs.

EMR 6490 The Nature of Science and Scientific Inquiry
This course is designed for graduate students engaged or preparing to engage in social and educational research. As an introduction to philosophy of science, it centers on conceptual questions concerning the nature and scientific investigation of the world. The questions are both metaphysical, concerned with the most general account of what sorts of things science aims to represent, and epistemological, concerned with the justification of belief. The course examines debates surrounding the question of what distinguishes science and scientific reasoning from other forms of thought and sources of belief. Particular attention will focus on the rise of historicist, postpositivist conceptions of scientific inquiry and, in light of these, on questions about objectivity, relativism, and value neutrality in scientific research, particularly in social sciences. The course will conclude with examination of the status, aims, social context, and value commitments of educational research as a form of scientific inquiry. 3 hrs.

EMR 6500 Survey Research
The principles and practices of survey research design and analysis are the focus of this course. Critical examination is made of the appropriate uses of survey research in response to educational issues. Students are expected to develop instrumentation used in survey research, to engage in the design of a survey research study in a field setting, and to critique survey studies and findings. Prerequisites: EMR 6400, 6450. 3 hrs.

EMR 6510 Advanced Applications of Measurement Methods
Intensive study of applications of educational measurement theory and methodology to specific needs for instrumentation in education. Students will engage in development, validation, and application of new instruments for collecting educationally important data. Prerequisites: EMR 6410 and 6550. 3 hrs.
EMR 6520 Evaluation Practicum  Planned field applications of principles of program evaluation under the guidance of a qualified instructor. The class meets weekly as a seminar to discuss evaluation progress and issues. Prerequisites: EMR 6400 and (EMR 6420 or EMR 6430). 3 hrs.

EMR 6550 Research Design  A continuation of the study of the principles of research design and data analysis techniques. Advanced skills in design and analysis are developed in addition to an examination of design issues in educational settings. Skills in the use of computer programs for data analysis are required. Statistics for experimental and quasi-experimental designs with uncorrelated independent variables. Review of t-test; introduction to analysis of variance, including one way and factorial designs, repeated measures, and post hoc comparisons among means. All topics will be taught from an applied perspective, which will include statistical computing in PC environment with interpretation of statistical output. Prerequisite: EMR 6450. 3 hrs.

EMR 6580 Qualitative Research Practicum  The focus of this course is on carrying out the qualitative study designed in EMR 648. Topics of discussion include forms of qualitative data, grounded theory, identifying patterns in data, codes and coding, data interpretation, data presentation, and use of the computer to facilitate data collection and analysis. The emphasis of the course is on the implementation, analysis, interpretation, and writing of a qualitative research study. The final product is a research paper based on the qualitative study conducted in the class. At the heart of EMR 6580 is the practicum experience: Each student will carry out a small-scale research project. If we combine EMR 6480 and EMR 6580, the goal of the sequence is for students to experience the full cycle of research, from the identification and narrowing of a problem to the final rendering and reporting of results. Prerequisite: EMR 6480. 3 hrs.

EMR 6590 Contemporary Trends in Research  This course is intended to develop awareness of current inquiries in the areas of evaluation, measurement, and research methodology. This is an advanced core course in the master’s degree program. Each year the instructor will examine the annual meeting programs of the American Educational Research Association, the American Evaluation Association, and the National Council on Measurement in Education to identify areas of activity in evaluation, measurement, and research methodology. Students will read and critique selected papers from those meeting, identify issues in need of further research and development, and prepare proposals for addressing those issues. Prerequisite: EMR 6400. 3 hrs.

EMR 6600 Advanced Seminar in Research  This is a seminar course focusing on theoretical and methodological research methods and techniques utilized when conducting meta-analyses in the educational and social sciences. This course will cover topics relevant to planning and carrying out a meta-analysis. Prerequisite: EMR 6550 or 6580 or permission of instructor. 3 hrs.

EMR 6610 Advanced Seminar in Measurement  A seminar for students seeking advanced theoretical understanding of the principles of measurement. Theories of instrument construction beyond classical test theory (e.g., item response theory and generalizability theory) are applied to instruments relevant to education. Prerequisite: EMR 6510 or permission of instructor. 3 hrs.

EMR 6620 Advanced Seminar in Evaluation  An advanced seminar for the study of theoretical and practical problems in evaluation. Issues of ethics and quality in evaluation are addressed. Prerequisite: EMR 6520 or permission of instructor. 3 hrs.

EMR 6650 General Linear Models  A continuation of the study of the principles of research design and data analysis techniques concentrating on the general linear model as an over-riding analytical model. Advanced skills in design and analysis are developed in addition to an examination of design issues in educational settings. Skills in the use of computer programs for data analysis are required. Design topics covered will include experimental, quasi-experimental, cross-sectional, and correlational designs. Analytic topics covered will include ANOVA for unbalanced designs, ANCOVA, stratified analysis, and multiple regression. All topics will be taught from an applied perspective which will include statistical computing using a mainframe or PC environment and interpretation of statistical output. Prerequisite: EMR 6550. 3 hrs.
EMR 6750  Applied Multivariate Statistics  A continuation of the study of the principles of research design and data analysis techniques concentrating on the multivariate general linear model as an over-riding analytical model. Skills in the use of computer programs for data analysis are required. Design topics covered will include experimental, quasi-experimental cross-sectional, and correlational designs. Analytic topics covered will include Hotelling’s T2, MANOVA, MANCOVA, logistic and non-linear regression, principal component analysis, canonical correlation, discriminate function analysis, factor analysis, cluster analysis. All topics will be taught from an applied perspective which will include statistical computing using a PC environment and interpretation of statistical output.  Prerequisite: EMR 6650.  3 hrs.

EMR 6770  Ethnography of Schooling  This course is an in-depth exploration of the use of ethnography in the study of teaching and schooling. Participant observation, in-depth interviewing, and document analysis are the main data gathering techniques studied. Students will design and execute a small-scale ethnographic study focused on an aspect of schooling. The course will be taught as a seminar where methodological issues, such as reliability and validity, will be discussed as they arise in the work of students. Ethnographic research on educational issues, with an emphasis on teaching, will be read concurrently.  Prerequisite: EMR 6480.  3 hrs.

EMR 6790  Capstone Portfolio Project  This course is intended to be the opportunity for master’s degree students in the Evaluation, Measurement, and Research program to demonstrate mastery of evaluation, measurement, and research methodology at the master’s level. In addition to evidence of mastery of each master’s level course, the student will develop for presentation a project where evaluation, measurement, and research methods are used. The project is supervised by one faculty member and is then presented to a three-faculty member panel for final grading. Portfolios must be submitted for grading three months prior to an anticipated graduation date.  Prerequisite: Completion of all M.A. in EMR course work.  3 hrs.

EMR 6970  Special Topics in EMR  This is a variable topics course designed to provide instructors and students with a mechanism to explore current topics in evaluation, measurement, and research. Prerequisite: EMR 6400 and permission of instructor.  1-6 hrs.

EMR 7100  Independent Research  2-6 hrs.

EMR 7120  Professional Field Experience  Professional Field Experience allows a student to gain practical evaluation, measurement, or research experiences under the supervision of a qualified instructor. For every 3 credit hours of field experience registered, 120 hours of field experience will be completed. Students must complete an Application for Permission to Elect form and secure their advisor’s signature prior to registration. Prerequisite: Completion of the Doctoral Core requirements.  3-6 hrs.

EMR 7300  Doctoral Dissertation  15 hrs.

**Career and Technical Education**

CTE 5100  Special Populations in Career and Technical Education  Special populations enrolled in Career and Technical Education programs and the identification of appropriate teaching strategies, materials, and support services for effective teaching and learning.  3 hrs.

CTE 5120  Principles of Career and Technical Education  Explanation, identification, investigation of the history, philosophy, principles, programs, and services in career and technical education.  3 hrs.

CTE 5130  Teaching Methods in Career and Technical Education  Analysis and methods of organizing instruction in career and technical education. Included is a review of instructional theory and practice in career and technical education, the development of lesson plans, the selection and use of instructional methods, and the presentation of content using various methods of delivery. Prerequisite: Minimum 26 credit hours completed.  3 hrs.

CTE 5140  Workshop in Career and Technical Education  Investigation, research, and development of a particular topic or area of interest for career and technical education. (Students may enroll for more than one topic,
but in each topic only once, to a maximum of three hours credit.) Prerequisite: Vocational certification or consent. 1-3 hrs.

CTE 5150 Grant Writing for Career and Technical Educators Analysis of the grant writing process, including the identification of a sponsor, development of an idea and plan, and completion of a proposal. 3 hrs.

CTE 5420 Curriculum Development in CTE Principles of analyzing, selecting, and arranging curriculum for instructional purposes in career and technical education. Prerequisite: Minimum 26 credit hours completed. 3 hrs.

CTE 5430 Work-site Based Education Programs Study of work-site based education programs, including the organization and establishment of training programs, supervision of trainees on the job, development of individual training plans and programs. Emphasis on establishing working relationships between school, business, and the community, including cooperative education, work experience, apprenticeship, work-study, and work exploration programs for Career and Technical Education. 3 hrs.

CTE 6120 Studies in Technology Designed to permit students to take advantage of opportunities offered through technical workshops, seminars, short courses, or field research offered on campus or in approved off-campus settings under the supervision of a member of the graduate faculty. Prerequisite: Consent of instructor and department chair prior to registration. 1-4 hrs.

CTE 6140 Administration and Supervision of Career and Technical Education Emphasizes functions of administration and supervision, and problems involved in organizing and operating career and technical education programs. For teachers, administrators, and supervisors of career and education programs and those preparing for such positions. 3 hrs.

CTE 6150 Trends and Developments in Career and Technical Education A review and exploration of contemporary trends and developments in career and technical education. 2 hrs.

CTE 6160 Occupational Selection and Training Primarily designed for career and technical education teachers and administrators. Special emphasis on adapting instruction to individual needs. 3 hrs.

CTE 6170 Seminar in Career and Technical Education An intensive study of issues and initiatives related to career and technical education. Topics vary from semester to semester, and a student may take more than one topic up to a maximum of six hours. Prerequisites: If student is enrolled in the M.A. in CTE program, FCS 5250, ED 6170, CTE 5100, 5120, 5130, and 5420 prior to intern teaching are required. If student elects course as part of the post baccalaureate certification program, CTE 6170 must be e 2-6 hrs.

CTE 6430 Measurement and Evaluation in Career and Technical Education Preparing and using written performance and alternative assessments for career and technical education. 3 hrs.

CTE 6450 Organization of Employment and Training Systems Study of various public and private employment and training systems, including the funding sources and authorizing legislation, description of available programs and services, identification of participants/clients served, explanation of participants/client intake and referral process, rationale and need for program and services offered by the agency/institution or organization. 3 hrs.

CTE 6460 Leadership Development in Career and Technical Education An intensive study of the required leadership skills to perform the major duties and tasks of secondary and post secondary career preparation administrators including business and financial management, facilities and equipment management, instructional management, personnel management, school-community relations, student services, organizational improvement, professional development, program planning, development, and evaluation related to career and technical education. A student may take up to a maximum of six hours. 3-6 hrs.
CTE 6480 Adult Education in Career and Technical Education Influence of developmental needs of adults and changes in society affecting families and institutions in developing adult programs in career and technical education. 2-3 hrs.

CTE 6500 Business/Industry/Education Work-based Learning Current practices and future prospects of national and international work-based learning. Applies school-business partnerships, federal and state regulations, changing work place skill requirements, labor market information, and assessment to work programs. Prepares the student to develop and evaluate transition models between secondary and post secondary institutions, business, industry and the community. 3 hrs.

Family and Consumer Sciences

FCS 5100 Teaching Sexuality Education Teaching Sexuality Education is designed as a teaching methods course to prepare family life educators, secondary education instructors, and other human service professionals for the implementation of sexuality education in school-based curricula and/or in a variety of community settings. 3 hrs.

FCS 5200 Insurance Education Seminar Fundamental principles of consumer insurance; overview of insurance availability; family insurance issues involving automobile and home (property and casualty insurance); methods of teaching insurance education in diverse curricula; review and analysis of insurance policies; research in insurance education; and careers in insurance and the insurance industry. 1-2 hrs.

FCS 5220 Topics in Family and Consumer Sciences A study of the current issues impacting the areas of study in Family and Consumer Sciences: Dietetics, human nutrition, family life education, home economics education, textile and apparel technology or career and technical education. Prerequisite: Seniors and graduate students only. 1-3 hrs.

FCS 5240 Socio-Psychological Aspects of Dress Study of dress and adornment in human interaction. Considers the body in social and cultural contexts, dress in various stages of human development and in individual and group behavior. Uses an interdisciplinary approach to dress-related research. 3 hrs.

FCS 5250 The Adolescent in Development The study of individuals between 10 and 22 years of age, the changes that characterize these years, and the role of the family and school in supporting and enhancing development. 3 hrs.

FCS 5340 Consumer Behavior in the Fashion Environment This course is designed to give students an overview of the important topics in consumer behavior research and practice as they relate to the fashion/retail environment. Restricted to Family and Consumer Science masters. 3 hours

FCS 5350 Communication Skills for Working with Families across the Lifespan Laboratory study designed to develop interpersonal helping skills in delivery of family life education. The location of family life education within the range of helping professions is examined. 3 hours

FCS 5440 Global Aspects of the Fashion Industry The course addresses issues facing fashion-related businesses in global markets, including ethical, economic, political, socio-cultural and professional aspects of working in globally connected industry. Restricted to Family and Consumer Science masters. 3 hours

FCS 5500 Raising Children in Contemporary Society This course examines contemporary societal factors that influence children and parenting. 3 hours

FCS 5650 Problems in Nutrition A discussion of current problems in nutrition. Not open to dietetics majors. Prerequisite: FCS 2600 or equivalent. 3 hrs.

FCS 5680 Gender, Culture, and Families Study of the implications of gender and cultural orientation for family, work, social interactions and therapeutic interventions. Includes an examination of sexism and racism in the media, advertising, educational institutions, and social policies. 3 hrs.
FCS 5750  Administration of Child Development Centers Examination of day care and preschool regulations and/or requirements and knowledge of administrative materials and duties in providing optimum growth for young children. Includes management, planning, and organizing child development centers. 3 hrs.

FCS 5900  Project/Problems in Family and Consumer Sciences Directed independent project in specialized curricula within Family and Consumer Sciences. Prerequisite: Departmental approval. 1-6 hrs.

FCS 5980  Independent Study in Family and Consumer Sciences Directed independent advanced study in subject matter area not otherwise treated in departmental courses. Prerequisite: Departmental approval required prior to enrollment. 1-6 hrs.

FCS 6000  Clothing Techniques Meets the needs of the advanced student in clothing construction techniques. 2 hrs.

FCS 6010  Basic Research Methods and Design This course introduces students to applied methods and basic research design. It is appropriate for producers of research and for students who plan to emphasize practice. Emphasis throughout is on concrete examples from applied settings appropriate to Family and Consumer Sciences and Career and Technical Education. Prerequisite: Acceptance in FCS or CTE Master of Arts program. 3 hrs.

FCS 6100  Nutrition Across the Lifespan Examination of changes in nutrient needs that accompany growth and development from the prenatal stage through old age. Emphasis will be on high risk groups and current issues affecting people at various stages of the life cycle. Prerequisite: FCS 4600 or 5650. 3 hrs.

FCS 6140  Nutrient Metabolism I Study of the functions, requirements, and interrelationships in metabolism of energy, protein, carbohydrate, and lipids. 3 hrs.

FCS 6150  Nutrient Metabolism II Study of the functions, requirements, and interrelationships in metabolism of vitamins and minerals. 3 hrs.

FCS 6160  Consumer Education Course includes family resource management; goals and resources in family financial planning; the role of the consumer in the marketplace; decision-making for individuals and families; information processing; clarifying values and determinants of quality in the spending process; and specific consumer economic issues across the life-span and within different economic and family settings. 3 hrs.

FCS 6180  Teaching of Specific Subjects in Family and Consumer Sciences Intensive study of teaching techniques unique to specialized subject matter offered in variety of curricula in Family and Consumer Sciences. 2-4 hrs.

FCS 6220  Practicum in Family and Consumer Sciences This practicum is designed to give the student an opportunity to apply knowledge and information acquired in the family and consumer sciences academic setting and further develop and refine professional skills with the guidance and assistance of professionals currently working in the field. The variation in credit hours allows the program to meet the individual needs of various students, some of whom may be fully employed. Each credit hour requires 100 hours of on-site experience. Prerequisite: Admission to the M.A. in Family and Consumer Sciences or the M.A. in Career and Technical Education. 2-6 hrs.

FCS 6360  Teaching for Independent Living Provides a practical background and a basic understanding of skills and problems of the homebound and visually impaired. 4 hrs.

FCS 6520  Family Life Education Current issues, trends, and methods in teaching family life education. Program development and philosophy including: needs assessment, design, development, promotion, justification, evaluation and funding sources. Emphasis placed on proposal writing and partnerships with community agencies, court systems, schools, and health care facilities. 3 hrs.
FCS 6550 Adult-Child Relationships  Theories and strategies for promoting children's developmental needs and building strong adult-child relationships in therapeutic, school, or home settings.  3 hrs.

FCS 6560 Family Law, Ethics, and Professional Issues Areas of study include the therapist's and family life educator's legal responsibilities and liabilities, fundamentals of family and consumer law across the life cycle, professional ethics for marriage and family therapists and family life educators, professional socialization, current issues in professional practice, and the role of the professional organizations, licensure and certification, legislation, independent practice, and interprofessional cooperation.  3 hrs.

FCS 6600 Studies in Family Relationships The course will focus on family dynamics (i.e., family processes, communication skills, conflict management, stress, and family crises) and interpersonal relationship skills with specific attention given to translating this knowledge and these skills into family life education programming.  3 hrs.

FCS 6660 Studies in Family and Consumer Sciences Investigation of certain areas in family and consumer sciences selected to meet individual needs of the students.  2-6 hrs.

FCS 6670 Practicum in Couple and Family Therapy Practicum is a part-time clinical experience completed concurrent with didactic course work. Practicum gives the student an opportunity to apply knowledge and skills in couple and family therapy. Qualified couple and family therapy supervisors provide individual and group supervision. The student develops a small caseload of clients and refines skills in case conceptualization, assessment, treatment planning, clinical intervention, documentation, and case management. Students begin practicum in a university laboratory setting, followed by community-based placements. Prerequisite: Permission of instructor. 1-4 hrs.

FCS 6900 Seminar in Family and Consumer Sciences Investigation and discussion of current research and literature in specified family and consumer sciences topics.  2 hrs.

FCS 7000 Master's Thesis Prerequisite: 3.70 GPA  6 hrs.

FCS 7100 Independent Research 2-6 hrs.

Health, Physical Education, and Recreation

HPER 5000 Studies in Health, Physical Education, and Recreation In depth study of selected topics in HPER. Format can include clinics, workshops, seminars, travel and/or mini-courses, and provide opportunity to acquire skills and teaching techniques. State, national, and international authorities or consultants may be involved. Topics include: Aesthetics of Sport; Nutrition and Fitness; Outdoor Education; Physical Fitness; Relaxation; Special Physical Education Activities; Therapeutic Recreation; Supervision and Self Assessment in Physical Education. 1 to 2 hours

HPER 5100 Modern Health for Teachers and Health Professionals This course, designed for teachers and health professionals who have need of current knowledge in health science, surveys topics such as mental health, nutrition, substance abuse, physical fitness, chronic diseases, and stress management. Consideration is given to psychological, sociological, and cultural factors that influence health promotion. Attention is given to special factors of health and illness of children and adolescents. This course is not open to Health Education majors and minors.  3 hours

HPER 5120 Principles, Practices, and Methods in Health Education This course surveys the history, philosophy, and methods of health education. The philosophical basis and practices of health education are discussed in terms of needs and capabilities of people and factors that influence their development and actualization. Emphasis is placed upon the promotion of health and prevention of disease, disability, and premature death. Curriculum development and teaching methods focus on content and strategies considered most effective in teaching disease prevention, health promotion, and self-actualization.  3 hours
HPER 5140 Methods and Materials in Health Education Lectures and demonstrations with emphasis on effective health supervision of school children, principles and practices of health teaching in the various grades, and interrelation of this teaching with that of other subjects in the curriculum. Prerequisites: HPER 3140 and 3150, or consent of instructor. 2 hours

HPER 5160 Issues in Health Education Issues vary or occasionally repeat depending on the timeliness of the issue. Following are currently recommended themes. Students may register for 516 more than once but may not repeat the same issue. Issues include: Aids; Alcohol and Drug Education; Biofeedback; Cardiovascular Health; Consumer Health; Health Careers; Health Promotion; Improving Health Behavior; Safety and Health in the Industrial Setting; Sexually Transmitted Diseases; Stress Management; Wellness and Lifestyle. 1 to 4 hours

HPER 5300 Practicum in Teaching and Coaching Demonstrations, participation, and evaluation on teaching and coaching fundamentals in selected sports. A graduate student may apply a maximum of four credits from 530 courses toward the master's degree program. Sports include: Archery; Badminton; Basketball; Football; Golf; Gymnastics; Ice Hockey; Judo; Karate; Soccer; Swimming; Track and Field; Volleyball; Wrestling; Yoga. 1 to 2 hours

HPER 5800 Studies in Athletic Training Listed with various topics. A lecture/demonstration course concerned with the prevention, diagnosis, and treatment of sports type injuries. Prerequisites: BIOS 2110, 2400, HPER 3800. 1 to 2 hours

HPER 5980 Readings in HPER Advanced students with good academic records may elect to pursue independently a program of readings in areas of special interest. Prerequisite: Approval of graduate director in Physical Education. 1 to 2 hours

HPER 6210 Physical Activities for Exceptional Children Physical and recreational activities and games used in corrective, adaptive, and general physical education programs for special education children. 3 hours

HPER 6220 Programming in Special Physical Education A study of physical education programs for children with disabilities. Emphases will be placed on individualized, humanistic, developmental, functional, adapting, behavioral, sensori-motor, perceptual-motor, aquatic, fitness, movement, and inclusive programs. 3 hours

HPER 6250 Assessment in Special Physical Education A study of motor and fitness assessment in special physical education. Emphasis will be placed on the application of appropriate motor and physical fitness tests to make subsequent effective placement decisions and to determine selection of content for children with disabilities in school settings. Prerequisites: HPER 6210, 6220. 3 hours

HPER 6300 Professional Development Seminar for Coaches This course is to provide an opportunity for students in the Master of Arts Coaching Degree to pursue professional development in the specific sport of interest. Course structure is an independent study where students participate in a coaching development seminar of their choice (12-24 contact hours) to enhance competence in the National Standards for Sports Coaches. The seminar must develop student competence in Domain 5 Teaching and Communication and Domain 6 Sport Skills and Tactics. 1 to 2 hours

HPER 6310 Skill Acquisition and Human Performance This course provides an introduction to the various concepts of biomechanics and exercise physiology that interact to influence sport motor performance. Included in this course are theoretical concepts of movement observation, skill acquisition, mechanical factors that influence human performance, human energy systems and muscular activity with special attention to the effects of sport activity on physiological processes. 3 hours

HPER 6320 Theories of Strength and Conditioning This course is designed to provide knowledge in the strength and conditioning field for professionals entering the world of human performance. This class will also help prepare students for the NSCA Certified Strength and Conditioning Specialist Exam. Emphasis will be placed on developing, assessing, and implementing programs for athletes and the physically active
population. Students will be presented with both in-class lectures as well as hands on training that deals with the enhancement of human performance and wellness. Students will participate in workout sessions.  

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HPER 6340</td>
<td>Sports Safety and Injury Management for Coaches</td>
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<td>This course will prepare coaches to receive certification in the American Red Cross Sport Safety Training and First Aid for Coaches program. Course work enables coaches to recognize the signs of emergency and emergency situations and to guide them in proper response to these situations. Basic procedures in injury prevention, assessment, treatment, and rehabilitation will be covered. Principles and techniques are presented in a lecture and laboratory format. Prevention and communication will be emphasized.</td>
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<tr>
<td>HPER 6350</td>
<td>Principles and Practices of Effective Coaching</td>
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<td>This course addresses the broad scope of principles and pedagogical practices necessary for coaches in meeting their responsibilities in youth sports. The eight domains of the National Standards for Athletic Coaches provide a basis for class structure and evaluation. The course serves to prepare the coach to fulfill his or her responsibilities through skillful problem solving and enhanced pedagogical knowledge, but to also understand and utilize purposeful reflection in professional development.</td>
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<tr>
<td>HPER 6360</td>
<td>Principles of Sport Nutrition and Energy Systems</td>
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<td>The purpose of this class is to develop the knowledge, skills, and attitudes of proper nutrition relevant to managing health and body weight for optimal physical performance, regeneration and recovery. Course content is designed to assist coaches, to take responsibility for understanding appropriate nutrition and weight management practices and use sound nutritional principles as a part of training and preparation for competition; provide information about the myths and science associated with current trends in sport nutrition; hydration, nutritional periodization; body composition and weight management.</td>
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<td>HPER 6400</td>
<td>Instructional Materials in Physical Education</td>
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<td>This course is designed to provide students with experiences which will enable the physical educator to (1) select motor appropriate activities based on the developmental needs of specified learners; (2) develop effective instructional plans; (3) evaluate, select, and utilize appropriate commercial instructional resources; (4) evaluate and select appropriate instructional approaches; (5) develop strategies to assess the progress of students enrolled in a physical activity program; and (6) devise an effective public relations plan to promote physical activity within a school setting.</td>
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<tr>
<td>HPER 6410</td>
<td>Teaching and Supervision Skills in Physical Education</td>
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<td>This course is the second of a three-series course sequence which is designed to prepare the physical education teacher for master’s level competencies. This course facilitates the development of effective self-assessment and reflective teaching skills. An orientation to systematic observation of teaching in physical education is presented with emphasis on the collection and assessment of descriptive data in applied settings. Prerequisite: HPER 6400 or permission of instructor.</td>
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<tr>
<td>HPER 6420</td>
<td>Human Growth and Motor Development</td>
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<td>Study of the changes in the growth and development of humans across the lifespan that occurs due to the interaction between a person and the environment. Content includes physical, cognitive, perceptual-motor and personal social aspects of human development with special emphasis on the process of physical skill acquisition and decline.</td>
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<tr>
<td>HPER 6430</td>
<td>Physical Skill Acquisition and Motor Learning</td>
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<td>Study of the variables that affect acquisition of motor skills among specified populations (children, adolescents, adults). Content includes perceptual-motor, information processing, and the study of physical aspects of the human motor learning.</td>
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<td>HPER 6440</td>
<td>Program Evaluation in Sport and Physical Education</td>
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<td>This course facilitates the evaluation of physical education and athletic programs using state, national, and international standards. Course content includes the process of evaluation involving school, community, and other personnel as well as the product of evaluation associated with the preparation of application materials to submit for specific accreditation or as action research designed for program improvement. Students will be exposed to methods of action research in creating and maintaining an optimal physical activity program. Prerequisite: HPER 6450 or permission of instructor.</td>
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HPER 6450 Curriculum Development in HPER  This course is an interdisciplinary approach to the development of curriculum reflecting local, national, and international standards and trends associated with the HPER field. Students acquire the skills required for the development of a comprehensive program utilizing a systematic approach focused on a selected instructional settings (K-12, college, private settings). 3 hours

HPER 6480 Advanced Studies in Motor Development  A series of advanced seminars dealing with specific topics in motor development, fitness education and special physical education. Emphasis will be placed on in depth study of theories, problems, practices, and issues with appropriate lectures and experiences leading toward the development of a research project or a master's thesis. Topics include: Play Theory; Psychology of Sport; Mainstreaming; Aquatic Programs in Special Physical Education; Methods and Materials in Physical Education; Teaching Skills and Strategies in Physical Education; Health-Related Fitness for Practitioners. 1 to 3 hours

HPER 6600 Governance and Administration of Sport  This course serves as an introduction to the management, governance, and leadership of interscholastic, intercollegiate, corporate, and amateur sport. Focus will be directed towards general management and leadership principles, as well as specific competency areas required by all sport managers. This course serves as the introductory course for the MA in Sport Management/MA in Coaching by providing a conceptual foundation for sport governance and organization; specific duties assumed by coaches and sport managers including financial management, human resource management, group dynamics, labor relations, risk management, facility and event management and promotion. 3 hours

HPER 6620 Legal Issues in Sport  This course is designed to help the sports professional become more conscious of legal responsibilities in the physical activity setting, thus reducing the penalties of legal action. Students will discuss basic legal concepts and structures as they apply to the physical activity context. Application will be made in regard to improving risk management strategies and skills. 3 hours

HPER 6630 Ethics in Sport  This course is designed to provide physical activity professionals with an introductory experience in analyzing ethical and moral issues in the sport domain. The focus is on encouraging participants to develop a consistent, reflective value structure to utilize in addressing moral questions. In addition, the course structure is to allow participants to develop a personal model of integrity that will be successful in the physical activity environment. Content will include description of the “great game” and application of the guides to right actions in sport. 3 hours

HPER 6640 Promotion and Marketing in Sport  This course is designed to provide an introduction to the marketing and promotion of sport products and services. Course content will include, but not be limited to a discussion of contingency framework for strategic sport marketing; understanding sport consumers; segmentation, targeting, and positioning; promotion mix elements; sponsorship programs; and product distribution and pricing strategies. 3 hours

HPER 6650 Financial Management in Sport  This course is intended to provide the student with an understanding of general economic principles and fiscal management strategies. This information will be applied to the specific requirements of sport management environments. 3 hours

HPER 6660 Personnel Evaluation and Supervision  This course focuses on the management of human resources in interscholastic, intercollegiate, and corporate sport with special attention to the unique and common characteristics of both paid and volunteer workers. Course content will center on differences among people; the processes of individual motivation in appraisal; and subsequent organizational and leadership processes in the management of human resources in sport. 3 hours

HPER 6670 Public Relations in Sport  This course is designed to acquaint the sport management student with policies and procedures critical to the promotion of sport. Topics will include, but not limited to, news releases, radio news, television news, news conferences, feature stories, media relations, event promotion, sport photography and interviews and speeches. Special attention will be paid to the use and creation of written and oral public relations documents for various media outlets. 3 hours
HPER 6690 Management and Planning of Sport Facilities  This course provides students information regarding the supervision and maintenance of recreational and sport facilities. Special attention will be paid to the planning elements involved in facility design; available literature related to facility management; and issues such as ADA compliance, fiscal management, maintenance and risk management.  3 hours

HPER 6700 Exercise Physiology I  This course is the first of a series of two courses that will give the graduate student a much more in depth study of the various physiological processes and how they are transformed and manipulated by external stresses (e.g., work, exercise, disease, environment, etc.).  3 hours

HPER 6710 Exercise Physiology II  This course is the second of a series of two courses that will give the graduate student a much more in depth study of the various physiological processes and how they are transformed and manipulated by external stresses (e.g., work, exercise, disease, environment, etc.).  3 hours

HPER 6720 Laboratory Techniques in Exercise Science  The purpose of this course is to educate the graduate student in the areas of measurement and laboratory techniques used in the assessment of exercise and/or athletic performance. Specifically, the student will study the process and procedures used to determine a variety of parameters used in the study of exercise and sport performance. This information will then be used to help qualify and quantify exercise and sport performance.  Prerequisite: Permission of instructor.  3 hours

HPER 6730 Biomechanics  This course consists of an in depth discussion of biomechanics as it is applied to sports and other related physical activities.  3 hours

HPER 6740 Advanced Principles of Exercise Testing and Prescription  Presentation and discussion of the practical and theoretical aspects of prescribing and evaluating exercise in healthy and diseased populations. Special attention will be given to cardiac rehabilitation. The course is centered on the knowledge, skills, and abilities needed, as determined by the ACSM, to become a certified ACSM Exercise Specialist.  Prerequisite: Permission of instructor.  3 hours

HPER 6760 Exercise Science Seminar  Seminar on the most current research problems presented in exercise science related journals (within the last 3 years). Students and instructor will present and debate these problems to stay current in the research literature and to learn new perspectives and theories. Also included in this course is a look at the typical research designs used by researchers in the field.  Prerequisite: Permission of instructor.  3 hours

HPER 6810 Sports Medicine: Applied Anatomy and Physiology  This course will offer comprehensive material regarding anatomy and physiology and their implications in sports medicine. This course will concentrate on functional components of anatomy and physiology and utilize cadavers in lab.  2 hours

HPER 6820 Medical Diagnostics and Evaluation of Injuries  This course will offer comprehensive material regarding assessment and diagnostics of musculoskeletal and medical conditions of the physically active. Application of advanced clinical techniques and theory will be emphasized.  3 hours

HPER 6830 Advanced Therapy Techniques and Rehabilitation  This course will offer comprehensive materials regarding aquatic rehabilitation techniques for athletic related injuries. Students will learn physiological and psychological aquatic benefits, implement various aquatic techniques used for pre- and post-injury and surgical rehabilitation for athletes, and pool safety and risk management in the aquatic environment.  3 hours

HPER 6840 Pharmacology for Sports  This course will provide a basic understanding for the common prescription and over the counter medicines used to treat many of the medical conditions experienced by athletes and physically active individuals. This course will assist the athletic trainer/exercise science student in explaining the ramifications for the use and abuse of many of the prescription, over the counter, and abused medications of sport participation. This course will allow the athletic trainer/exercise science student to provide pharmacology information when direct access to the physician or pharmacist is not available.  Prerequisite: Enrollment in athletic training graduate program or by instructor permission.  3 hours
HPER 6850 Advanced Techniques in Therapeutic Modalities  This course will offer comprehensive material regarding advanced therapeutic techniques for treating injuries and conditions of physically active individuals. Scientific theory and application of clinical techniques will be emphasized. Prerequisite: Enrollment in graduate athletic training program.  3 hours

HPER 6890 Emergency Procedures and Orientation  This course will offer comprehensive material covering life threatening situations in sports medicine, including assessment, treatment and transportation. Establishing (orienting) a training room or site complete with procedures, supplies, and scheduling will also be addressed.  2 hours

HPER 6900 Research Procedures in HPER  Research procedures utilized in health, physical education, exercise science, recreation, and sport. This course introduces principles scientific inquiry, research methods applicable to the HPER fields, evaluation of published research, and procedures for developing a research design using a quantitative or qualitative approach.  3 hours

HPER 6910 Psychological Preparation and Mental Training for Sport and Physical Activity.  This course is designed to provide physical activity professionals with an applied view of the broad field of sport/exercise psychology. Students will be presented with theory and related research on the various constructs affecting psychological preparation and mental periodization for physical activity. Students will also be given an opportunity to explore mental training techniques and intervention strategies for sport competition. Course content helps develop mastery level competence in a number of Domains in the National Standards for Sport Coaches.  3 hours

HPER 6920 Analytical Techniques in HPER  This course is designed to allow the student to develop the knowledge and skills necessary for the effective analysis of qualitative and quantitative data specific to the fields of physical education, exercise science, sports studies, recreation, and health. Prerequisite: HPER 6900.  3 hours

HPER 6930 Sociology of Sport and Physical Activity  This course is to provide a forum for discussion of the current social factors influencing sport and physical activity professions. Course structure will attempt to facilitate investigation and identification of the function of sport and physical activity in contemporary society with special emphasis on the relationship of sport to social institutions.  3 hours

HPER 6940 Technology in HPER  The integration of technology in field settings associated with physical education, coaching, sports administration, and adapted physical education is the focus of this course. Students will develop the basic technological skills required for the basic implementation of such an effort.  3 hours

HPER 6980 Advanced Studies in Exercise Science  A series of advanced seminars dealing with specific topics in exercise science. Emphasis will be placed on in depth study of theories, problems, and issues with appropriate lectures and experiences leading toward the development of a research project or a master's thesis.  2 hours

HPER 7000 Master's Thesis  Prerequisite: Approval of graduate director in Physical Education.  6 hours

HPER 7100 Independent Research  Prerequisite: Approval of graduate director in Physical Education.  2 to 6 hours

HPER 7120 Professional Field Experience  Prerequisite: Approval of graduate director in Physical Education.  2 to 12 hours

**Literacy Studies**

LS 5000 In-Service Professional Development I  This course develops specific professional skills related to current school responsibilities of teachers and other school personnel. Final course outcomes need to...
have demonstrated application to the school/classroom/workplace. May be repeated. Credit hours may be applied to teacher certification programs with approval of the Office of Teacher Certification, but will not be applicable to graduate programs in the Department of Special education and Literacy Studies. Graded on a credit/no credit basis. 1 hour

**LS 5010 In-Service Professional Development II**
This course develops specific professional skills, over an extended period of time, related to current school responsibilities of teachers and other school personnel. Final course outcomes need to have demonstrated application to the school/classroom/workplace. May be repeated, but only three credit hours may be applied to graduate programs in the department. Topics included in department program must be approved in advance of registration by the program advisor. Prerequisite: Advisor approval. 2-3 hours

**LS 5020 Curriculum Workshop**
Opportunity provided for teachers, supervisors and administrators in selected school systems to develop programs of curricular improvement. This may include short-term offerings to resolve a particular curricular problem, as well as long-range curriculum studies. A wide variety of resources is used for instructional purposes, including several specialists, library and laboratory facilities, field trips, audiovisual materials, and the like. Each offering of LS 5020 will be given an appropriate subtitle, which will be listed on the student’s official transcript. Students may earn up to three hours of credit for any given subtitle. No more than three hours of LS 5020 may be applied toward the master’s degree with advisor approval. Prerequisite: Advisor approval. 1-6 hours

**LS 5160 Professional Symposium in Reading**
This course is designed to be the initial course in the graduate program in reading. It is designed to present the basic concepts concerning the nature of the reading process and the teaching of reading. Emphasis will be placed on reading as a thinking process and on factors affecting reading performance. Special emphasis will be placed on child development; language development; concept development; physical, psychological, and environmental factors affecting the child's literacy development. In addition, the course will provide a brief overview of the delivery systems and procedures used in the U.S. to teach reading. This will involve an historical overview as well as current and potential future practices. 3 hrs.

**LS 5970 Reading and Related Language Experiences**
A study of the current research on language related skill acquisition and literacy development. 3 hrs.

**LS 5980 Selected Readings in Education**
Designed for highly qualified students who wish to study in-depth some aspect of literacy studies under a member of the departmental staff. Prerequisite: Department and instructor approval. 1-4 hours

**LS 6120 Strategic Learning Through Texts for Elementary Teachers**
This course is designed to assist elementary classroom teachers and those interested in literacy for early elementary students in using appropriate strategies for accessing meaning of text. This course will give ways to help students use and apply strategies in using reading and writing as ways of knowing for young children. 3 hrs.

**LS 6170 Reading in the Content Areas**
Designed to acquaint elementary, middle school and high school teachers with reading strategies used in the process of reading to learn. Participants will consider the text factors which affect student learning, and develop and evaluate strategies and materials to enhance their students' learning in specific content areas. 3 hrs.

**LS 6190 Clinical Studies in Reading**
This course is intended to provide the basic information needed in the examination of persons with reading disabilities. Interviewing techniques and examination procedures will be the basic content of the course. Emphasis will be placed on the educational, physical, psychological, and sociological factors affecting reading performance. Students will be provided with a knowledge of both standardized and informal reading tests. Students will have the opportunity to construct, administer, score, and interpret both standardized and nonstandardized reading tests. Emphasis will be placed on producing a practical bibliography of measurement instruments and materials. Prerequisite: ED 3120 or 3220. 3 hrs.

**LS 6200 Educational Therapy in Reading**
Laboratory application of knowledge gained concerning the psychological, sociological, and physiological factors affecting children's reading ability is stressed.
The prevention, diagnosis, and treatment of reading problems is experienced through working with struggling readers. Students will become familiar with testing instruments, their use, administration, and interpretation. Students will also learn techniques of therapy and recognize those factors necessary for effective therapy. Prerequisite: ED 6190. 3 hrs.

LS 6250 Strategic Learning Through Texts for Middle School Teachers This course is designed to assist teachers who are instructing at the middle level in their use of appropriate strategies for accessing meaning of text. The course will give ways to help early adolescent learners apply strategies aimed at using reading and writing as ways of knowing across the middle level curriculum. 3 hrs.

LS 6430 Practicum in Clinical Studies in Reading This course is intended to give students experience in employing informal and formal standardized instruments and techniques necessary for the diagnosis and treatment of the disabled reader. The course emphasizes the use of various measurements pointing out their capabilities and limitations. Skills in interviewing, observing, diagnosing, planning treatment, and working with parents and school personnel are emphasized. Prerequisites: ED 6190 and ED 6200. 3 hrs.

LS 6520 Oracy and Literacy The course explores the foundation of language, language acquisition, language development, and the ties between oral language and literacy. The role of oral language, applied linguistics, and dialects is studied and applied to the literacy process. 3 hrs.

LS 6530 Practicum in Reading Therapy This course affords students the opportunity to build on competencies attained in ED 6430. Reading therapy is offered on a one student to client basis under the direction of a trained clinical therapist. The course serves as an instructional internship for working with pupils who have problems in reading and related areas. This course will provide graduate students practice in setting up prescriptive instructional objectives, selecting materials in terms of needs, and carefully designing instructional procedures for disabled readers. Prerequisites: ED 6190, ED 6200, ED 6430. 3 hrs.

LS 6560 Creating and Administering a Balanced Literacy Program This course affords an opportunity to investigate and explore procedures to organize and administer elementary and secondary reading programs. The course will have students examine existing programs and study models of balanced literacy programs to improve upon existing programs. This course is intended to employ the best practices in the literacy research to create and administer a balanced literacy program, kindergarten through adult basic education. 3 hrs.

LS 6790 Capstone Seminar This course provides students with the opportunity to analyze and evaluate their master’s coursework through the development of a portfolio. The portfolio will reflect a synthesis of the knowledge, understandings, and applications of the Master of Arts in Literacy Studies content. The portfolio will consist of three sections. Each section will include both a culminating research paper and documentation from the coursework. Section I represents the research and foundation course content. Section II represents the Literacy Studies core course content. Section III represents a professional area of interest developed by the student. Students will begin the seminar by engaging in a thoughtful cataloging of the course readings, notes, professional papers, and projects from each course in their program. Prerequisites: Completion of all program core courses and department approval. 3 hrs.

LS 6800 Early Literacy Learning Focused on literacy acquisition, this course explores how the young learner creates a network of competencies which generate subsequent independent literacy learning. Explanations of change over time in a child's control of literacy learning from school entry until the independence at the third year of schooling are emphasized. This cognitive view of literacy processes in a developmental perspective will explore different programmatic emphases which enable the young reader to extend the range and effectiveness of strategic reading. 3 hrs.

LS 6810 Reading and Writing with Young Children Reviews the developmental aspects of early writing and reading with young children providing insights for the creation of programs in early literacy development. It aims to develop understanding of the early literacy process, helping teachers create an environment in which learners interrelate oral language learning, learning to read, and learning to write. The relationship of early writing to early reading is examined, and a model of interactive assessment with the teaching and learning cycle is
stressed. Emphasis in this course will focus primarily on early writing, with a subordinate role for reading instruction.  3 hrs.

LS 6870 Strategic Learning through Texts for High School Teachers This course is designed to assist high school classroom teachers and those interested in literacy for high school students in using appropriate strategies for accessing meaning of text. This course will give ways to help students use and apply strategies in using reading and writing as ways of knowing for high school students. Prerequisite: ED 5160. 3 hrs.

LS 6950 Reading Seminar This course is designed to be the culminating course in each of the three streams in the master's program in reading and is designed to acquaint teachers, reading specialists, and administrators with the current research and literature pertinent to their areas of specialization. Students should be able to demonstrate an ability to design reading research studies which contribute to the body of knowledge in reading. As this course is intended as the capstone course, it must be taken in the last six hours of graduate work. 3 hrs.

LS 6970 Special Topics in Reading A variable credit course designed to provide a vehicle for the development and implementation of special topics in the field of literacy. The purpose is to provide students with the opportunity to study topical current issues. 1-3 hrs.

LS 7000 Master’s Thesis 6 hours
LS 7100 Independent Research 2-6 hours
LS 7120 Professional Field Experience 2-12 hours

Special Education

SPED 5000 Topical Issues in Educating Learners with Disabilities This course provides a survey or in-depth coverage of current issues directly related to the education of learners with disabilities. Prerequisite: Consent of department. 1-4 hrs.

SPED 5040 Teaching Practicum in Special Education This course provides the student with a structured assignment working with a learner who is at-risk or has a disability. It is intended to enable the students to demonstrate skills in assessment and prescription and in the implementation and evaluation of a tutorial plan of instruction for a specific learner in a mainstreamed or self-contained setting. Prerequisite: Consent of department and concurrent enrollment in SPED 5330 and 5340. 1 hr.

SPED 5120 In-Service Professional Development This course is designed for teachers, counselors, psychologists, social workers, and others interested in studying selected aspects of special education at appropriate locations, such as state hospitals and special schools. A variety of instructional experiences is provided, including conferences. Credit not applicable toward a graduate degree in Special Education. 1-4 hrs.

SPED 5300 Introduction to Special Education This course introduces students to the characteristics and needs of learners with sensory, physical, mental, emotional, and learning disabilities. Students develop an understanding of the psychological, sociological, philosophical, legal, and educational aspects of each type of disability. Prerequisite: Consent of department. 3 hrs.

SPED 5330 Assessment and Prescription in Special Education The major focus of this course is understanding the Clinical Teaching Model. Emphasis is placed on the relevance of assessment and prescription to the teaching of learners with disabilities. Prerequisite: Consent of department and concurrent enrollment in SPED 5040 and 5340. 3 hrs.

SPED 5340 Curriculum and Instruction in Special Education This course focuses on application of the Clinical Teaching Model to the education of learners with mild and moderate disabilities. Emphasis is placed on implementation and evaluation activities. Additional topics include: service delivery systems, roles of teachers and ancillary personnel, legal requirements, and major issues confronting the field of special education. Prerequisites: Consent of department and concurrent enrollment in SPED 5040 and 5330. 3 hrs.
SPED 5370 Technology in Special Education  This course is designed to provide specific information, exposure, and experience related to a variety of ways that current and emerging technologies may be used to improve the education and lives of learners with disabilities. This course is not open to undergraduate majors in special education. Prerequisite: Consent of department. 3 hrs.

SPED 5400 Introduction to Mental Retardation  This course provides an introduction to the field of mental retardation. Historical perspectives, definitions, service delivery systems, evaluation procedures, and major issues are examined. Prerequisites: Consent of department and concurrent enrollment in SPED 5450. 3 hrs.

SPED 5440 Educating Individuals with Severe Impairments  This course develops specific skills in the assessment, prescription, implementation, and evaluation of educational programs for persons with severe impairments. Course content focuses on the areas of mobility, communication, sensorimotor development, self-help skills, cognition, and adaptive behavior. 3 hrs.

SPED 5450 Education of Learners with Moderate and Severe Retardation  This course focuses on understanding the ways in which teachers organize curriculum and implement assessment and instruction to insure maximum learning for students with moderate and severe mental retardation. Prerequisites: Consent of department and concurrent enrollment in SPED 5400. 3 hrs.

SPED 5700 Introduction to Emotional Impairments  This course provides an introduction to the field of emotional impairments. Historical perspectives, definitions, service delivery systems, evaluation procedures, and major issues are examined. Prerequisites: Consent of department and concurrent enrollment in SPED 5750. 3 hrs.

SPED 5750 Education of Learners with Emotional Impairments  This course focuses on understanding the ways in which teachers organize curriculum and implement assessment and instruction to ensure maximum learning for students with emotional impairments. Prerequisites: Consent of department and concurrent enrollment in SPED 5700. 3 hrs.

SPED 5800 Introduction to Learning Disabilities  This course provides an introduction to the field of learning disabilities. Historical perspectives, definitions, service delivery systems, evaluation procedures, and major issues are examined. Prerequisite: Consent of department. 3 hrs.

SPED 5850 Advanced Theory and Practice in Learning Disabilities  This course examines several theoretical perspectives which attempt to explain why students with learning disabilities fail to learn. Within each perspective, the application of selected theories to the Clinical Teaching Model is addressed. Emphasis is placed on the validity of interventions derived from each theory. Prerequisites: Consent of department and SPED 5800. 3 hrs.

SPED 5980 Readings in Special Education  This course is designed for advanced students interested in independent study. Topics chosen must be approved by the instructor and the department chairperson. Prerequisite: Consent of department. 1-4 hrs.

SPED 5990 Topics in Special Education  This course provides a survey or in-depth coverage of topics related to the education of learners with disabilities. Open to Upperclass and Graduate Students. This course may be repeated for credit. Prerequisite: Departmental approval. 1-3 hours

SPED 6010 Acquisition and Analysis of Special Education Information  This course is designed to develop skills in information processing techniques in special education. The course will present an information processing model emphasizing methods and techniques for locating, accessing, and organizing text and media source material. The course will require students to develop skills to apply the processes of information synthesis, inductive and deductive reasoning, critical analysis, and hypothesis generation. Students will apply the course content to current issues and trends in the field of special education. Prerequisite: Consent of department. 3 hrs.
SPED 6100 Teaching Nemeth Code to Children  This course contains intensive study of the Nemeth Code (Braille Mathematics), the music code, adaptations of worksheets and tests, foreign languages (French, German, and Spanish), transcription of diacritical marks (dictionary notation), and an introduction to computer Braille notation. 3 hrs.

SPED 6150 Transition-Focused Education and Services for Individuals with Disabilities  This course examines issues regarding effective transition education and services for youths with disabilities. The focal point of course content is on designing and implementing research-based practices that meet federal and state mandates regarding transition services. Instruction emphasizes active learning strategies that facilitate the application of course content to each student’s professional context. Course topics include applying a transition perspective of education, student-focused planning, student development, interagency collaboration, and family involvement. Prerequisite: Permission of Department. 3 hrs.

SPED 6200 Advanced Assessment of Learners with Disabilities  The emphasis of this course is on basic psychometric concepts related to the theory and interpretation of test results and psychological assessment reports. Special attention is given to the diagnosis of students based upon psychometric data. The selection of remedial education programs related to these test results as well as recent issues in testing are discussed. The course emphasizes the selection of standardized test batteries and norm-referenced and criterion-referenced assessment techniques. Prerequisite: Consent of department. 3 hrs.

SPED 6210 Curriculum Development for Learners with Disabilities  This course is designed to provide experienced special education personnel with knowledge and skill in the conceptualization, construction, adaptation, and evaluation of instructional programs for learners with disabilities, including accommodating to state and national curricular trends and issues. Prerequisite: Consent of department. 3 hrs.

SPED 6300 Clinical Practice in Special Education  This course serves as a clinical/practical experience within the Master Teacher Program and the Clinical Teacher Program. Students will apply their knowledge and skills in a clinical setting with youngsters with varying handicapping conditions. Prerequisite: Consent of department. 3 hrs.

SPED 6320 Teaching Children Who Are Visually Impaired  This course is designed to examine how to assess, teach, and modify existing curriculum for infants, preschoolers, and young school-aged children who are blind. This course combines these three elements and prepares teachers for the role of itinerant or classroom teacher, as well as for the role of consultant for parents and other teachers. 4 hrs.

SPED 6360 Topical Seminar in Special Education  This course provides a survey or in-depth coverage of topics directly related to the education of learners with disabilities. Prerequisite: Consent of department. 1-4 hrs.

SPED 6370 Research and Evaluation Techniques in Special Education  This course is designed to provide students with fundamental knowledge and skills in research and evaluation in special education. Topics include the use of the scientific approach, research and evaluation designs, observations and measurement instruments, statistical analysis, and report writing. Students will be expected to design and carry through a small research project. Prerequisite: Consent of department. 3 hrs.

SPED 6380 The Application of Behavior Theory to Classroom Teaching  This course examines the principles of behavior theory as related to academic and non-academic behaviors of learners with disabilities. General and specific methods for generating, strengthening, and maintaining desirable behavior, and methods for weakening undesirable behavior are presented. Prerequisite: Consent of department. 3 hrs.

SPED 6400 Organization and Administration of Services for Learners with Disabilities  This course examines the principles and practices of organization and administration of special education programs at the state, intermediate, and local levels. Prerequisite: Consent of department. 3 hrs.

SPED 6410 Supervision of Special Education Programs and Services  This course is designed to provide the experienced special educator with specific knowledge and skills necessary for supervising personnel
who are providing both direct and indirect services to learners with disabilities. Emphasis is placed on procedures utilized in selecting personnel, identifying resources for program development and support, facilitating change in teacher behavior, and evaluating the effectiveness of program operations and personnel. Prerequisite: Consent of department. 3 hrs.

SPED 6430 Legal and Financial Aspects of Special Education The current legislative and financial basis for special education national, state, and local levels will be examined in relation to the development and modification of special education programs. The basic concept of budgeting of resources and expenditures will be discussed. Prerequisite: Consent of department. 3 hrs.

SPED 6500 Seminar on Special Education in Higher Education This course examines the structure of higher education and the roles a faculty member plays within a department, a college, and a university (e.g., teaching competence, professional recognition, and service). In addition, current issues in higher education and teacher education will be examined. Prerequisite: Consent of department. 3 hrs.

SPED 6560 Seminar: Current Issues in Special Education This course is designed to provide an in-depth exploration of current issues in the field of special education and in the various specific areas of exceptionality. Issues relating to the interface of general and special education will also be explored. Utilizing skills acquired in SPED 6010, 6020, and 6030, students will be expected to review, evaluate and present information on the various topics considered. Prerequisite: Consent of department. 3 hrs.

SPED 6610 Transdisciplinary Teaming This course is designed to provide students with the information needed for effective collaboration and interactive teaming in school and agency settings. Emphasis is placed on transdisciplinary teaming which will include components of effective communication, problem-solving, and the various direct and indirect service delivery models that can be used by collaborative team members to facilitate the success of all students in the mainstream. Prerequisite: Consent of department. 3 hrs.

SPED 6620 Service Delivery Models that Foster Collaboration This course is designed to acquaint students with the service delivery models that foster collaboration presently in the schools as well as rural and urban communities. Students will demonstrate collaboration and teaming skills through urban and rural field experiences. Prerequisite: SPED 6610 and consent of department. 3 hrs.

SPED 6630 Professional Field Experience in Collaboration This course will provide students with hands-on, field experience in the use of collaboration for interagency teams in urban and rural settings. Students will be placed in a school or agency serving students with special needs and participate in the facilitation of a transdisciplinary approach to problem solving. Prerequisites: Consent of department and SPED 6610 and concurrent enrollment in SPED 6620. 3 hrs.

SPED 6740 Intern Teaching in Special Education This final field experience is open only for special education graduate students who have completed all of their special education endorsement requirements. It will consist of full-time intern teaching in an appropriate educational setting serving students with disabilities. Students will participate in all phases of the school program to which they are assigned. Prerequisite: Consent of department. 6 hrs.

SPED 6750 Internship in College Teaching This course is designed specifically for students officially admitted to the doctoral program in special education. The student will be expected to evidence ability to plan and execute instructional tasks, develop and apply appropriate evaluative techniques, and interpret students' performances. Prerequisite: Consent of department. 3 hrs.

SPED 6800 Instructional Software in Special Education This course will examine strategies for evaluating, modifying, and designing computer-assisted instruction for students with learning problems. The course will also address the integration of CAI into the special education curriculum and explore how technology tools can assist teachers. Prerequisite: Consent of department. 3 hrs.

SPED 7000 Master's Thesis Open to Graduate Students Only-Please refer to The Graduate College section for course descriptions 6 hrs.
SPED 7100 Independent Research
College section for course descriptions Open to Graduate Students Only-Please refer to The Graduate
2-6 hrs.

SPED 7120 Professional Field Experience
Graduate College section for course descriptions Open to Graduate Students Only-Please refer to The
2-12 hrs.

SPED 7300 Doctoral Dissertation
College section for course descriptions Open to Graduate Students Only-Please refer to The Graduate
15 hrs.

Education
ED 5000 In-Service Professional Development I
This course develops specific professional skills related to current school responsibilities of teachers and other school personnel. Final course outcomes need to have demonstrated application to the classroom/workplace. 1 hr.

ED 5010 In-Service Professional Development II
This course develops specific professional skills over an extended period of time related to current school responsibilities of teachers and other school personnel. Final course outcomes need to have demonstrated application to the classroom/workplace. 2-3 hrs.

ED 5020 Curriculum Workshop
Opportunity provided for teachers, supervisors, and administrators in selected school systems to develop programs of curriculum improvement. This may include short-term offerings to resolve a particular curricular problem, as well as long-range curriculum studies. A wide variety of resources is used for instructional purposes, including several specialists, library and laboratory facilities, field trips, audiovisual materials, and the like. Each offering of 5020, Curriculum Workshop, will be given an appropriate subtitle, which will be listed on the student's official transcript. Students may earn up to three hours of credit for any given subtitle. No more than six hours of 5020 may be applied toward a master's degree with advisor's approval. 1-6 hrs.

ED 5050 The Adult Learner
This course provides an in depth look at the learning adult from approximately age 22 through old age with special emphasis on human variability, unique learning styles, and characteristics of the adult learner. Theories of adult learning, studies of intelligence and memory, learning capabilities, abilities, approach, and speed of learning will be considered. Motivation as Prerequisite for high-level well-being and problem-solving will be studied. 3 hrs.

ED 5750 Administration of Child Development Centers
Examination of day care and preschool regulations and/or requirements and knowledge of administrative materials and duties in providing optimum growth for young children. Includes management, planning, and organizing child development centers. 3 hrs.

ED 5980 Selected Reading in Education
Designed for highly qualified students who wish to study in depth some aspect of their field of specialization under a member of the departmental staff. Prerequisite: Written consent of departmental advisor and instructor. 1-4 hrs.

ED 6000 Fundamentals of Measurement and Evaluation in Education
This course is designed to develop understandings and competencies in educational measurement and evaluation. Emphasis is placed on the application of research techniques to evaluation, the interpretation of quantitative data in educational situations, and the application of basic evaluation models. 3 hrs.

ED 6010 Introduction to Research in Educational Settings
This course is intended to provide students with an overview of major forms of research models used in educational settings and to provide them with skills in interpreting and evaluating educational research studies. Emphasis is placed on careful reading and critique of current studies that are representative of the various models. 3 hrs.

ED 6020 School Curriculum
This course, designed for teachers and administrators at all levels, analyzes the decision factors stemming from societal forces; psychological, cultural, and developmental
needs and perceptions of learners; and internal structures of the discipline as guidelines for a curriculum emerging from and serving a democratic society. 3 hrs.

ED 6040 Psychological Foundations of Education An overview of the psychological forces that influence learners in their educational settings, with special emphasis on the nature and significance of human variability, development of self, measurement and evaluation, and a consideration and application of principles of learning in classroom situations. 3 hrs.

ED 6050 Teaching of Social Studies in the Elementary Schools This course is designed to help teachers understand the role of the social studies in the elementary school, gain insight into important considerations in the selection of content, and discover how to guide and assess the learning of children in this field. Planning social studies experiences and ways of working with children in a classroom setting will be emphasized. 3 hrs.

ED 6060 Early Childhood Workshop: Methods and Materials Students will apply child development theory to the design and use of learning materials and activities for young children. Emphasis will be placed on using play-based learning methods. 3 hours

ED 6070 Research Methods in Early Childhood Education The purpose of this course is to acquaint the student with major types of research about young children, the steps involved in conducting such investigations, and the basic statistical concepts needed for understanding and designing research. Students will be required to present a research proposal. Prerequisites: ED 6060 and permission of instructor. 3 hrs.

ED 6080 Seminar in Early Childhood Development The content of this seminar may vary each semester depending on the interests and needs of the students, but is invariably designed to provide an in depth exploration of some facet of development in young children. Each student is expected to conduct a search of the literature on a specific topic. Topics may include child-rearing practices, sex-role identification, cognitive development, language acquisition, psychomotor development, and parent education. 3 hrs.

ED 6100 Montessori Education This course is an introduction to the philosophy of Dr. Maria Montessori for teaching the child “for life” and its application to classroom practice. Students will become familiar with the life and work of Dr. Montessori and their influence on her philosophy of education. Students will study the techniques and the learning materials she developed and consider their universal applicability. 3 hrs.

ED 6110 Informal Approaches to Studying Young Children's Development This course helps teachers observe, evaluate, and guide young children's growth while developing their skill in informal observation techniques. Teachers will learn about their children from new perspectives, recognizing and meeting children's needs. Evaluation procedures will help account for children's psychological and social growth while creating classroom conditions to maximize this growth. 3 hrs.

ED 6130 Early Childhood Problems and the Teacher Deals with the concepts of discipline and questions of behavior. Teachers will acquire practical knowledge of research concerning children's social behavior and will review and apply systems for promoting prosocial behavior in their classrooms. 3 hrs.

ED 6140 Parent Education for Teachers of Young Children Presents a variety of techniques for teachers to use in working together with parents. Teachers will study child-rearing factors which parents most need to know. The course will help teachers develop their own record-keeping systems, ways of involving parents in their children's education, and ways of making meaningful reports to parents. The education of parents as aides is included. 3 hrs.

ED 6150 Play and Young Children's Learning Students will develop understanding and appreciation of the nature of play in humankind, and of the relationship of play to humanity's artistic endeavor, invention, and problem-solving, and will look at play from historical and anthropological points of view. Emphasis will be placed on the stages of play in young children, and on the intimate relationship between play and young children's cognitive and affective development. Students will make practical application to their own curriculum for children. 3 hrs.
ED 6160 Piaget and Young Children  This course examines significant contributions of Piaget to our understanding of young children's learning. Knowledge of how young children think will be applied to early childhood curriculum. Teachers will apply Piagetian tasks and will be able to improve curriculum for young children with growing understanding of these children's minds.  3 hrs.

ED 6210 The Early Adolescent Learner  Theoretical background and research related to the intellectual, emotional, perceptual, social, and personality development are presented and explored. Emphasis is placed upon problems teachers face with early adolescent learners and appropriate strategies for helping these students realize their potential.  3 hrs.

ED 6220 Middle Level School Curriculum  The purpose of this course is first for graduate students to review the developmental issues studied in ED 6210 and to bring these perspectives to bear on the historical, philosophical, theoretical, socio-political, and practical aspects of developing effective middle level school structures and classroom pedagogy. Graduate students will be involved in an analysis of some current structural and/or pedagogical elements of the schools and classrooms where they teach which will include the redesign of those elements toward greater responsiveness to the developmental and educational needs of the early adolescent learner. In addition, the instructor will conduct a formal analysis of each course participant’s pedagogy during their instructional time in a middle level setting.  3 hrs.

ED 6240 Middle Level School Methods and Materials  This course examines the historical, philosophical, and theoretical foundations of school curricula in general and of middle level school curricula specifically. The importance and function of developmental responsiveness in the curriculum content and design is examined along with the critical role of interdisciplinary thematic instruction and the dynamic interplay between the early adolescent learner, middle level school structure and the curriculum.  3 hrs.

ED 6280 Curriculum Theory  This course provides students with an in-depth examination of significant historical and philosophical influences on curriculum, as well as important theoretical orientations within the field. The purpose of the course is to enable students to engage in critical reflection from theoretical perspectives on the purposes and practices of schooling, and to bring this critical reflection to curriculum planning and evaluation, and to their own teaching practices.  3 hrs.

ED 6350 Children, Science, and Technology  The course is intended to help elementary and middle school teachers capitalize on children's natural interest. In this course students will explore a number of inexpensive and practical activities that teachers can use to encourage children to explore. The activities teach science processes; that is, they involve the children in processes of gaining knowledge similar to what scientist use in their development of scientific knowledge. The processes will include observing, measuring, classifying, recording, and problem solving. The course will explore different uses for computer technology including the World Wide Web. The course will also cover assessment issues for activity oriented science learning.  3 hrs.

ED 6360 Advanced Instructional Strategies for Elementary Teachers  This is an advanced course on teaching strategies at the elementary grade levels. The course focus is thematic and interdisciplinary. The course is intended to help teachers develop advanced strategies for making instructional connections among the basic disciplines of the elementary curriculum. In addition, the course includes technology and multicultural issues in teaching.  3 hrs.

ED 6700 School Climate and Discipline  This course is designed for teachers and administrators who wish to develop a school or classroom climate which maximizes learning and minimizes discipline problems. Emphasizes new approaches to working successfully with problem students and classes.  3 hrs.

ED 6710 Structuring Classroom Dialogue  This course is designed to assist teachers in the development of their ability to conduct dialogue in a classroom. Each student prepares lessons, presents them to a small group of students, and is videotaped and critiqued with each presentation. Some ethnographic research methods are presented and applied during this course, specifically the use of fieldnotes, journals, and transcription as well as observation and self-observation methods. In addition, the course is designed to instruct the student about the ancient historical roots of dialogue, its transmission throughout the history of the western world, and the role that
dialogue has played and continues to play in human interaction and learning. Students must be teaching or have access to a classroom for necessary application of course content. 3 hrs.

ED 6760 Teaching Thinking in the School This course investigates the issues involved in teaching thinking in classrooms. The focus is on the wide variety of current programs and materials and their underlying concepts. Students will learn to infuse the teaching of higher level thinking skills into the curriculum. 3 hrs.

ED 6790 Capstone Research Project Completion of an advisor-approved research, application, and curriculum project related to the student's professional practice. Project must reflect a synthesis of skills and knowledge from concentration core course work, but at the same time represent a practical application product which can be completed in a one semester time frame. Students will identify and define the nature and scope of the capstone project prior to enrollment in this course, and enroll when completion of the project is planned. Prerequisites: Completion of Master of Arts in Education and Professional Development core courses, program concentration courses, and advisor permission. 3 hrs.

ED 6930 Middle School Education Seminar This seminar serves as the capstone experience for the Teaching at the Middle Level master's program. It provides a forum for synthesizing and integrating the content of prior course work, further examining current research and exploring middle level education issues. Students examine curricular issues with an emphasis on integrative approaches to organizing knowledge and then identify topics for study based on their professional interests and goals. These topics are explored along with a variety of middle level education issues and their policy implications. Students identify a culminating project and conduct a review of literature pertaining to the project. Projects are completed in ED 694. 3 hrs.

ED 6940 Middle School Project Students continue their investigation of middle level education issues identified in ED 6930. The main focus of the course is the completion of the previously identified culminating project. Students work independently on their projects with periodic class sessions designed to discuss education issues and project progress. Students present their projects for critical review and analysis. Prerequisite: ED 6930. 3 hrs.

ED 6980 Resolving Educational Problems in the Schools With variable topics and variable credit, this course is offered for in-service teachers, supervisors, and administrators who come together to solve school problems which they are encountering in the field. Problem-solving techniques, theoretical and evidential support for solutions, and workshops will be applied to actual school or classroom situations. The topic of the course will be stated in the Schedule of Course Offerings. Each time the course is offered. Students may repeat this course, providing topics vary. No more than six hours of ED 6980 may be applied toward a graduate degree. 1-6 hrs.

ED 7000 Master's Thesis 6 hrs.
ED 7100 Independent Research 2-6 hrs.
ED 7120 Professional Field Experience 2-12 hrs.

**Educational Studies**

ES 6030 Social and Philosophical Foundations This course takes a cultural approach to the development of American educational policy and practice in its broad social setting. Consideration is given to historical, economic, social, and philosophical factors which influence educational thought and practice. The need for historical perspective and sound analysis of conflicting points of view is emphasized in the interpretation of current educational issues and the alternative solutions of present educational problems. 3 hrs.

ES 6290 Culture and Schooling The purpose of this course is for students to examine culture as a system for organizing thought and perception and to explore its various influences on the content and methods of schooling in the United States. Particular attention is given to cultural dissonance among students, teacher, and text, and to culturally grounded ways of knowing that emerge from schooling experiences. 3 hrs.
ES 6300 History of Education in the United States  Development of educational thought, practice, and social change in the United States is the focus of this course. This includes a critical examination of the development of the American commitment to commonality in education: The changing relationship between school and community since 1800; the rise of the professional educator; and the shift and progress toward educational goals. Implications of historical background for present problems in education with emphasis on the revision of previously held conventional thinking about schooling in America will be addressed. 3 hrs.

ES 6310 International and Comparative Education  This course explores international and global issues in education focusing on similarities and differences in the organization and practice of schooling among selected countries. The study of education across cultures provides a comparative framework for better understanding the unique character of American schooling and assessing its strength and weaknesses. Global educational challenges and country-specific responses to them are discussed. The course acquaints students with major theories, methodologies, controversies, and research in comparative and international education. 3 hrs.

ES 6330 Human Nature and Diversity  This course examines practical and theoretical issues in the definition of desirable educational aims and practices as related to the perceived needs, interests, and potentials of those involved. The course places the process of defining aims and practices in social, cultural, and historical perspective, with particular attention to the influence of conceptions of human nature and potential. Prominent views of human nature and diversity that have influenced the course of American schooling will be examined. The course provides basis for ongoing professional inquiry concerning the fit between educational practices and the diverse needs of those subject to them, and the way educational practices tacitly inculcate cultural assumptions regarding human nature, interests, and potential. 3 hrs.

ES 6340 Culture and Politics of Educational Institutions  This course examines practical and theoretical issues concerning learning organizations. It examines the ways educational aims and practices relate to wider patterns of belief, value, and controversy, and how these emerge and change in organizational settings. It includes consideration of the organizational dynamics of institutionalized educational practices, and explores how cultural assumptions influence educational content and method. The course also examines the roles of professional educators in effecting organizational change. 3 hrs.

ES 6730 Class, Ethnicity, and Gender in Education  This course centers on the significance of social class, race, gender, and ethnicity in educational practice and outcomes. Social identity and cultural diversity are explored in relation to classroom communication patterns, teacher expectations, and student achievement. Patterns of biases and discrimination will be examined, as well as current issues, challenges, and opportunities of education with respect to student diversity. 3 hrs.

ES 6750 Multicultural Education  This course provides a foundation to examine the major ethnic groups that make up school populations in the U.S. Special attention will be given to the subject of prejudice with an analysis of how stereotypes about ethnic groups and women can be eliminated. The origin of racist theories will be studied. Strategies for resolving cross-cultural conflicts will be stressed. 3 hrs.

College of Engineering and Applied Sciences

Civil and Construction Engineering

CCE 5300 Construction Project Delivery Systems  A comprehensive coverage of the standard contracts between various agencies involved in construction will be described in the course. Analysis of traditional and current project delivery methodologies will also be presented. Issues related to insurance and bonding in the construction industry will be highlighted. Advanced topics such as alternate dispute resolution will also be covered. Prerequisites: CCE 4310 and CCE 4360 or instructor approval. 3 hrs.

CCE 5310 Advanced Construction Project Management  This course will build on the information that is normally provided to students in the undergraduate construction management courses on planning and control of construction projects. The focus of this course will be to provide the students with knowledge of quantitative tools that can be sued in planning and controlling construction projects. Topics to be
covered will include cash flow forecasting, site planning, site administration, risk analysis, contract documents, and contracts administration. Advanced planning tools such as line of balance, velocity diagrams, time-cost trade off, resource planning with applications to construction projects will also be discussed. Prerequisites: CCE 4310 and CCE 4360 or instructor approval. 3 hrs.

CCE 5400 Transportation Planning Theoretical foundations of transportation planning, analysis, and evaluation methods. Theory and application of aggregate and disaggregate models for land use, trip generation, and destination, mode, and route choice. Travel demand modeling and transportation network analysis for evaluation of system alternatives. Prerequisites: CCE 3300 or instructor approval. 3 hrs (2-2)

CCE 5460 Design of Timber Structures Structural behavior of wood under loads; application of current timber design codes; design of structural components and systems in wood; mechanical properties of wood fasteners and connections. Prerequisites: CCE 3380 and CCE 4400 or instructor approval. 3 hrs (3-0)

CCE 5560 Foundation Design Foundation analysis and design for different civil engineering facilities. High-rise building, bridges and other complex structures such as piles, drilled piers, and caissons. Theoretical aspects of engineered foundations as well as practical applications are discussed. Prerequisites: CCE 3360 and CCE 4400 or instructor approval. 3 hrs. (3-0)

CCE 5610 Design of Wastewater Systems Design of wastewater collection and transport systems. Unit operations in wastewater treatment; physical, chemical and biological processes for treatment of wastewater; sludge treatment and disposal; design of a wastewater treatment plant; site visits to wastewater treatment plants. May be repeated for credit. Prerequisite: CHEG 2610 and ME 3560. 3 hours

CCE 6020 Modeling and Analysis of Civil Engineering Applications The course covers some major numerical modeling and analysis methods that are useful for civil engineering applications. The topics include ordinary differential equations, system of linear equations, matrix and its engineering application, eigenvalue problems, Fourier analysis, partial differential equations, boundary value problems and optimization techniques. 3 hours

CCE 6040 Advanced Structural Analysis Development and application of nonlinear matrix analysis techniques; analysis of civil structures using plastic analysis theory, stability of frames, analysis of thin-shell structures, shear wall, and introduction to finite element method. 3 hours (3 to 0)

CCE 6060 Dynamic Analysis of Structures Analysis and design of structural systems subjected to dynamic loading; characterization of dynamic loads; response of lumped and distributed parameter systems of one and many degrees-of-freedom; approximate design methods; introduction to earthquake analysis and design. Prerequisites: CCE 4480 or instructor approval. 3 hrs (3-0)

CCE 6100 Civil Systems Analysis Introduction to systems approach to analyze and design civil systems. Identification and formulation of civil engineering systems. Modeling the problems and their solution techniques. Modeling approaches include linear programming, simplex method, network analysis, simulation, and decision theory. 3 hrs.

CCE 6110 Traffic Operations and Management Application of traffic engineering and control concepts, including data collection, analysis, and traffic control systems design to traffic operations and management. Traffic engineering studies, traffic flow theory, traffic control devices, traffic signal control and ramp metering systems, and intelligent transportation systems. 3 hrs.

CCE 6310 Design and Analysis of Construction Operations The basic objective of the course will be to provide the students the knowledge to design and analyze construction operations and processes. The course is designed to provide a thorough understanding of the fundamentals of discrete event simulation methodologies. The CYCLic Operations Network (CYCLONE) modeling methodology will be used as the basis for design and analysis of construction operations. Recent advancement in the area of simulation based project planning will also be provided. Issues related to object-oriented simulation, hierarchical and modular simulation, query based
simulation, and web based simulation will also be highlighted in this course. Prerequisites: CCE 4310 and CCE 4360 or instructor approval. 3 hrs.

CCE 6320 Construction Project Control The course will involve instruction on a number of topics related to the administration of construction contracts. The major focus of the course will be on topics such as financial control, cost control, schedule update and monitoring, integrated project management systems, and computer integrated construction. Cost/Schedule Control Systems Criteria (C/SCSC) will be used to demonstrate the importance of monitoring, updating, and control functions on a construction project. Prerequisites: CCE 4310 and CCE 4360 or instructor approval. 3 hrs.

CCE 6330 Design of Construction Systems This course will focus on construction practices, construction equipment, construction methods, and construction productivity. It will provide the students with an overview of issues related to construction site logistics such as temporary structures, shoring structures, and supporting structures. Knowledge of structural analysis and design and construction practices will form the basis of this course. Prerequisites: CCE 3300 and CCE 3800 or instructor approval. 3 hrs.

CCE 6340 Quality Management in Construction This course addresses various quality management concepts applied in construction. The people and process aspects of quality in enhancing construction performance are addressed in detail. All quality applications in construction, including Total Quality in construction, lean construction, construction supply chain, and construction quality assurance are discussed. Prerequisites: CCE 4310 and CCE 4360 or instructor approval. 3 hrs.

CCE 6350 Project Cost Estimating Introduce a general overview of construction cost estimating. Techniques and procedures used for estimating cost of construction projects, which include cost estimating process; elements of project cost; conceptual and detailed cost estimating methods; risk assessment and range estimating. New and old version of the work breakdown structure applied in building projects besides the WBS used by Department of Transportation is covered. Different computer applications used in building construction cost estimating and infrastructure projects are going to be used during the course (software used includes: Timberline, R.S. Means, MERL). 3 hours

CCE 6360 Life Cycle Cost Management and Analysis Introduce a general overview of building economics analysis through the application of time value of money concept. Financing strategies for construction projects and profitability analysis are introduced. The correlation of Value Engineering and Life Cycle Costing Analysis of construction projects is addressed in detail. Break Even, Sensitivity and Risk analysis are discussed due to their application importance in project Life Cycle Costing. Life Cycle Costing of infrastructure projects through the application of Assets Management is studied and the deficiencies that most transportation agencies are facing in its application are highlighted. 3 hours

CCE 6390 Civil Engineering Seminar This course will allow graduate students to explore the recent advancements in the areas of structures, transportation, and construction engineering and management. A series of presentations by the graduate students, industry experts, visiting scholars, and the faculty will provide a broad information base to students enrolled in this course. The course is repeatable. 1 - 3 hours

CCE 6480 Finite Element Applications The course focuses on the study of finite element applications to common engineering problems including linear static, heat transfer, flow through porous medium, seepage, resistivity, etc. During the course, ABAQUS and HyperMesh are used as the analysis and pre/post-processing tools. Prerequisite: CCE 6040. 3 hours

CCE 6510 Advanced Structural Systems Design Principles of design of steel and reinforced concrete structural building systems, as well as the behavior of steel, reinforced concrete, and composite members. Projects involving analysis and design concepts for both steel and reinforced concrete structures will be assigned. 3 hrs (3 to 0)

CCE 6520 Pre-stressed Concrete Design Theory and design of pre-stressed concrete members and structural systems; pre- and post-tensioning of components; loss of pre-stress; proportioning of flexural members; and deflections. Prerequisites: CCE 4500 or instructor approval. 3 hrs (3 to 0)
CCE 6530 Traffic Model and Simulation  Understanding the macroscopic and microscopic traffic flow models and applying simulation techniques to modeling traffic phenomena; application of traffic flow models to traffic operation studies; issues in data needs and model validation; incorporating advanced traffic operation and ITS technologies into traffic simulation models; advanced transportation simulation models.  3 hours

CCE 6540 Traffic Safety Engineering  Reasons causing traffic accidents, factors affecting traffic safety, countermeasures representing traffic crashes, applications of statistical modeling techniques to accident pattern and traffic conflict analysis, assessment of safety effectiveness, traffic safety policies and advanced safety technologies.  3 hours

CCE 6850 Advanced Design Project  Students pursuing the design project option for the graduate degree in civil engineering will enroll in this course when conducting the design project. Students enrolled in this course will work under the direction of their graduate program advisor.  Prerequisite:  Instructor approval.  3 hours.

CCE 6960 Advanced Topics in Civil Engineering  New or special topics on advanced developments in different aspects of civil engineering will be provided. Specific topics and prerequisites are identified by the instructor and will vary from semester to semester. The course is repeatable.  Prerequisite: Departmental approval.  3 hrs (3 to 0).

CCE 7000 Master’s Thesis  1-6 hrs
CCE 7100 Independent Research  2-6 hrs

**Computer Science**

CS 5180 Introduction to Computer Modeling and Simulation  Provides an overview of model development and computer simulation. A methodology is introduced which is generally applicable to simulation projects. The relationships between real systems, models, and simulation are presented, and the concept of experimental frames is discussed. General purpose simulation languages (e.g. Simscript, GPSS, CSMP, Simula) and the formalisms they support are presented. An introduction to random variables and elementary frequency distributions is provided. Simulation as a tool for exploring ill-defined systems will also be discussed. Several small programs and a simulation project will be assigned the student.  Prerequisites: CS 3310 and (IME 2610 or IME 2620 or ME 3620 or STAT 3640).  3 hrs.

CS 5250 Computer Architecture  General topics in computer architecture, memory systems design and evaluation, pipeline design techniques, RISC architectures, vector computers, VLSI systems architecture. Prerequisites: ECE 2500 and (CS 2230 or ECE 2510) and CS 3310.  3 hrs.

CS 5260 Parallel Computations I  Architecture, synchronization and communication aspects of parallel and distributed systems. This course will focus on the design and analysis of algorithms which have a prototype treatment on current machines. These algorithms may include parallel sorting, combinatorial search, graph search and traversal, applications in graphics, 2-d finite differences, 2-d finite element techniques, matrix algorithms and the Fast Fourier Transform.  Prerequisite: CS 3310.  3 hrs.

CS 5270 Theory of Computer Graphics  A first course in the design of interactive computer graphics systems. Currently available hardware and software systems are described. Emphasis is on theoretical considerations in the design of interactive computer graphics software systems.  Prerequisites: CS 3310 and (MATH 2300 or MATH 3740).  3 hrs.

CS 5300 Artificial Neural Systems  An introduction to neural net concepts, algorithms, and applications. A history of neural nets will be presented along with some discussion of models of biological neural systems. The salient features of a neural net (architecture, activation functions, weighting scheme) will be characterized. Standard algorithms will be presented including Hopfield nets, linear associative models, bidirectional
associative memories, and adaptive resonance models. The student will use neural net software to experiment with standard models and to develop an application for a project. Prerequisite: CS 3310. 3 hrs.

CS 5400 Designing of User Interfaces An introduction to the specification, development, and evaluation of user interfaces. This course provides an overview of human capabilities, technological possibilities, interaction design, and interface evaluation. The course presents both the theoretical foundations of interaction design and practical case studies of good and bad interface design. During the course, students will design and test one or more interfaces. Prerequisite: CS 3400 or permission of instructor for undergraduate students. No Prerequisite for graduate students. 3 hrs.

CS 5410 Game Programming This is a first course in game programming, emphasizing an overview of the field and an examination of core techniques, algorithms and technologies used to program games. The course will cover most areas of game programming, ranging from AI techniques to graphics. Prerequisite: CS 3310 with a grade of “C” or better. 3 hours

CS 5430 Principles of Database Management Systems The fundamentals of database design and usage are covered, focusing on the relational data model. Topics include basic DB and DBMS concepts, logical design (ER modeling, normalization), physical storage concepts, relational algebra, SQL query language, PL/SQL and embedded SQL. A relational DBMS is used for lab assignments. Other topics may include query optimization, transaction processing, concurrency, security, forms/reports, object-relational data model, and an overview of advanced DB topics. A student may not receive credit for both CS 4430 and CS 5430. Prerequisite: CS 3310. 3 hrs.

CS 5550 Computer Networks and Distributed Systems The design and evaluation of computer networks using current hardware and software are explained. Various types of computer buses, local area networks, and long haul networks are defined. Case studies of popular networks are presented. Layered network models are studied. There is lab work with local area and long haul networks. Prerequisites: CS 3310 and (CS 2240 or ECE 3570). 3 hrs.

CS 5560 Network Programming This course will cover the fundamental aspects of computer network programming, with emphasis on the Internet. The goal of this course is to introduce the student to the basics of distributed application developments. Students will be introduced to building application protocols using UDP, TCP and secure sockets programming. Students will also be introduced to multi-tier application development (presentation/client tier, application tier, data tier) and RPC technologies including: RMI, EJB and Web Services. The course will focus on web application development using XHTML, Java Script, CSS, AJAX, Java Servlets, JSP, and JSF. Prerequisite: CS 3310. 3 hrs.

CS 5600 Software Requirements Analysis and Design Provides an in-depth study of notations, methodologies, and tools for the analysis and design of software requirements. This course includes object-oriented requirement development and design, the relationships between object-oriented design concepts and software engineering principles. The course concentrates on the techniques used in the early stages of software development. Prerequisite: CS 3310. 3 hrs.

CS 5800 Theory of Computation II: Formal Languages An introduction to the theory of computation emphasizing grammars and computational complexity. Prerequisite: CS 4800. 3 hrs.

CS 5810 Compiler Design and Implementation Introduction to major aspects of compiler design. These include lexical analysis, parsing, and translation. Each student will implement a small compiler using modern compiler writing tools. Prerequisite: CS 4800 or CS4850 or CS 5800. 3 hrs.

CS 5820 Artificial Intelligence Provides an overview of artificial intelligence including basic A.I. techniques and concepts, e.g., production systems, heuristic searching techniques, knowledge representation, predicate calculus, and pattern recognition. Introduces A.I. application areas such as game playing, expert systems, vision, natural language processing, and learning. Prerequisite: CS 3310. 3 hrs.
CS 5950 Advanced Topics in Computer and Information Science
The content of this course varies. It is intended to introduce the student to advanced topics which are normally offered as separate courses. The course may be taken more than once with approval of the student's advisor. Prerequisite: Departmental approval. 1-3 hrs.

CS 5990 Independent Study in Computer Science
Advanced students with good scholastic records may elect to pursue independently the study of some topic of special interest. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Departmental approval. 1-3 hrs.

CS 6030 Studies in Computer Science
Advanced work organized around varying topics in computer science. Students may take this course more than once. Prerequisite: Approval of department. 3 hrs.

CS 6250 Advanced Computer Architecture
Multiprocessor architectures, various interconnection networks, communication and synchronization techniques, data flow architectures. Prerequisite: CS 5250. 3 hrs.

CS 6260 Parallel Computations II
Advanced topics in parallel computations, such as: algorithms in the areas of graph algorithms, numerical algorithms, computer graphics and VLSI design, and aspects of operating systems and languages. Students will be expected to read research papers and complete a semester project involving the use and implementation of parallel programming paradigms on current machines. Prerequisite: CS 5260. 3 hrs.

CS 6310 Advanced Data Structures
The representation and implementation of various data structures. The effect of data structures on program complexity is investigated. The uses of data structures in a variety of application areas are covered. Introduces complex data structures. Prerequisite: CS 4310. 3 hrs.

CS 6320 Analysis of Computer Algorithms
Computing-time and space requirements of algorithms are analyzed with emphasis given to the effect of data structure choice on program complexity. Various abstract models of computation are considered. Methods for proving program correctness and the related problems are identified. Students implement a number of algorithms and discuss aspects of the complexity and correctness of their programs. Prerequisites: CS 4310 and 5800. 3 hrs.

CS 6400 Advanced Design of User Interfaces
Advanced interaction techniques drawn from the current literature. Topics of interest include information search and display, visualization, virtual reality, and hypermedia environments. Prerequisite: CS 5400 or permission of instructor. 3 hrs.

CS 6430 Advanced Data Base Management Systems
An in-depth study of data base management systems with concentration on efficient design and usage. Topics covered include: the design of data models, the theory of relational data bases, query optimization, protocols to guarantee consistency of data bases, the design of physical models, and performance analysis techniques. Algorithms and data structures such as B-trees, transposed files, phantom files and hybrid structures are also studied. Distributed data bases, data base machines and current query languages will be covered. Prerequisites: CS 3310 or CS 4310, and CS 5430. 3 hrs.

CS 6550 Advanced Operating Systems
Advanced and current topics in operating systems research. Analysis of competing techniques will be undertaken to present a better understanding of tradeoffs in design decisions. Modeling and performance evaluation will also be presented. A detailed and theoretical view of the basic operating system concepts will be emphasized. Programming assignments involving simulation and performance evaluation will be required. Prerequisite: CS 4540. 3 hrs.

CS 6560 Advanced Compute Networks: Anatomy of the Internet
This course will cover the practical aspects of computer networks, with emphasis on the Internet. Various aspects of computer networking will be covered including: alternative link-layer, network-layer, and transport-layer technologies. LAN/WAN technologies, topologies, traffic analysis, congestion/flow control, routing, internetworking, multicast and Quality of Service (QoS). The goal of this course is to introduce the students to state-of-the-art network protocols and
architectures. We will introduce the students to networking research and guide them to investigate novel ideas in the area via semester-long research projects. We will also look at industry trends and discuss some innovative ideas that have recently been developed. Some of the course material will be drawn from research papers, industry white papers and Internet RFC’s. Prerequisite: CS 5550 or instructor approval. 3 hours

CS 6570 Wireless Networks This course will cover the fundamental aspects of wireless networks, with emphasis on current and next-generation wireless networks. Various aspects of wireless networking will be covered including: fundamentals of cellular communication, mobile radio propagation, multiple access techniques, mobility support, channel allocation, Wireless PAN/LAN/MAN standards, mobile ad-hoc networks, wireless sensor networks, and routing in wireless and mobile networks. The goal of this course is to introduce the students to state-of-the-art wireless network protocols and architectures. We will introduce the students to wireless networking research and guide them to investigate novel ideas in the area via semester-long research projects. We will also look at industry trends and discuss some innovative ideas that have recently been developed. Some of the course material will be drawn from research papers, industry white papers and Internet RFC’s. Prerequisite: CD 5550 or instructor approval. 3 hours

CS 6600 Software Engineering I: Formal Specifications of Software Systems Introduction to various models of software life cycles and formal methods for specifying requirements and design. Students will be introduced to a number of formal systems using axiomatic specification, abstract models (e.g., VDM), set theoretic systems (e.g., Z), predicate logic systems (e.g., Larch), and specification based on programming languages such as Alphard, CLU, and Ada. Also discussed will be formal specification of real-time systems using Petri Nets, PAISLEY, CSP, SF and others. Examples and exercises illustrating the use of several formal systems will be given. Student teams will be expected to complete the specification of requirements and design of a project using one of the methods presented. Prerequisites: CS 3310 or CS 4310, and MATH 1450. 3 hrs.

CS 6610 Software Engineering II: Verification and Validation of Software Systems The terminology and limitations of verification and validation (V and V) approaches. Five approaches will be presented: technical reviews, testing, proofs of correctness, simulation and prototyping, and requirements tracing. Students will define a V and V plan and carry it out for several stages in the development cycle of a project. Prerequisite: CS 6600. 3 hrs.

CS 6720 Pattern Recognition A survey of modern methods for computer recognition of patterns in varied applications such as digital images, human speech and sound, and grammar-based sequences. Various approaches are developed, including heuristic search, Fourier analysis, Markov models, template matching, and grammatical inference. Computational aspects and efficiency of different methods and algorithms are emphasized. Students must complete a project using methods developed in the course. Prerequisites: CS 4310 and STAT 3640. 3 hrs.

CS 6800 Theory of Formal Computation III: Computability and Complexity The theory of computation emphasizing properties of families of languages, computability, and complexity. Prerequisite: CS 5800. 3 hrs.

CS 6810 Compiling Theory and Practice A study of theoretical and applied strategies for designing compilers and other types of language translation systems. Students will be assigned a programming project on compiling. Prerequisite: CS 5810. 3 hrs.

CS 6820 Advanced Artificial Intelligence Current research in one or more artificial intelligence application areas, e.g., computer vision and image processing, natural language and speech processing, expert systems, computer learning or other A.I. topics. Prerequisite: CS 5820. 3 hrs.

CS 6910 Seminar in Computer Science 1-3 hrs.

CS 6970 Master’s Project Students will work on a special project in a computer science area. A technical report on the results of each student’s project must be approved by the course instructor and published as a departmental technical report. Prerequisites: Graduate level competency in computer science and the subject areas of the project. Approval of the instructor and the department required. 2-6 hrs.
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<tr>
<td>CS 7000</td>
<td>Master's Thesis</td>
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<td>CS 7100</td>
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<td>CS 7120</td>
<td>Professional Field Experience</td>
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<td>CS 7300</td>
<td>Doctoral Dissertation</td>
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<tr>
<td>CS 7350</td>
<td>Graduate Research</td>
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**Electrical and Computer Engineering**

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<th>Course</th>
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<tr>
<td>ECE 5150</td>
<td>Real-Time Computing</td>
<td>Characterizing, modeling, and specifying real-time systems. Software life cycle. Designing and programming sequential and concurrent real-time systems. Scheduling. Distributed real-time computing. Engineering case studies using C++/Ada. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering.</td>
<td>3 hours</td>
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<tr>
<td>ECE 5200</td>
<td>Power Electronics: Dynamics and Control</td>
<td>Basic, transformer isolated and resonant switchmode converter topologies. Steady-state analysis, large-signal and small-signal modeling and analysis, state-space and discrete-time models. Magnetics, transformers, control techniques and power conditioning of converters. PWM control. Advanced application areas: electric drives, power systems – HVDC, FACTS and STATCOM. New materials – Gallium arsenide (GaAs), polytypes of silicon carbide (SiC), and gallium nitrate (GaN). This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering.</td>
<td>3 hours</td>
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<tr>
<td>ECE 5210</td>
<td>Surface Mount Technology Design</td>
<td>This course will focus on two major areas of electronic design. First, we will study effective implementation of circuit board designs to address the technical issues in Surface Mount Technology (SMT). The second area will include a study of solid-state devices and digital circuits. Technical discussions will explore advantages and disadvantages of SMT, SMT processes and equipment, design tools and guidelines, internal circuit structure and device operation, and defect analysis. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering.</td>
<td>3 hours</td>
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<tr>
<td>ECE 5240</td>
<td>Introduction to VLSI Technology</td>
<td>A course in VLSI semiconductor devices, modern CMOS technology, crystal growth, fabrication, and basic properties of silicon wafers. It will focus on lithography, thermal oxidation, (Si/Si)2, interface, dopant diffusion, ion implantation, thin film deposition, etching, and back-end technology. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering.</td>
<td>3 hours</td>
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<tr>
<td>ECE 5410</td>
<td>Electronic Instrumentation</td>
<td>Analysis of instrumentation systems including basic instrumentation concepts, dynamic analysis of instruments, transducers, classical analog methods, digital methods and application. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering.</td>
<td>3 hours</td>
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<tr>
<td>ECE 5450</td>
<td>Introduction to Micro Electro Mechanical Systems</td>
<td>This course introduces students to rapidly emerging, multi-disciplinary, and exciting field of Micro Electro Mechanical Systems (MEMS). It will teach fundamentals of micromachining and microfabrication techniques, including planar thin-film process technologies, photolithographic techniques, deposition and etching techniques, and the other technologies that are central to MEMS fabrication. Skills needed for the design and analysis of devices and systems in mechanical, electrical, fluidic, and thermal energy/signal domains, and will teach basic techniques for multi-domain analysis (e.g., electromechanical, electrothermal). Fundamentals of sensing and transduction mechanisms (i.e. conversion of non-electronic signals to electronic signals), including capacitive and piezoresistive techniques, and design and analysis of micromachined miniature sensors and actuators using these techniques will be covered. Many examples of existing devices and their applications will be reviewed.</td>
<td>3 hrs.</td>
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<tr>
<td>ECE 5510</td>
<td>Application Specific Integrated Circuit Design</td>
<td>Design, analysis and implementation of application-specific circuits (ASIC.) Emphasis will be placed on programmable design (including field programmable gate arrays (FPGA) and programmable logic devices (PLD). Semi-custom design will also be discussed and full-custom design will be briefly introduced. Introduction to contemporary CAD systems.</td>
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Prerequisites: ECE 3500 and ECE 3550. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 5520 Switching and Finite Automata Theory  Introduction to the theory and application of switching theory and automata theory. Sets, relations, functions. Boolean and combinational functional composition and optimization. Finite automata theory. Automata composition and optimization. Regular sets and recognizers. Fault tolerance. Prerequisites: ECE 2500 and CS 5540. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 5530 Microcontroller Applications  This course is intended to give graduate students and seniors the ability to specify, design, and test real-time embedded microcontroller systems. 3 hours

ECE 5550 Digital Signal Processing  Discrete-time signals and systems, time and frequency domain representations. Structures of discrete-time systems and digital filters. DFT and FFT methods of special analysis and estimation. Discrete Hilbert Transforms and multidimensional signal processing. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 5570 Design of Reconfigurable Digital Machines  Introduction to hardware design languages. Modeling and simulation using VHDL. Advanced design techniques for digital machines based on Field Programmable Gate Arrays and Complex Programmable Logic Devices. System design with on-line reprogrammable FPGAs. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 5600 Time-varying Fields  Electrodynamics, Maxwell's equations, Boundary value problems and solutions of Helmholtz Equation in different coordinate systems, Green's functions, transmission lines and wave guides. Introduction to perturbational and variational methods. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 5640 Communication Systems  Introduction to digital and analog communication systems. Design constraints of noise and bandwidth, comparison of various modulation techniques, and statistical methods. Information and channel capacity. Prerequisite: Graduate standing in ECE. 3 hours

ECE 5700 Digital Control Systems  State variable technique, controllability and observability, digital control system design with state or output feedback, maximum principle, optimal linear regulator-deterministic, and stochastic state observers. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 5710 State Space Control Systems  An introduction to the state-space representation of linear system. As such, familiarity with the classical Laplace transform techniques will be assumed but not emphasized. Instead, time-domain analysis of differential equations on linear systems will be performed. This course forms the basis upon which modern electrical engineering is founded. 3 hours


ECE 5800 System Modeling and Simulation  This is a first course in the principles of mathematical modeling of stochastic and deterministic systems. It will focus on analytical models, mathematical rigor and computer simulation of problems. Students will simulate a number of systems using appropriate stochastic and deterministic models using a computer. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours
ECE 5850 Mechatronics  A course in fundamentals of motion control, primarily as it is applied to robotics. Students will learn the basics of control systems as applied to multiaxis servo systems. Appropriate time will be devoted to develop a sound basis in the electro-mechanical discipline. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 5900 Electrical and Computer Engineering Seminar Students research, present, and discuss topics in electrical and computer engineering. Presentation(s) by faculty and/or external engineering and scientific experts on electrical and computer engineering theory and practice. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 1 hour

ECE 5950 Introduction to Advanced Topics To introduce students to advanced topics in electrical/computer engineering not included in other course offerings. Prerequisite: CENM, EENM, or ELCD. 3 hrs.

ECE 6050 Advanced Microprocessor Applications This course is intended to give graduate students the ability to specify, design, simulate and partially test the performance of real-time high-performance microprocessor systems. It addresses the design problems of interfacing to multi-processor system bus and the design of local and shared memory modules for contemporary RISC and CISC processors. Prerequisite: ECE 5530 and ECE 5570. This course is restricted to graduate students in Computer Engineering or Electrical Engineering. 3 hours

ECE 6360 Applied Optics and Optical System Design Classical and conventional optical methods in use by the engineering and research community. Moire, Speckle and Speckle-shearing interferometry. Holographic interferometry. Photo-elasticity and electronic speckle pattern interferometry. Optics and lasers for research and industrial applications. Digital image processing and optical system design. Prerequisite: Consent of instructor. 3 hrs.

ECE 6410 Advanced Electronic Instrumentation Description, analysis, and design of instrumentation systems with emphasis on sensors, signal acquisition, amplification, and processing. Both analog and digital sensors and signal processors will be considered. Prerequisite: ECE 5410 This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 6450 Advanced Micro Electro Mechanical Systems This course covers advanced topics dealing with MEMS technologies, transduction mechanisms, and microfabricated sensors and actuators. Many emerging micromachining technologies such as laser and electro-discharge machining, and non-conventional materials such as SiC and diamond are discussed. Transduction techniques, including electromagnetic, piezoelectric, resonant, tunneling, and others are presented (to the extent permitted by time available). The course reviews different types of sensors for measurement of physical parameters such as acceleration, rotation rate, pressure, as well as chemical and gaseous parameters for gas and chemical sensing applications. It also reviews different micro-actuation techniques and their application in MEAS. Prerequisite: ECE 5450 or instructor approval. 3 hours

ECE 6500 Advanced Computer Architecture An introduction to the problems involved in designing and analyzing current machine architectures. Simulation and design automation of digital systems. The completion of a substantial design project is required. Prerequisites: ECE 5520 or ECE 5530. This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 6510 Objects, Architectures, and Parallel Computation Integral approach toward the hardware and software design of computer systems. Design decisions due to interdependence among the different levels (architecture, operating systems, programming languages application programs) of modern computer systems design. Prerequisite: ECE 5150 This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hours

ECE 6550 Digital Image Processing This course will cover fundamental concepts and analytical tools for digital image processing (DIP) and applications. Use of transforms for image filtering and analysis; image coding and compression algorithms are emphasized. Students are expected to complete a series of computer assignments and a research project in DIP. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.
ECE 6640 Digital Communications  This course covers advanced concepts of modern digital communication theory, including information theory and coding theory. Important practical topics of recent interest are also covered. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6650 Medical Imaging Systems and Analysis  Introduction to medical imaging systems and analysis of the different modalities (X-Ray, CT, NM, Ultrasound, and MRI) in terms of the physics of the modality, the system, and image reconstruction. Sampling, implementation of multidimensional signal processing, and image quality issues (noise, resolution, geometric distortion, and contrast) are addressed for each modality. Prerequisite: ECE 5550 with a grade of “B” or better or instructor approval. 3 hrs.

ECE 6660 Mobile Communications  This course covers cellular system principles, cell coverage and traffic, and specifications and standards for analog and digital systems. Prerequisite: ECE 6640 This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering 3 hours.

ECE 6700 Modern Control Theory  Modern control theory using “state variable” formulations provides a unified approach to a wide variety of problems. Depends on matrix theory and linear algebra. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6710 Optimal Control Systems  Optimal control dynamic programming, Pontryagin's principle, linear optimal regulator, system identification. Stochastic and adaptive control. Prerequisite: ECE 6700. 3 hrs.

ECE 6720 Fuzzy Control Systems  Theoretical aspects of fuzzy sets, fuzzy logic, approximate reasoning, and fuzzy control, as well as implementation issues of fuzzy controllers. Supervisory controllers using fuzzy automata. Hardware accelerators for fuzzy logic. Prerequisites: ECE 5570 and ECE 5970 State Space Control Systems. 3 hours.

ECE 6730 Advanced Neural Networks  Hardware implementations of feedforward, recurrent, and cellular neural networks using analog and/or digital techniques. Both discrete and integrated circuit approaches will be investigated. Applications of neural networks in engineering systems. Prerequisites: ECE 5730 or instructor approval. 3 hours.

ECE 6740 Nonlinear Control Systems  This is a first course in nonlinear systems. Students will learn to characterize nonlinear phenomena such as limit cycles and chaotic behavior, both analytically and numerically. Students will also delve into the world of strange attractors and fractals. All this will be applied to a number of engineering, mechanical, biological and chemical problems. Specifically, students will consider the family nonlinear control problems (such as the inverted pendulum) and chaotic communication systems (such as the Cummo and Chua circuits). Prerequisite: ECE 5710 3 hours.

ECE 6800 Design Factors for Distributed Systems  An introduction to distributed computing systems operation and design including interprocessor communication techniques, consensus, distributed control, and fault tolerance with an emphasis on real-time environments. Current publications on distributed computing systems design will be surveyed. Prerequisite: ECE 6500 This course is restricted to graduate students majoring in either Computer Engineering or Electrical Engineering. 3 hrs.

ECE 6950 Topics in Electrical and Computer Engineering  Special topics in advanced area of Electrical Engineering or Computer Engineering not included in other courses. Prerequisite: CENM, EENM, or ELCD admission. 3 hrs.

ECE 6970 Problems in Electrical and Computer Engineering  Special problems based on individual need or interest under the direction of a member of the graduate faculty. Prerequisite: CENM, EENM, or ELCD admission. 1-6 hrs.

ECE 6990 Practical Training  Designed for international students who wish to pursue practical training in off-campus activities in industrial and/or other similar settings. To be eligible, students must be
registered in the ECE department, must have completed at least 6 credits toward an advanced degree and have the approval of their faculty advisor and the department chair. Computer Engineering students may substitute ECE 6990 for up to 2 credit hours of ECE 6900. Electrical Engineering students may take up to 2 credit hours of ECE 6990 as part of their course work. 1-2 hrs.

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**Engineering and Applied Sciences**

ENGR 7250 Doctoral Research Seminar

Please refer to GRAD 7250 for course description.

2 – 6 hours

**Industrial and Manufacturing Engineering**

IME 5010 Survey of Industrial Engineering Topics

Course devoted to studying the basics of the industrial engineering profession. Subjects will include work analysis, engineering economy, statistical quality control, production planning and control, and materials handling. Emphasis is placed on the application of these techniques to manufacturing related problems. This course cannot be applied for credit toward the Master of Science degrees in engineering management or industrial engineering. Prerequisites: MATH 1220 or MATH 2000; STAT 2600 or STAT 3660, or equivalent. (Recommended) 3 hrs.

IME 5020 Manufacturing Engineering Fundamentals

This course reviews the fundamental principles in Computer-Aided Design (CAD), Computer-Aided Manufacturing (CAM), and metrology used in the practice of manufacturing engineering. Topics covered include: CAD documentation techniques, CAD modeling, Geometric Dimensioning and Tolerancing (GD&T), EIA/ISO format (G&M code) Numerical Control (N/C) programming, graphical N/C programming systems, and Statistical Process Control (SPC). The laboratory includes hands-on experiences with commercial CAD/CAM systems, N/C machines, and instruments of precision measurement. This course cannot be applied for credit toward the Master of Science in Manufacturing Science. This course may be used to meet the stated prerequisite requirements normally satisfied by IME 2460, IME 3580, and IME 4810 in the graduate program. Prerequisites: IME 1420 and IME 2540. (Recommended) 4 hrs.

IME 5050 Continuous Improvement in Operations

The purpose of this course is to introduce business and engineering students as well as managers to the process of kaizen (Continuous Improvement) and Total Employee Involvement. 3 hrs.

IME 5070 Computer Integrated Manufacturing

Topics related to computer integrated manufacturing. Topics include computer process control, robotics, group technology, CNC, CAD, FMS. Hands-on experience with miniature computer controlled equipment will be included. Prerequisite: Course in computer programming. 3 hrs.

IME 5080 Advanced Quality Management

Analysis and application of new concepts in the field of quality control. Tests of significance, probability studies, and other uses of statistics as applied to quality control. Prerequisite: IME 3180 or 3280 or 5010 or equivalent. (Recommended) 3 hrs.

IME 5120 Management of Service Operations

An analysis of service industries exploring differences in planning and controlling operations. Emphasis will be on service system design, service quality, and comparing customer expectations with their perceptions. 3 hrs.

IME 5160 Design of Experiments and Regression Analysis

Topics related to experimental design and regression analysis. Topics include randomized blocks, Latin squares, factorials, multiple correlation and regression, and its application to response surfaces. Prerequisite: IME 2610 or equivalent. (Recommended) 3 hrs.

IME 5420 Human Factors Engineering

The process of designing for human use. The course covers the study of the interactions between the individual, equipment, products, and the environment in any human-
task-environment system. Topics include human capabilities and limitations; human input, output, and control; work space design; and the work environment. Prerequisite: IME 2610 or IME 2620 or equivalent. (Recommended) 3 hrs.

IME 5460 Concurrent Engineering The synthesis of automated design, analysis, and manufacturing processes through integrated computer systems. Topics in automated graphics, wire-frame, surface and solids modeling, boundary element analysis, and manufacturing process generation will be investigated. Prerequisite: IME 2460 or equivalent. (Recommended) 3 hrs.

IME 5500 Advanced Plastics Processing Review of optimum machine components and systems. Identification of key process variables within injection molding and extrusion systems. Discussion of the causes of process instability. Determination of the process capability within injection molding and extrusion systems. Prerequisite: IME 2500 or equivalent. (Recommended) 3 hrs.

IME 5520 Casting Simulation and Solidification The process of computer simulation illustrates the way a casting is filled and how the alloy is allowed to cool. By simulating the process conditions to observe 3-D fill and solidification, researchers will be able to predict potential defects in the casting and redesign the process to eliminate the defects, before making actual castings. Activities will compare theory to practice. Prerequisite: IME 3520 or IME 4520 or equivalent. (Recommended) 3 hrs.

IME 5570 Topics in Industrial and Manufacturing Engineering Group study of special topics in industrial engineering and technology. The specific topic will be shown in the course title when scheduled. Prerequisite: Departmental approval. 3 hrs.

IME 6000 Concepts and Principles of Engineering Management To study the concepts of supervision with particular design for those who have had little or no previous academic orientation to the principles, concepts, and philosophy of industrial supervision. 3 hrs.

IME 6040 Facilities Planning and Design An analytical approach to the planning and design of manufacturing facilities and material handling systems. Prerequisite: IME 4040, 4140, or permission of instructor. 3 hrs.

IME 6060 Capital Budgeting and Cost Analysis Concepts, principles, and techniques of making decisions pertaining to the acquisition and retirement of capital goods by industry and government. Topics include the time value of money, basic economic decision models, effect of taxation and depreciation on economic decision, and capital allocation. 3 hrs.

IME 6080 Reliability Engineering The formulation of mathematical models for reliability allocation and redundancy. Topics include time dependent and time independent prediction measures for both maintained and non-maintained systems. Prerequisites: IME 2610 and IME 2620 or equivalent. (Recommended) 3 hrs.

IME 6100 Linear Programming for Engineers The study of linear programming models as applied to engineering problems. Topics include Revised Simplex Method, Duality Theory, Post-Optimality Analysis, Interior Point Algorithms, Column Generation and Decomposition Techniques, Transportation Problem, Assignment Problem, Multiple Objective Problems, and Data Envelopment Analysis. Prerequisite: MATH 2300 or MATH 3740. (Recommended) 3 hrs.

IME 6110 Deterministic Methods in Operations Research Concepts and techniques of deterministic operations research with emphasis on industrial applications. Topics include Network Models, Integer Programming, and Nonlinear Programming. Prerequisites: MATH 2720 and IME 3110 or IME 6100. (Recommended) 3 hrs.

IME 6120 Production/Operations Management Topics relating to the planning and control functions of manufacturing systems are presented. These topics include management of the production system, strategies of product design and process selection, design of production systems, plant location, shop floor control, purchasing,
quality management, and productivity improvement. Prerequisite: IME 3260 or 4160 or 5010, or equivalent. (Recommended) 3 hrs.

IME 6130 Stochastic and Heuristic Methods in Operations Research Concepts and techniques of stochastic operations research with emphasis on industrial applications. Topics include Queueing Theory, Decision Analysis, Dynamic Programming, Scheduling, and Metaheuristics. Prerequisites: IME 3110 and STAT 6670. (Recommended) 3 hrs.

IME 6140 Project Management To address the basic nature of managing projects and the advantages and disadvantages of this method of getting things done. The problems of selecting projects, initiating them, and operating and controlling them are discussed. The demands made on the project manager and the interaction with the parent organization are also presented. 3 hrs.

IME 6220 Engineering Management Seminar An analysis of the writings, literature, and philosophy concerning line supervision and employee direction in manufacturing industries. Prerequisite: IME 6000 or equivalent. 3 hrs.

IME 6300 Advanced Simulation Modeling and Analysis Advanced topics in modeling of complex systems using both discrete and continuous simulation. Emphasis on the simulation of manufacturing systems. Prerequisite: IME 2610 or IME 2620 or equivalent. (Recommended) 3 hrs.

IME 6420 Ergonomics and Occupational Biomechanics Topics related to work physiology and biomechanics. Topics include anthropometry, skeletal system and muscle, neuromuscular control system, biomechanics, respiratory system, circulatory systems, and metabolic system. Prerequisite: IME 2610 or IME 2620 or equivalent. (Recommended) 3 hrs.

IME 6430 Physiology of Work A thorough review of the musculoskeletal system and energy development in the work environment. A practical guide to what the body can do and how this is influenced by the respiratory, circulatory, and metabolic systems. Laboratory projects emphasize applications in actual work tasks. Prerequisite: IME 2610 or IME 2620 or equivalent. (Recommended) 3 hrs.

IME 6450 Design for Manufacturability Production methods and materials will be applied to product development projects that will relate to the design of efficient and cost effective manufacturing. Topics include the design of part families, geometric classification coding for storage and retrieval, database transfer compatibility standards, process influence on functional product design, statistical determination and the application of linear and geometric tolerancing. 3 hrs.

IME 6520 Advanced Casting Design and Processes Advanced subjects related to the cast metal industry will be studied; topics will include: non-traditional casting processes, gating design, risering design, thermal imaging, thermal arrest, image analysis, alternative molding media, micro/macro casting defects analysis, process control for metal casting industry, and environmental issues. State of the art materials such as castable super alloys and metal matrix composites will be discussed. Prerequisite: IME 5520. (Recommended) 3 hrs.

IME 6560 Material Selection and Processing Properties of metals, ceramics, polymers, wood, and composites. Factors in selection of materials and their fabrication process. Failure mechanisms and prevention. Prerequisite: An introductory course in engineering materials or permission of instructor. 3 hrs.

IME 6570 Studies in Industrial Engineering Advanced work organized around topics of current interest in engineering and technology. The specific topic will be shown in the course title when scheduled. Prerequisite: Departmental approval. 3 hrs.

IME 6580 CAM Applications Custom design of post-processors. Creation of CNC programs through graphical-based systems. Strategies and techniques, including Computer-Aided Processing Planning (CAPP), to migrate data from CAD to CAM systems. Computer hardware and software requirements for integrated manufacturing. Prerequisite: IME 5070 or equivalent. (Recommended) 3 hrs.

470
IME 6810 Process Monitoring and Control  The study of process improvement techniques which will ultimately lead to quality products. Process improvement includes the reduction of variability in process during the manufacturing stage resulting in improved product quality. A team problem solving approach utilizing data acquisition systems and statistical methods are emphasized. Practical industrial applications of process monitoring and control are reviewed. Prerequisite: STAT 2600, IME 2610 or equivalent. (Recommended)  3 hrs.

IME 6830 Thesis Proposal  Study of research methodologies including review and synthesis of previous work, and strategies for conducting investigation. Discussion of format and expectations of the master's thesis. An approved thesis proposal is required for the completion of this course. Prerequisite: Departmental approval.  1 – 3 hours

IME 6970 Problems in Industrial and Manufacturing Engineering  Special problems of individual need or interest under the direction of a member of the graduate faculty. May be elected with approval of department chairperson and faculty member. Application must be submitted and approved prior to the election of the course. Prerequisite: Departmental approval.  3 hrs.

IME 6980 Readings in Industrial and Manufacturing Engineering  Directed individual study of topics or bodies of knowledge not otherwise treated in department courses. A maximum of three credit hours can be earned in IME 6980 as applicable to degree program. May be repeated for credit. Prerequisite: Approval of advisor preceding enrollment.  1 – 3 hours

IME 6990 Practical Training  Designed for international students who wish to pursue practical training in off-campus activities in industries or institutions. This course will not count toward a degree program. May be elected with approval of department chairperson and faculty member. Application must be submitted and approved prior to election of the course. Prerequisite: Departmental approval. 1-12 hrs.

IME 7000 Master's Thesis  Prerequisite: Departmental approval.  6 hrs.
IME 7120 Professional Field Experience  Prerequisite: Departmental approval.  2-12 hrs.
IME 7250 Doctoral Research Seminar  Prerequisite: Departmental approval.  2-6 hrs.
IME 7300 Doctoral Dissertation  Prerequisite: Departmental approval.  15 hrs.

Materials Science and Engineering
MSE 5320 Wood Science and Engineering  Scientific study of dendrology and forest products industry. A study of the relationship between the macro and microscopic structure in wood and wood based composites as they relate to Engineering Design. Laboratory activities will involve machining theory, wood fluid relationships, and wood stabilization. Prerequisites: MATH 3740, PHYS 2070, ME 2500, and consent of instructor.  3 hrs.


MSE 5660 Ceramics: Structure and Properties  Ceramic crystalline structure. Structure imperfections, deformation, and failure of ceramic materials. Processing, properties, and toughening mechanisms. Design with and applications of ceramic materials. Prerequisites: MATH 3740, PHYS 2070, ME 2500, and consent of instructor.  3 hrs.

MSE 6510 Corrosion Science and Engineering  Corrosion and environmental degradation of metals, alloys, ceramics and polymers. Causes, theoretical background, methods of protection and design for prevention. Prerequisites: MATH 3740, PHYS 2070, ME 2500 and consent of instructor.  3 hrs.
MSE 6530 Advanced Physical Metallurgy  Review of dislocation theory. Interactions of dislocations with point defects, other dislocations and surfaces. Electronic structure and physical properties. Advanced metallographic techniques. Prerequisites: MATH 3740, PHYS 2070, ME 2500, and consent of instructor. 3 hrs.


MSE 6950 Advanced Topics in Materials Science  A specialized course dealing with some particular advanced area of materials science not included in other course offerings. Prerequisite: Consent of advisor. 1-6 hrs.

MSE 6970 Problems in Materials Science and Engineering  Special problems based on the individual need or interest under the direction of a member of the graduate faculty. May be elected with approval of Department Chairperson and faculty member. Application must be submitted and approved prior to election of the course. 1-6 hrs.

MSE 7000 Master's Thesis  6 hrs.

MSE 7100 Independent Research  Prerequisites: Graduate status and approval of instructor. 2-6 hrs.

Mechanical and Aeronautical Engineering

ME 5300 Theoretical and Computational Fluid Mechanics  The theory and numerical implementation of ideal flow, viscous effects, and exact solutions of Navier-Stokes equations. Special emphasis will be on planning methods, conformal mapping, and singular distributions for flows around two- and three-dimensional bodies. Familiarity with VMS and some FORTRAN experience are required. Prerequisites: ME 3560 and consent of instructor. 3 hrs.

ME 5390 Advanced Thermal Design  Theory and practical thermal system design using advanced computer-aided design tools with emphasis on modeling and optimization of modern thermal elements. Prerequisite: ME 4310. 3 hrs.

ME 5400 Automatic Control of Flight Vehicles  Synthesis of basic auto pilot and stability augmentation systems for flight vehicles. Advanced flight control structures including integrated flight/fire control, control of inertial cross-coupling. Human pilot plus airframe and the relationship with lying qualities requirements. Extensive use of commercial software tools. Prerequisite: ME 3600. 3 hrs.

ME 5410 Continuous System Modeling & Simulation  Principles and methods associated with simulating continuous dynamic systems in the mechanical and aeronautical engineering disciplines. Linear and non-linear systems. Time and frequency domain analyses. Brief introduction to real-time simulation. Extensive use of current simulation software. Prerequisite: ME 3600. 3 hours (3-0)

ME 5450 Computational Fluid Dynamics I  Basics of Computational Fluid Dynamics (CFD) including classification of partial differential equations, finite difference formulations, parabolic partial differential
equations, stability analysis, elliptical equations, hyperbolic equations, scalar representations of the Navier-Stokes equations and grid generation. Prerequisites: ME 3560; CS 2010. 3 hrs.

ME 5500 Materials Science II Advanced course in both metallic and non-metallic engineering materials, including commercial alloy systems, polymers, elastomers, composite materials, and ceramics. Mechanical and physical properties useful to design are related to composition, atomic structure, and manufacturing processes. Includes failure mechanisms of metals, ceramics, polymers, and composites. Prerequisites: ME 2200, ME 2320, (ME 2500 or AAE 2500) and ME 2570. 3 hrs.

ME 5530 Advanced Product Design An engineering design project from concept to adoption. Static and dynamic analysis. Mechanical systems design and layout. Prerequisites: ME 3600, 4530. 3 hrs.

ME 5550 Intermediate Dynamics Three dimensional kinematics and dynamics of rigid bodies; equations of motion; Lagrange's equations; work and energy; impulse and momentum; virtual work; stability; computer simulation; introduction to vibrations. Prerequisites: ME 2580, MATH 3740. 3 hrs.

ME 5580 Mechanical Vibrations A study of the oscillatory motion of physical systems with emphasis on the effects of vibrations on the performance and safety of mechanical systems. Prerequisites: ME 2580, MATH 3740. 3 hrs.

ME 5600 Engineering Analysis Application of vector analysis and differential equations to the solution of complex engineering problems. Prerequisite: ME 360 or equivalent. 3 hrs.

ME 5610 Finite Element Method Development of finite element techniques for solution of one-, two-, and three-dimensional problems in heat transfer, fluid flow, structures and elasticity. Prerequisites: ME 2570, 3560, 4310, and MATH 3740 or equivalent. 3 hrs.

ME 5620 Application of Numerical Methods in Engineering Finite difference methods for initial value and boundary value problems; 2D finite differencing, boundary element methods applications to differential equations of heat transfer, fluid flow, and solid mechanics. Prerequisite: Consent of instructor. 3 hrs.

ME 5640 Engineering Noise Control Introduction to basic concepts of noise control, nature of sound and its effect on our environment. Indoor and outdoor sound propagation. Noise standards and measurements. Case studies of real-world implementation of noise control engineering. Laboratory experiments. Prerequisites: MATH 3740, ME 2580. 3 hrs.

ME 5690 Principles of Fatigue and Fracture Basics of experimental techniques and modeling used in industry to study inelastic deformations, fatigue, and fracture of engineering materials and structures. Prerequisite: ME 365 or consent of instructor. 3 hrs.

ME 5710 Gas Dynamic Basic equations of compressible flow, isentropic relationships, normal and oblique shocks. Prandtl-Meyer expansion, Fanno Line and Rayleigh Line flow. Applications to nozzles, diffusers, supersonic wind tunnels; and linearized flows and method of characteristics. Prerequisites: ME 4310, 4320. 3 hrs.

ME 5720 Advanced Thermodynamics Conditions of equilibrium, process and thermodynamic engines, the extremum principle, Maxwell relations, stability of thermodynamic systems, phase transitions, chemical thermodynamics, irreversible thermodynamics, and introduction to the statistical thermodynamics. Prerequisites: ME 4310, 4320. 3 hrs.

ME 5730 Materials in Design Material selection for resistance to both load and environment. Design parameters for material selection and various metal systems, corrosion, service failures and mechanical behavior of engineering alloys at high and low temperatures. Prerequisites: (ME 2500 or AAE 2050) and (ME 3650 or MSE 4570). 3 hrs.
ME 5750 Tribology-Principles and Applications  Surface chemistry, topographical measurement and description, contact mechanics, wear mechanisms, lubrication and film formation, hydrodynamic theory and application in bearings, application to friction and wear in machine elements. Prerequisites: ME 3560, 3650. 3 hrs.

ME 5770 Fuel Cell and Alternative Energy  Fundamentals of fuel cells, working principles and types. Function of main components, basic chemistry and thermodynamics, electrochemistry. Alternative fuels and emerging energy technologies. Fuel cell and hydrogen era. Prerequisites: (ME 3670 or ME 4320) and ME 356. 3 hours (2-3)

ME 5800 System Modeling and Simulation  This is a first course in the principles of mathematical modeling of stochastic and deterministic systems. It will focus on analytical models, mathematical rigor and computer simulation of problems. Students will simulate a number of systems using appropriate stochastic and deterministic models using a computer. Prerequisites: ECE 3710, ECE 3800 or equivalent. 3 hrs.

ME 5850 Mechatronics  A course in fundamentals of motion control, primarily as it is applied to robotics. Students will learn the basics of control systems as applied to multiaxis servo systems. Appropriate time will be devoted to develop a sound basis in the electro-mechanical discipline. Prerequisites: ECE 2100, ME 2580 and (ECE 3710 or ME 3600). 3 hrs.

ME 5860 System Identification  This is a course in model determination. Students will learn the basics of defining system structure and techniques for finding parametric values. The emphasis will be placed on the application of modeling to practical problems in the student's specific discipline. Prerequisite: ECE 5800 or ME 5800. 3 hrs.

ME 5950 Topics in Mechanical Engineering  A specialized course dealing with some particular area of mechanical engineering not included in other course offerings. Prerequisite: Consent of department. 1 - 4 hours

ME 5990 Practical Training  Designed for Master’s students who wish to pursue practical training in off-campus activities in industrial and/or other settings. To be eligible, students must be registered in the MAE department, must have completed at least 6 credits towards and advanced degree, must have had less than 6 months of prior industrial work experience in the US and have approval of their faculty advisor and Graduate Programs Director or Department Chair. Students enrolled will be classified as having full time status for the purpose of loan deferments and insurance eligibility. A maximum of 3 credits may be approved towards a graduate degree. Prerequisite: Advisor or Departmental approval. 1 – 3 hours

ME 6090 Combustion  Combustion thermodynamics and chemical kinetics. Heat and mass transfer and fluid mechanics in combustion processes. Flame propagation and detonation. Auto-ignition and source of ignition. Quenching and flammability limits. Combustion in practical systems. Prerequisites: ME 5710 or consent of instructor. 3 hrs.

ME 6210 Theory of Plates and Shells  Pure bending of plates (Kirchhoff theory). Rectangular, circular, and annular plates under lateral loads. Various edge conditions. Effects of transverse shear deformation (Mindlin theory). Large deflections of plates. Theory of curved thin shells. Deformations and stresses of cylindrical and conical shells. Prerequisite: ME 365 or consent. 3 hrs.


ME 6300 Advanced Fluid Dynamics  Modern developments in fluid dynamics of compressible and incompressible fluid flow. Includes kinematics of fluid motion, laminar and turbulent flow in pipes, fluid machinery, and supersonic flow. Prerequisites: ME 3560, 4320, and MATH 3740. 3 hrs.
ME 6320 Energy Resources and Conversion
Availability and economic utilization of energy resources. Terrestrial and thermodynamic limitations. Energy conversion applications. Fission and fusion. Applications of solar, water, wind, and geothermal energy. Prerequisite: ME 2320 or consent of instructor 3 hrs.

ME 6330 Advanced Control Systems
Digital controls, analog controls, introduction to modern control, state variable analysis, system simulation techniques, optimal design, parameter sensitivity and stability analysis, robotics control applications. Prerequisite: ME 3600. 3 hrs.

ME 6340 Digital Flight Control Systems
Analysis and design of discrete and sampled-data control systems applied to aircraft and missile systems. Basic digital system concepts, mathematical models of open and closed-loop systems containing a digital computer, and Z transform analysis. Compensation techniques applied to aerospace systems. Digital filtering, including Tustin transform and pole-zero mapping. Z plane and W plane analysis of system stability and performance. Computer simulation of sampled-data systems. Extensive use of commercial software tools. Prerequisites: ME 5330, or equivalent, and 5400. 3 hrs.

ME 6350 Turbulence
The physical nature of turbulence. Dimensional analyses. The basic equations for studying the turbulent transport of momentum and heat and their dynamical significance. Characteristics of turbulent wall- and free-shear layers. Probabilities and statistics related to turbulence and experimental methods in fluid flow. Prerequisites: ME 5300, 5600. 3 hrs.

ME 6360 Applied Optics and Optical System Design
Classical and conventional optical methods in use by the engineering and research community. Moire, Speckle and Speckle-shearing interferometry. Holographic interferometry. Photo-elasticity and electronic speckle pattern interferometry. Optics and lasers for research and industrial applications. Digital image processing and optical system design. Prerequisite: Consent of instructor. 3 hrs.

ME 6370 Design Optimization
Elements of design optimization. Defining design variables, cost functions, and constraints. Simplex method for linear problems and numerical methods for nonlinear unconstrained and constrained problems. Prerequisite: ME 562. 3 hrs.

ME 6450 Computational Fluid Dynamics II
Advanced topics in Computational Fluid Dynamics (CFD) including transformation of the equations of fluid motion from physical space to computational space, the Euler equations of gasdynamics, the Parabolized Navier-Stokes equations of gasdynamics, the Navier-Stokes equation of gasdynamics, finite volume methods and turbulent flows. Prerequisite: ME 5450. 3 hrs.

ME 6510 Advanced Strength of Materials, Elasticity, and Plasticity
Torsion of non-circular cross sections, shear center, curved beams, beams on elastic foundations, flat plates, and an introduction to two-dimensional elasticity and plasticity. Prerequisite: ME 4530. 3 hrs.

ME 6520 Mechanics of Composite Materials

ME 6530 Fatigue of Engineering Materials
Advanced approach to the problem of fatigue damage and life prediction; cyclic stress-strain response under uniaxial and multiaxial loading, fatigue limit, high and low cycle fatigue; surface integrity and fatigue life improvement. Prerequisite: ME 5690 or consent of instructor. 3 hrs.

ME 6540 Composite Materials
Introduction to matrix and fiber materials that form the basis of modern composites. Fabrication of these materials into composites. Behavior of unidirectional and short fiber composites. Experimental characterization of composites. Fracture mechanics, fatigue, impact, and environmental effects. Prerequisite: ME 3500 or consent of instructor. 3 hrs.

ME 6551 Precision Machining and Micromanufacturing
Precision machining technologies - conventional (machining, drilling, grinding), tolerances, conventional and non-traditional technologies (EDM, Si
machining, DRIE), laser micromachining, micromanufacturing, stereolithography, micro-nano embossing, microinjection molding, etc. Prerequisites: ME 5000 or ME 5750 or instructor approval. 3 hrs (3 to 0).

ME 6555 Nanofabrication Technology Micro/nano lithography, nanostructured layer deposition, electroforming of nanostructures, electron, ion and x-ray beam lithographies, alternative lithography technologies, carbon nanotubes fabrication, nanowires, characterization of nanostructures. Prerequisites: ME 5500 or ME 5730 or instructor approval. 3 hrs (3 to 0)


ME 6590 Multibody Dynamics Kinematic and dynamic analyses of constrained mechanical systems consisting of many interconnected rigid bodies. Analytical and numerical methods are presented for the computer-aided formulation and solution of the non-linear equations of motion of complex mechanical systems. Prerequisite: ME 5550. 3 hrs.

ME 6610 Advanced Finite Elements Implementation of the finite element methods: Mixed formulations. Plate bending. Time dependent problems in solid mechanics and heat transfer. Introduction to nonlinear problems. Prerequisite: ME 5610. 3 hrs.

ME 6630 Structural Vibrations Vibration response of coupled and uncoupled structures. Wave propagation, transmission, and reflection. Effects of internal and external damping, impedance discontinuities and curvature. Four-pole parameter technique for vibration isolation system design. Modal analysis. Sound generation. Prerequisite: ME 5550 or ME 5580.3 hrs.

ME 6640 Acoustics Principles of acoustics, stressing the physical concepts underlying the derivations, associated assumptions and solutions to the wave equations in bounded and unbounded fluids and solids. Topics include: acoustic wave equations; integral equations; attenuation; acoustics of pipes, ducts, cavities, wave guides and resonators; environmental, architectural, underwater acoustic transducers. Prerequisite: ME 5640 or consent of instructor. 3 hrs.

ME 6650 Sound and Structure Interaction Introduction to acoustic radiation from vibrating infinite and finite plates and the effect of fluid-loading on them. Acoustic transmission through and reflection from single-leaf and double-leaf partitions. Acoustic excitation of elastic plates and coupling between panels and open and enclosed acoustic spaces. Prerequisite: ME 5640 or consent of instructor. 3 hrs.

ME 6690 Engineering Fracture Mechanics Fundamentals of the theory of linear elastic fracture mechanics (LEFM), crack-tip opening displacement (CTTOD), J-integral, R-curve, mixed-mode fracture and fracture toughness testing. Prerequisite: ME 5690 or consent of instructor. 3 hrs.

ME 6710 Advanced Heat Transfer I-Conduction Heat Transfer Fundamental aspects of conductive heat transfer applied to steady state and transient conditions. One-, two-, and three-dimensional conduction problems with exact and approximate solution techniques utilizing the computer are studied. Prerequisites: ME 4310, 4320. 3 hrs.

ME 6720 Advanced Heat Transfer II-Convection and Radiation Heat Transfer Fundamentals of thermal radiation for black, gray, non-gray, diffuse, and specular surfaces. Gaseous radiation and special applications of thermal radiation including derivation and application of equations of mass, energy, and momentum transfer. Prerequisites: ME 4310, 4320. 3 hrs.

ME 6730 Power Plant Design Theory and application of internal combustion engines, gas turbine power plants, steam turbine power plants, and other prime movers. Emphasis is on application of thermodynamic principles combined with open-ended design problems in power plant applications. Prerequisites: ME 4310, 4320. 3 hrs.
### ME 6950 Advanced Topics in Mechanical Engineering: Variable Topics
A specialized course dealing with some particular advanced area of Mechanical Engineering not included in other course offerings. Prerequisite: Consent of instructor. 1-4 hrs.

### ME 6970 Problems in Mechanical Engineering
Special problems of individual need or interest under the direction of a member of the graduate faculty. May be elected with approval of department chairperson and faculty member. Application must be submitted and approved prior to the election of the course. 1-6 hrs.

### ME 6990 Practical Training
Designed for doctoral students who wish to pursue practical training in off-campus activities in industrial and/or other settings. To be eligible, students must be registered in the MAE department, must have completed at least 6 credits towards and advanced degree, must have had less than 6 months of prior industrial work experience in the US and have approval of their faculty advisor and Graduate Programs Director or Department Chair. A maximum of 3 credits may be approved towards a graduate degree. Prerequisite: Advisor or Departmental approval. 1 – 3 hours

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ME 7000</td>
<td>Master's Thesis</td>
<td>6 hrs.</td>
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<tr>
<td>ME 7100</td>
<td>Independent Research</td>
<td>2-6 hrs.</td>
</tr>
<tr>
<td>ME 7300</td>
<td>Doctoral Dissertation</td>
<td>15 hrs.</td>
</tr>
</tbody>
</table>

### Paper Engineering, Chemical Engineering, and Imaging

**IMAG 5100 Printability Analysis**
Relationships between printed substrate, ink, printing process and resulting print quality from both the theoretical and measurement standpoints. Print recognition and printing problems analysis from the point of view of substrate formation and its physicochemical properties, ink characteristics and the printing process parameters. Main techniques of printability evaluation will include modern optical methods of light interaction with both printed and unprinted substrate, spectrophotometry, and image analysis. Prerequisite: IMAG 3500 or 3580 or 3590 or PAPR 3420. 3 hrs.

**IMAG 6200 Paper, Printing, and Ink**
A detailed analysis of the interrelationships of paper and the printing process. Testing methods for printing smoothness, ink receptivity, picking and runnability are the major areas of concentration. Printing problems and quality are also considered as they are influenced by paper, coating, ink, and press conditions and operations. 3 hrs.

**IMAG 6210 Nonimpact Printing**
Nonimpact printing processes are discussed in terms of fundamental printing mechanisms. The effects of substrate, paper, for example, properties on the printing processes are considered. Processes discussed include electrophotography, electrography, ink jet, die sublimation, magnetography, and ionography. Prerequisites: PAPR 3420 or 3570 or equivalent. 3 hrs.

**PAPR 5000 Introduction to Papermaking**
Graduate students without sufficient background will learn paper science and paper engineering topics and laboratory techniques, including the basics of papermaking, paper properties, paper testing, and TAPPI standard testing procedures. Prerequisite: Enrollment by approval of PCI Graduate Advisor. 1 hour (0-3)

**PAPR 5301 Material Instrumental Analysis**
Instrumental techniques for analysis of the physical and surface properties of materials used in the paper and printing industries. Training to operate instruments in preparation for graduate research, or for use in other graduate level courses, and development of laboratory measurement and computer usage skills. Prerequisite: One completed laboratory science course 2 hours (1 – 3)

**PAPR 6000 Surface and Colloid Chemistry**
Intermolecular forces are considered in detail to build a sound background for consideration of surface and colloidal behavior of matter. The thermodynamics of interfaces and surfaces is covered in detail considering the topics of absorption, surface films, wetting, capillary penetration,
and diffusion. Colloidal topics covered include areas such as ionic boundary layers, electrokinetic potential, swelling
and shrinkage of gels, ion exchange, surface active agents, detergency, and retention of particles. 3 hrs.

**PAPR 6400 Coating Rheology**

The theories of flow of non-Newtonian liquids are discussed as they apply to pigmented coating systems. Further theories are formulated and evaluated in the lab to attempt to explain the behavior of coating under the shear conditions found in coating application systems. 3 hrs.

**PAPR 6410 Coating Formulations**

Intensive study of the functional properties and cost considerations involved in developing coating formulations. Contributions of pigments, additives, and binders to optical, mechanical, printing, and surface properties are discussed in the context of coating formulations. 3 hrs.

**PAPR 6500 Advanced Paper Processes**

Advanced treatment in the production of paper starting at stock preparation, including paper coating, converting, and printing. Particular emphasis on relationship of paper making to production of printing papers. Role of recycled fibers. 3 hrs.

**PAPR 6600 Mechanics and Optics of Paper and Fibers**

The mechanics and optics of individual fibers and fiber networks will be considered from both theoretical and measurement standpoints. Stress-strain-analysis, theory of elasticity and flow, statics, reflection, absorption, transmission, and light scattering of these systems will be covered. 3 hrs.

**PAPR 6910 Pulp and Paper Operations II**

Continuation of the study of the unit operations integral to pulp and paper manufacturing. The paper manufacturing phase is emphasized while completing the systematic study of unit operations used in the industry. 3 hrs.

**PAPR 6930 Environmental Systems Engineering**

The course will focus on the environmental issues associated with the pulp and paper industries. Air, water, solid waste, thermal, and noise emissions, control processes, economic, and legal issues will be studied in concert with the operation of pulp and paper manufacture. 3 hrs.

**PAPR 6950 Graduate Topics in Paper/Printing**

A special course dealing in some particular subject of interest in pulp and paper and/or printing. Prerequisite: Permission of the instructor. 1-4 hrs.

**PAPR 6960 Paper Industry Control Systems**

A study of the control of pulping and papermaking processes with emphasis on computer control strategies and the sensors and instrument systems unique to the pulp and paper industry. Areas covered include process control concepts, process response analysis, digital and distributed digital control systems, programmable logic controllers and other hardwares of control loops. 3 hrs.

**PAPR 6980 Pulping and Bleaching**

The course will cover principles of kraft and sulfite pulping, use of other pulping chemicals such as anthraquinone, borohydride, and polysulfides. It will also cover all types of high yield pulps and bleaching of both chemical and high yield pulps. Bleaching chemicals that will be discussed will include chlorine, chlorine dioxide, hypochlorite, dithionite, hydrogen peroxide, oxygen, and ozone. Various bleaching sequences that are currently in practice and under development will be discussed. Prerequisite: PAPR 3030. 3 hrs.

**PAPR 6990 Pilot Plant Research**

Research experience using the department's papermaking, recycling, paper coating, and printing pilot plants. Project management and experimental design of research. Preparation of research reports. 1 hr.

**PAPR 7000 Master's Thesis**

6 hrs.

**PAPR 7100 Independent Research**

2-6 hrs.

**PAPR 7120 Professional Field Experience**

2-12 hrs.

**PAPR 7130 Practicum in Teaching in the Discipline**

A practicum in teaching in paper and imaging science and engineering done as a collaborative effort with an experienced faculty member in an undergraduate course. 3 hrs.
PAPR 7250 Doctoral Research Seminar
Seminars presented by graduate students, faculty, and visiting lecturers concerning their research. 1-6 hrs.

PAPR 7300 Doctoral Dissertation 12 hrs.
PAPR 7350 Graduate Research 2-10 hrs.

College of Fine Arts

Art
ART 5100 Drawing Workshop
Continuation of ART 3100. Prerequisite: ART 3100. 1-6 hrs.

ART 5200 Independent Study in Art History
Problems in art history from ancient times to the present selected by the individual student in consultation with the instructor. Prerequisites: ART 2200, 2210, and a 5000-level course in the area of interest; permission of instructor. 2-3 hrs.

ART 5210 Topics in Art History: Variable Topics
Investigation of changing topics in art history in class or seminar sessions by advanced students. Course title varies from term to term. Prerequisites: Art History major or minor with junior status of higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5220 Topics in Medieval and Renaissance Art
Investigation of changing topics in Medieval and Renaissance art history in seminar sessions. Advanced theory and methods are stressed. Research papers are required. Course has variable topics. Prerequisites: Art History major or minor with junior status or higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5230 Topics in Modern Art
Investigation of changing topics in modern art in seminar sessions. Advanced theory and methods are stressed. Research papers are required. Course has variable topics. Prerequisites: Art History major or minor with junior status or higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5250 Topics in Asian Art
Investigation of changing topics in Asian art in seminar sessions. Advanced theory and methods are stressed. Research papers are required. Course has variable topics. Prerequisites: Art History majors or minors with junior status or higher; MFA candidates and other undergraduate and graduate students with permission of instructor. 3 hrs.

ART 5300 Ceramics Workshop
Advanced work in ceramics on an independent basis. Prerequisite: ART 3300. 1-6 hrs.

ART 5310 Sculpture Workshop
Continuation of ART 3310. The advanced student explores the expressive possibilities of his or her own individual sculptural direction, with bronze and aluminum casting related techniques. Prerequisite: ART 3310. 1-6 hrs.

ART 5380 Metals/Jewelry Workshop
Advanced work in jewelry design and metalsmithing. Students collaborate with the instructor to plan a suitable and particular direction for study. Prerequisite: ART 3380. 1-6 hrs.

ART 5400 Painting Workshop
Continuation of ART 3400. Prerequisite: ART 3400. 1-6 hrs.
ART 5410  Printmaking Workshop  An advanced seminar for experienced graphic students; all printmaking media available; emphasis on development of personal concepts and refinement of methods appropriate to individual needs through research.  Prerequisite: Any 3000-level print-making course. 1-6 hrs.

ART 5420  Watercolor Workshop  Continuation of advanced watercolor techniques with emphasis on experimentation.  Prerequisite: ART 3420. 1-6 hrs.

ART 5480  Photography Workshop  Professional development through research in advanced projects. Prerequisite: ART 4480. 1-4 hrs.

ART 5520  Art Education Practicum  A teaching laboratory course. Application of theories and skills in art education. Practice in methods and procedures of art education. Must be repeated for a total of 12 credits.  Prerequisites: ART 3520, ART 4520, and art education major status or instructor approval. 3 hours.

ART 5530  Independent Studies in Art Education  An arranged elective course in which the student investigates and researches a problem, a project, or trends in art education. (Not to be taken in place of required art education courses.) This course is open to graduate and non-degree level students. Prerequisites: 2520, 3520, 4520, 5520, and permission of the art education chairperson. 1-6 hrs.

ART 5540  Professional Practice in Art Education  This seminar is directly related to the concurrent internship experience (ED 4750). This course examines pre-service teachers’ practical understanding of research and theory in art education, curriculum design, effective classroom management, and professional responsibilities. A teaching portfolio will be developed that reflects the pre-service teacher’s philosophy of education, professional roles, and knowledge of historical and current issues in art and education. Must be taken twice for a total of 6 credits. Credits earned may be applied toward the Masters of Arts in Art education requirements upon acceptance into the program.  Prerequisite: ????? 3 hours

ART 5560  Video  A course that provides an advanced studio experience for students interested in working with computer tools and ideas that have affected the growth of new visual media. The class begins with the introduction to single camera video production strategies, concepts, and non-linear video editing. Prerequisite: ART 4560. 1-4 hrs.

ART 5700  Intern I  Design Practicum in Design Center. Involves an introduction to problem solving for real clients from the community and university. Focus is on the design process from concept to completion and involves client contact, budget preparation, electronic pre-press production, and interface with printers and the printing industry. Prerequisites: ART 3510 and ART 3610. 3 hrs.

ART 5710  Intern II  Design Practicum in Design Center. Involves an introduction to problem solving for real clients from the community and university. Focus is on the design process from concept to completion and involves client contact, budget preparation, electronic pre-press production, and interface with printers and the printing industry. Credits are variable due to the fact that larger more intense projects are sometimes given and the credits are determined by the depth of the project.  Prerequisites: ART 4600 and ART 5800. 3-6 hrs.

ART 5900  Drawing and Painting Studio  An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional materials/media, and become familiar with contemporary art theories in drawing and painting. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s own pedagogy.  Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5920  Photography Studio  An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional photography media and materials. Students will become familiar with contemporary art theories related to photography. The primary focus of this course of study is
on the making of original works of art and integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5930 Digital Imaging Studio An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, and investigate different processes while working with digital technologies. Students will become familiar with contemporary art theories. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s own pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5940 Ceramics Studio An instructor-directed graduate level course of study that helps the student explore the limits of clay, work toward a significant degree of growth, be innovative and creative, and gain insight and personal experience of ceramic process and technique. Traditional and contemporary approaches to clay will be demonstrated. Primary focus will be on ceramic objects, both functional and sculptural. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5950 Sculpture Studio An instructor-directed graduate level course of study that helps the student develop a personal visual language, explore a variety of aesthetic concepts, and investigate different processes while working with both traditional and non-traditional sculpture media/materials. Students will become familiar with contemporary art theories related to sculpture. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5960 Printmaking Studio An instructor-directed graduate level course of study that helps the student develop a personal pictorial language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional printmaking media and materials. Students will become familiar with contemporary art theories related to printmaking. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 5970 Metals/Jewelry Studio An instructor-directed graduate level course of study that helps the student develop a personal visual language, explore a variety of aesthetic concepts, investigate different processes while working with both traditional and non-traditional media and materials. Students will become familiar with contemporary art theories related to jewelry and metalsmithing. The primary focus of this course of study is on the making of original works of art and integrating new understandings into one’s personal pedagogy. Prerequisite: Admission to Master of Arts in Art Education program. 2 hrs.

ART 6100 Advanced Drawing Graduate level work in drawing. Prerequisites: ART 5100 and official admission to an Art graduate program. 1-6 hrs.

ART 6130 Graduating Presentation Preparation and presentation of graduating exhibition, portfolio, and oral examination with the assistance of the student's major advisor. Evaluated by the student's Graduate Committee. Prerequisite: Last year of graduate study. 2 hrs.

ART 6200 Independent Study in Art History Problems in art history from ancient times to the present selected by the individual student in consultation with the instructor. Prerequisites: ART 2200, 2210, and a 5000-level course in the area of interest or the equivalent; permission of instructor. 1-3 hrs.

ART 6210 Graduate Topics in Art History Graduate level seminar in art history covering varying topics, ranging from prehistoric to modern periods. 3 hrs.

ART 6250 Graduate Art Seminar A survey, investigation, discussion, and evaluation of selected topics in contemporary art and associated practicum activities. Topics for investigation may include: Exhibition Preparation in Galleries and Museums; the Artist and the Market; Technology and Computers in Art; Funding Artists and Art Programs; Artists and Society: The Audience and Formation of Taste; Moral Philosophy and Art. Prerequisite: Art major status. 1 hrs.
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<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 6300</td>
<td>Advanced Ceramics</td>
<td>1-6 hrs.</td>
<td>Graduate level work in ceramics. Prerequisites: ART 5300 and official admission to an Art graduate program.</td>
</tr>
<tr>
<td>ART 6310</td>
<td>Advanced Sculpture</td>
<td>1-6 hrs.</td>
<td>Graduate level work in sculpture. Prerequisites: ART 531 and official admission to an Art graduate program.</td>
</tr>
<tr>
<td>ART 6400</td>
<td>Advanced Painting</td>
<td>1-6 hrs.</td>
<td>Graduate level work in painting. Prerequisites: ART 5400 and official admission to an Art graduate program.</td>
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<tr>
<td>ART 6410</td>
<td>Print Workshop/Seminar</td>
<td>1-6 hrs.</td>
<td>Advanced research in development of personal concept, method, and uses of graphic processes. Emphasis on personal expression. Prerequisites: ART 5410 and official admission to an Art graduate program.</td>
</tr>
<tr>
<td>ART 6420</td>
<td>Advanced Watercolor</td>
<td>1-6 hrs.</td>
<td>Graduate level work in watercolor. Prerequisite: Official admission to an Art graduate program.</td>
</tr>
<tr>
<td>ART 6450</td>
<td>Advanced Graphic Design</td>
<td>1-6 hrs.</td>
<td>Graduate level work in graphic design. Prerequisites: ART 5450 and official admission to an Art graduate program.</td>
</tr>
<tr>
<td>ART 6510</td>
<td>Art Education Theory</td>
<td>3 hrs.</td>
<td>Theories of art and education as they influence art education theory and practice. Includes discussion of various historical and contemporary viewpoints in aesthetics, criticism, art history, art studio for teaching, and discussion of historic and recent developments in art education. Prerequisite: Admission to Master of Arts in Art Education program.</td>
</tr>
<tr>
<td>ART 6520</td>
<td>Recent Topics in Art Education</td>
<td>3 hrs.</td>
<td>Topical seminar. Each semester different topics will be investigated in depth in terms of instruction and assessment, curriculum development, and research. Possible topics include: Multicultural Perspectives in Art Education, Technology in Art Education, Students with Special Needs in Art Education, Assessment, Community Approaches to Art Learning, and Interdisciplinary Roles for Art in Education. Must be repeated once, under a different topic. Prerequisite: ART 6510.</td>
</tr>
<tr>
<td>ART 6530</td>
<td>Research in Art Education</td>
<td>3 hrs.</td>
<td>This course examines research and research methods used for conducting inquiry in art education. Quantitative and qualitative research models will be discussed. Methods of data collection and data analysis will be presented. Students generate research problems, prepare a literature review, and write a research proposal to guide the final graduate project in ART 6550. Prerequisites: ART 6510 and six credits of ART 6520.</td>
</tr>
<tr>
<td>ART 6550</td>
<td>Graduate Project in Art Education</td>
<td>2-4 hrs.</td>
<td>In this course a student conducts independent inquiry and prepares a written project in which a problem of some significance to the field is investigated and reported. This research is conducted under supervision by graduate faculty in art education. The project is to be composed of research conducted by the student for the purpose of demonstrating knowledge and understanding of research methods in art education, and knowledge of issues and developments in the field of art education. The project proposal is to be written and approved in ART 6530. The completed work must be approved by a committee of graduate faculty. Students who plan to work with human subjects in their research study must abide by the rules and practices established for Western Michigan University. The project itself may employ qualitative and or quantitative research methods on a topic or problem directly related to art education. This would include a phenomenological study of students in an art class context; an analysis of a premise or construct traced through the literature of art education; a survey of attitudes, beliefs, or practices conducted among arts education professionals; or the preparation and field testing of an extensive curriculum module. The use of digital media in the final form of the presentation is encouraged and will be negotiated with graduate faculty. Prerequisites: ART 6510, 6 credits of ART 6520, and ART 6530.</td>
</tr>
<tr>
<td>ART 6900</td>
<td>Advanced Studio</td>
<td>2-4 hrs.</td>
<td>An advanced graduate level course in studio. Students choose advanced work in a studio that continues work begun during a previous semester. The choices are painting and drawing, photography, digital imaging, sculpture, ceramics, printmaking, or jewelry and metalsmithing. Goals for the student will be negotiated with the instructor and designed to pursue more depth and enhanced performance than</td>
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</table>
the previous level. Prerequisite: ART 5900 or ART 5920 or ART 5930 or ART 5940 or ART 5950 or ART 5960 or ART 5970. 2 hrs.

**Dance**

**DANC 5450 Arts Administration Seminar**

The seminar will offer the student an opportunity through readings and discussions to focus on those administrative issues specific to the student’s art discipline. Prerequisite: Admission to M.F.A. in Performing Arts Administration program or permission of program director. 1 hr.

**DANC 5890 Season Planning and Production**

This course will address two components. The Season Planning component will cover the programming of an entire season of live performances focusing on program concepts, choices of facilities, scheduling, budgeting, and marketing. The Production component will address planning, schedules, touring, front-of-house management, contracting, technical production, stage management, rehearsals, and performances. Prerequisite: Admission to M.F.A. in Performing Arts Administration program or permission of program director. 2 hrs.

**DANC 5980 Readings in Dance**

Advanced students with good academic standing may elect to pursue independently a program of readings in areas of special interest. Prerequisite: Approved application required. 1-4 hrs.

**DANC 5990 Non-Reading Independent Study in Dance**

Advanced students with good academic standing may elect to pursue independently the study of some area of dance through the creative process. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Approved application required. 1-4 hrs.

**Music**

**MUS 5000 Applied Music**

Private lessons for the graduate student in a non-major area of performance. 1-2 hrs.

**MUS 5010 Master Class**

The study of literature, performance practices, and techniques for a specified musical medium (instrument or voice). Individual performance assignments will be made appropriate to each student's level of accomplishment. Class meetings may vary from small groups of students with common performance levels to meetings for the entire class for the purpose of dealing with materials and techniques common to all performers. 2 hrs.

**MUS 5100 Symphonic Band**

Prerequisite: Membership by audition. 1 hr.

**MUS 5110 University Orchestra**

Prerequisite: Membership by audition. 1 hr.

**MUS 5120 University Chorale**

Prerequisite: Membership by audition. 1 hr.

**MUS 5130 Jazz Orchestra**

Prerequisite: Membership by audition. 1 hr.

**MUS 5140 Instrumental Chamber Music**

Special ensembles formed to perform standard instrumental chamber music works. Ensembles may include a variety of combinations, e.g., string quartets, woodwind quintets, brass quintets, percussion ensembles, piano trios, etc. Credit will be given only if a sufficient rehearsal/performance schedule warrants. 1 hr.

**MUS 5160 Music Theatre Practicum**

A production experience in music theatre. Each semester culminates in an opera or musical comedy production. Open to singers, actors, accompanists, instrumentalists, and persons interested in production techniques. Admission by audition or permission of the instructor. 1 hr.
MUS 5170 Collegium Musicum  Performance of early Western music. Open to all students of the University. Additional transcription, arranging, editing, and conducting of early music is required of enrolled Music History majors. Graduate students may count not more than two hours of this course for graduation. Membership by audition. 1 hr.

MUS 5190 Gold Company  Prerequisite: Membership by audition. 1 hr.

MUS 5300 Advanced Choral Conducting  Supervised experience in conducting vocal groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: Audition required. 2 hrs.

MUS 5310 Advanced Instrumental Conducting  Supervised experience in conducting instrumental groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: Audition required. 2 hrs.

MUS 5550 Jazz Arranging  Jazz Arranging is a study of the art of arranging for the jazz ensemble—both traditional and contemporary. The course will undertake a detailed study of instrument ranges, transpositions, and sound potential, and will cover voicings, scoring practices, calligraphy, and contemporary trends within the medium. Prerequisites: MUS 1580 (or consent of Instructor) and MUS 1610; “C” or better required in each course. 2 hrs.

MUS 5560 Advanced Jazz Arranging  A study and application of the art of arranging for the jazz ensemble, studio orchestra and show orchestra. The course will undertake a detailed study of scoring for winds, brass, strings, voices and percussion in relation to traditional and contemporary trends within the medium. Prerequisites: MUS 5550 and MUS 2640 or concurrently. 2 hrs.

MUS 5580 Jazz Improvisation I  A study and directed application of the fundamentals of jazz improvisation including basic chord and scale construction and recognition, harmonic function, chord-scale relationships, and basic blues and popular song forms. All students will be required to develop aural and performance skills relative to those theory skills. Prerequisites: MUS 1580 (or consent of Instructor) and MUS 1610; C or better required in each course. 2 hrs.

MUS 5590 Jazz Improvisation II  A study and directed application of advanced techniques of jazz improvisation including chord extension, voicing, inversions and substitutions, chord function and progressions, and complex scales and their applications. All students will be required to develop aural and performance skills relative to those theory skills. Prerequisites: MUS 5580 and MUS 2180 Jazz Ensemble or concurrently. 2 hrs.

MUS 5600 Counterpoint  A study of the contrapuntal techniques of the 18th, 19th, and 20th centuries. Written assignments are closely correlated with the contrapuntal styles of significant composers. Prerequisites: MUS 1610 with a grade of C or better. 2 hrs.

MUS 5610 Counterpoint  A continuation of MUS 5600. Prerequisite: MUS 5600. 2 hrs.

MUS 5620 Advanced Compositional Topics  This course will cover advanced techniques used by composers. Topics will vary and will be announced when the course is offered. Prerequisite: Permission of instructor. 2 hrs.

MUS 5640 Seminar in Electronic Music Composition  Original music composition with digital and analogue synthesizers and computers. Creation of sound scores for concert performance, film, video, dance, theatre, or art installations. Includes the investigation of various types of sound synthesis, as well as the operation of studio sound mixers and multi-track recorders. In addition to the weekly seminar, the student will be assigned a number of hours weekly for independent work in the studio for the realization of the project, which will receive periodic guidance and criticism from the instructor. Prerequisites: MUS 26300, MUS 1000 (Composition), or permission of the instructor. 2 hrs.
<table>
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<tr>
<th>Course Code</th>
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<th>Description</th>
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<tbody>
<tr>
<td>MUS 5650</td>
<td>Seminar in Music Theory</td>
<td>Research projects in music theory. Research methods and analytic discipline are stressed. Study will be focused in an area of the student's need or interest. Prerequisite: MUS 2610. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5670</td>
<td>Orchestration</td>
<td>A study of the characteristics of instruments, and of arranging for the various individual choirs, for combinations of choirs, and for full orchestra. Prerequisite: MUS 2610. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5680</td>
<td>Orchestration</td>
<td>A continuation of MUS 5670. Prerequisite: MUS 5670. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5720</td>
<td>Baroque Music (1600-1750)</td>
<td>A survey of the choral and instrumental music of the Baroque masters such as J. S. Bach and G. F. Handel. Special attention to the development of style from monody through harmonic polyphony. Prerequisites: MUS 2700 and 2710. 3 hrs.</td>
</tr>
<tr>
<td>MUS 5730</td>
<td>Classical Music (1750-1800)</td>
<td>Examination of the chief works of Mozart and Haydn, with intensive study of symphonic form and the development of the classic opera. Prerequisites: MUS 2700 and 2710. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5740</td>
<td>Romantic Music (1800-1910)</td>
<td>Music of the important composers of the period beginning with Beethoven, along with the historical, cultural, and political background of the era. Prerequisites: MUS 2700 and 2710. 3 hrs.</td>
</tr>
<tr>
<td>MUS 5780</td>
<td>Chamber Music Literature</td>
<td>A survey of chamber music literature of the Classic and Romantic periods. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5790</td>
<td>Operatic Literature</td>
<td>A survey of opera from 1600 to the present. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5800</td>
<td>Solo Literature: (topics)</td>
<td>Solo literature for a specific medium (voice, piano, violin, etc.) will be studied from a theoretical, historical, and performance point of view. Topics to be announced. Prerequisites: MUS 2700 and 2710. May be repeated for credit. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5810</td>
<td>Choral Music Literature</td>
<td>A survey of choral music (mass, motet, anthem, cantata, oratorio) from the Renaissance through the Romantic period. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5820</td>
<td>Wind Music Literature</td>
<td>A survey of windband ensembles and literature from the Renaissance period through the twentieth century. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5830</td>
<td>Jazz History and Literature</td>
<td>A survey of the history of jazz including aspects of sociology and history as they relate to the art form of jazz. All periods in jazz history, from its earliest roots in Africa and the slave culture in the United States, up through the blues, dixieland, swing, bop, mainstream and the more eclectic period of jazz rock and free-form jazz will be explored. Important works will be examined from each period in order to grasp the essentials of a particular style. Prerequisite: MUS 5580 or department's consent. 3 hrs.</td>
</tr>
<tr>
<td>MUS 5850</td>
<td>Medieval Music</td>
<td>A survey of music in Western Europe from the end of Antiquity to the early 15th century. The major developments in style, theory, and notation will be explored within the context of the general cultural and political environment of the era. Problems of performance practice will receive special attention with emphasis on primary manuscript sources and scholarly performing editions. Prerequisites: MUS 2700 and MUS 2710. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5860</td>
<td>Renaissance Music</td>
<td>A survey of music in Western Europe from the early 15th century to the early 17th century. Developments in the major musical genres of the era will be examined with emphasis on a comparison of the Franco-Flemish tradition with the emerging national styles. Performance practice options will be explored. Prerequisites: MUS 2700 and MUS 2710. 2 hrs.</td>
</tr>
<tr>
<td>MUS 5870</td>
<td>Contemporary Music</td>
<td>A survey of trends in European music and music of the Americas from about 1910 to the present. 3 hrs.</td>
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</table>
MUS 5890 Topics in Ethnomusicology This topics course examines various methods, problems, and issues in ethnomusicalogical writing and research. Topics will vary and be announced each semester. The approach taken in the course reflects current practice in the field of ethnomusicology, drawing upon theoretical writings in a variety of disciplines including ethnomusicology, musicology, anthropology, theater, cultural studies, and women’s studies. Prerequisite: Consent of instructor for non-music majors. 3 hrs.

MUS 5900 Studies in Pedagogy Topics to be announced. Selection will be made from the following: Piano Pedagogy, Vocal Pedagogy, String Pedagogy, Brass Pedagogy, Woodwind Pedagogy, Pedagogy of Teaching Theory, or similar topics. Prerequisite: 3000-level applied voice or permission of instructor. 1-4 hrs.

MUS 5940 Electronic Media The purpose of this course is to expose the student to the equipment used in various recording situations and its operations, as well as discussing the artistic use of this equipment. Although predominately a technique course, areas which affect the creative aspects of the final recording will be discussed (such as microphone placement, tasteful vs. inappropriate editing, etc.) In addition to the recording aspects, other electronic instruments used in performances will be surveyed, including synthesizers of various types (both keyboard and non-keyboard) and traditional electronic instruments (guitars, electronic organs, electronic pianos, and various sound modification devices). 2 hrs.

MUS 5950 Workshops in Music Education Intensive, short-term courses that address the instructional and pedagogical issues found in today's schools, as well as issues of specific concern for current teachers in the field of music. Topics will be from all areas of music education. Prerequisite: Advisor consent. 1-4 hrs.

MUS 5960 Multi-track Recording A course in the theory and techniques of multi-track recording and mixing. Students begin with an in-depth study of the mechanics of a multi-track recorder and the signal flow of a recording/mixing console. Microphone techniques as well as various approaches to room set-up are presented through reading assignments and studio demonstrations. Attention is given both to traditional techniques and the need for engineers to try new approaches to familiar circumstances. Students also study the most commonly used signal processors and how they might be used during recording of mixing for best results. Various listening assignments introduce students to the subtleties of mixing. A final project is required wherein each student must organize and execute a full 24-track production, from microphone selection through the final mix. Prerequisite: MUS 5940 or instructor consent. 2 hrs.

MUS 5970 Projects in Music A program of independent study to provide the unusually qualified music student with the opportunity to explore a topic or problem of interest, under the guidance of one of the faculty of the department. The initiative for planning the project must come from the student and must be approved by the faculty member proposed to supervise the study. Prerequisite: Application approved by School of Music. 1-4 hrs.

MUS 5990 Projects in Recording Technology An independent study allowing the unusually qualified student the opportunity to explore a topic or problem in recording technology. Prerequisites: MUS 5960, approved application, and instructor permission required. 1-4 hrs.

MUS 6000 Applied Music Private lessons for the graduate student in the major performance area. Includes conducting. 1-4 hrs.

MUS 6070 Conducting Master Class A course designed to explore the multiple roles of the conductor. Topics may include philosophy aesthetics, ensemble organization and administration, collaborative literature, working with guest artists and rehearsing ensembles outside students’ area of expertise. Course may be repeated for credit. Prerequisite: Admission to the graduate conducting program or conducting as an approved cognate. 1 hr.

MUS 6100 Introduction to Research in Music A course in the general methods and techniques of research in the field of music. Students will complete a comprehensive bibliography, an annotated bibliography, and a research paper in the area of concentration of their graduate program of study. 3 hrs.
MUS 6110 Introduction to Empirical Research in Music  A course in fundamental principles and procedures of empirical research. Students will plan and write a research proposal; understand and evaluate research studies; and organize, analyze and report on data generated by common research designs. 3 hrs.

MUS 6140 Chamber Music Ensemble  Special ensembles comprised of graduate students to perform chamber music works. Ensembles may include a variety of combinations, e.g., string quartets, woodwind quintets, percussion ensembles, piano trios, vocal ensembles, etc. Prerequisite: Approved application. 1 hr.

MUS 6170 Opera Workshop  A production experience in acting, singing, accompanying, and producing of musical theatre. The class is offered each semester and culminates in the performance of an opera or operatic scenes. Open to advanced singers, pianists, and persons interested in production techniques. Admission is by personal interview with the instructor. 2 hrs.


MUS 6410 Choral Techniques and Organization  The study of choral activities in relation to organization, repertoire, style, diction, singing technique, balance, blend, tone quality, phrasing, rehearsal technique, and conducting. 2 hrs.

MUS 6450 Arts: Aesthetics and Criticism  This course will focus on addressing the “common threads” in the performing arts utilizing theories of aesthetics and criticism as well as the elements that are unique to each discipline. Extensive readings in aesthetics and critical theory will be required, as well as the study of historical aspects of the discipline. Students will be expected to attend a number of arts performances/events in dance, music and theatre disciplines, and reflect their understanding of readings and discussions through written assignments. Prerequisite: Admission to the Master of Music or the M.F.A. in Performing Arts Administration programs or permission of instructor. 3 hrs.

MUS 6620 Seminar in Composition  The completion of an original composition of larger scope for any combination of acoustic instruments, and which may include multi-media. Seminars will include analysis of advanced contemporary works, discussion of current trends in music composition, and reading assignments. This course may be repeated for credit. Prerequisite: MUS 3620 or equivalent. 2 hrs.

MUS 6700 Seminar in Musicology  A course designed to permit the student to explore selected areas of music history. A project is required which will be subject to group analysis and discussion. This course may be repeated for credit. 2 hrs.
MUS 6720 Seminar in Jazz A course designed to permit the student to explore selected areas in jazz studies. A project is required which will be subject to group analysis and discussion. This course may be repeated for credit. 2 hrs.

MUS 6740 Seminar in Music Theory A course designed to permit the student to explore areas of music theory. A project is required which will be subject to group analysis and discussion. This course may be repeated for credit. 2 hrs.

MUS 6790 Composers An investigation of the life and works of a significant composer. This course may be repeated for credit. 2 hrs.

MUS 6800 Seminar in Music Therapy A course designed to permit the student to explore selected areas of music therapy, i.e., therapeutic techniques, evaluation procedures, or role of music therapy in a variety of settings (hospital, school, community). A project is required, which will be subject to group analysis and discussion. This course may be repeated for credit. 2 hrs.

MUS 6810 Research in Musical Behavior Development and employment of research methods and techniques applied to the psychology of music and/or music education. Students enrolled in this course will be responsible for an experimental research project which, in the case of music education students, will satisfy the "terminal project" requirement (MUS 6910) or, in the case of music therapy students, will provide the data basis for the required MUS 7000, Master's Thesis. When this course is the culminating project for the master's degree, an oral examination on the project and related areas is an integral part of the requirements. Prerequisite: MUS 6110 or ED 6010. 2 hrs.

MUS 6900 Graduate Recital Presentation of a full-length recital in the student's area of concentration (music performance or composition). When this course is the culminating project for the master's degree, an oral examination on the recital materials and related areas is an integral part of the requirement. 2 hrs.

MUS 6910 Special Project in Music Education A research project in the area of the teaching of music. The nature of the special project is to be determined in consultation with the Graduate Advisor and appropriate members of the graduate faculty. Projects must be approved prior to registration. When this course is the culminating project for the master's degree, an oral examination on the project and related areas is an integral part of the requirements. This course may be repeated for credit. 2 hrs.

MUS 6980 Readings in Music An advanced, designated project of study. Graduate students may enroll in this course after consultation with the graduate advisor. Prerequisite: Approval of graduate advisor. 1-4 hrs.

MUS 7000 Master's Thesis 6 hrs.
MUS 7100 Independent Research 2-6 hrs.
MUS 7120 Professional Field Experience 2-12 hrs.

Theatre
THEA 5600 Audience Development This course will focus on the goals, functions, and means of audience development, with special attention to audience education in the arts. Topics will include the use of quantitative and qualitative analytical techniques to determine bases for creating programs to reach targeted, potential audiences based on demographics; developing master classes, residencies, special presentation, instructional material and post-performance experiences for targeted groups; and methods of evaluating the results of specific programs developed for a specific purpose. Prerequisite: Admission to the M.F.A. in Performing Arts Administration or permission of program director. 2 hrs.

THEA 5610 Facility and Ticket Office Operations This course will address issues in facility management for presenting and producing performances and special events (e.g., handling food service for premieres and openings of shows, fundraisers, rentals, etc.) with consideration for the size of the performance space including an overview of the physical operations of such a facility, and the use of auxiliary spaces (e.g., Miller...
Auditorium, Gilmore Theatre Complex, Dalton Center Recital Hall, Multi-Media Room, Dance Studio B, etc.). The course will also include basics of setting up and running a ticket office for both manual and computerized systems, as well as special sales, audit requirements and artist payments based on percentages. Personnel requirements will be included in relation to the variable above. Prerequisite: Admission to the M.F.A. in Performing Arts Administration or permission of program director. 2 hrs.

THEA 6120 Practicum in Arts Administration Students in the M.F.A. in Performing Arts Administration will be placed with area arts organizations and at some campus sites (e.g., Miller Auditorium) in situations where they will work along side professionals in various aspects of arts administration. These experiences may take place during various times of the academic year and are offered for variable credit to allow for the greatest flexibility. Prerequisite: Admission to the M.F.A. in Performing Arts Administration or permission of program director. 3-9 hrs.

College of Health and Human Services

Alcohol and Drug Abuse

ADA 5200 Family and Addiction This course provides students with knowledge on the effects of substance abuse on the family. Included is theory and practice regarding dysfunctional relationships, children of substance abusers, and resulting disorders. 3 hours

ADA 5250 Women and Substance Abuse Treatment This course provides knowledge on gender specific treatment of substance abusers. This includes physiological aspects of women, as well as cultural aspects and methods to enhance the treatment of women substance abusers. 3 hours

ADA 5300 Clinical Theory in Substance Abuse Services This course covers selected theories which form the foundation for substance abuse services practice in specific areas. Students are expected to master the content as a basis for building foundation knowledge for applied practice. The specific topics are announced with each semester offering. 1-4 hours

ADA 5350 Drug Testing This course explores the theory and practice of drug testing and its applications in both clinical practice and employment settings. The spectrum of testing ranges from field dexterity to gas chromatography. Federal requirements are reviewed for application in both clinic and work settings. 3 hrs.

ADA 5370 Constructive Confrontation and Referral in Substance Abuse Services This course provides students with knowledge of intervention strategies for active substance abusers. Emphasis is placed on strategic constructive confrontation techniques and effective referral processes. 3 hrs.

ADA 5400 Current Issues in Alcohol and Drug Abuse This course, taught in seminar, reviews basic and applied research advances in prevention and treatment of substance abuse. Emphasis is on bridging research advances to practice areas. The focus of the course is research published in the previous year. 1 hr.

ADA 5410 Group Home Treatment This course reviews custodial, milieu, and function aspects of group home treatment. Theories and practices are presented with emphasis on long-term treatment outcomes. 1-6 hrs.

ADA 5450 Alcohol, Drugs, and Aging The problems of alcohol, medication, and legal and illegal drug use, misuse, and abuse among older persons will be discussed. Prevention, intervention, and treatment will be considered. 3 hrs.

ADA 5600 Clinical Practice in Selected Substance Abuse Services Areas This course covers variable topics in clinical substance abuse services practice. It is a skills development course which helps students to become proficient in specific techniques and procedures related to client service. The specific areas are announced with each semester. 1-4 hrs.
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<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tr>
<td>ADA 5650</td>
<td>Alcohol, Drug Abuse, and Violence</td>
<td>This course provides the student with knowledge on the multiple relationships of substance abuse and violence, child abuse, and other assaultive behaviors.</td>
<td>3 hrs</td>
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<tr>
<td>ADA 5670</td>
<td>Legal Offenders and Substance Abuse</td>
<td>This course provides the student with knowledge on the theories associating substance abuse with criminal and civil offenses. Specific focus is on the treatment strategies and techniques related to the offending population and long-term outcomes of decreased recidivism.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>ADA 5700</td>
<td>Field Education: Substance Abuse</td>
<td>A clinical, prevention, research, or administrative field experience in substance abuse services. The field experience involves direct supervision by faculty and clinical supervisors. Prerequisite: Admission to certificate program and permission of instructor.</td>
<td>1-6 hrs</td>
</tr>
<tr>
<td>ADA 5800</td>
<td>Substance Abuse Prevention</td>
<td>This course explores the multiple theories and techniques used in the prevention of substance abuse. The history and evolution of prevention is presented, as well as cognitive, affective, and behavioral strategies.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>ADA 5850</td>
<td>Student Assistance Programs</td>
<td>This course provides students with knowledge of the theories and practices of student involvement with drugs, intervention strategies, referrals, and follow-up.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>ADA 5900</td>
<td>Applied Alcohol and Drug Dependence Recovery Techniques</td>
<td>This course provides the student with knowledge of self-help groups and formal relapse prevention strategies. Application of relapse prevention strategies are integrated into multiple aspects of the continuum of care.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>ADA 5980</td>
<td>Readings in Substance Abuse Services</td>
<td>This course is offered as independent study and reading under the guidance of a faculty member. Initiative for planning the topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor and program advisor.</td>
<td>1-4 hrs</td>
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<tr>
<td>ADA 6060</td>
<td>Causes of Substance Abuse</td>
<td>This course will examine the three major theories that explain the causes of psychoactive substance use: the biological, psychological, and sociological. The historical responses of society to substance use such as strategies including control, prevention, intervention, and treatment will be outlined and the research of various epidemiologic patterns and social correlates of substance use will also be studied. (Cross-listed with CECP 6340 and SWRK 6530).</td>
<td>3 hours</td>
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<tr>
<td>ADA 6100</td>
<td>Drugs and the Workplace</td>
<td>This course provides knowledge of work based programming theories and practices regarding drugs of abuse. Course work and readings focus on policy formulation and implementation of procedures.</td>
<td>3 hrs</td>
</tr>
<tr>
<td>ADA 6110</td>
<td>Physical Aspects of Addictive Drugs</td>
<td>This course will have students examine the neurobiology of the addiction process, treatment of cognitive deficiencies, and mental and medical health conditions that may mimic or co-exist with substance abuse disorders. Current literature will be utilized in order to address medical and pharmacological interventions and treatment.</td>
<td>3 hours</td>
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<tr>
<td>ADA 6115</td>
<td>Applied Neuropsychopharmacology of Addictive Drugs</td>
<td>The intent of this course is to provide students with an advanced understanding of the physiological and behavioral processes involved in psychoactive substance use, misuse, and addiction. An emphasis will be placed on the major and minor classifications, biology, and pharmacology of commonly abused legal and illegal psychoactive substances. The course will include a history of drug use, drug metabolism, dependence, withdrawal, and practice and policy application for recovery, prevention and treatment.</td>
<td>3 hours</td>
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<tr>
<td>ADA 6170</td>
<td>Etiologies of Substance Abuse</td>
<td>A study of various social and behavioral theories regarding the causation of alcohol and drug addiction. The findings of research will be examined as they tend to support or disaffirm these social and behavioral theories.</td>
<td>3 hrs</td>
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ADA 6300 Legal and Illegal Drugs of Abuse  This course deals with the pharmacological aspects of psychoactive/psychotropic drugs having abuse potential. Special emphasis is placed on observable signs and symptoms resulting from use/abuse/dependence of those drugs.  3 hrs.

ADA 6310 Seminar in Substance Abuse I  This interdisciplinary seminar is designed to reflect broadly conceived intervention strategies ranging from primary prevention to rehabilitation of the addict.  3 hrs.

ADA 6320 Seminar in Substance Abuse II  Continuation of ADA 6310.  3 hrs.

ADA 6330 Special Populations in Addiction  This course will examine the social, political, economic, and cultural context in which substance abuse exist, including risk and resiliency factors of individuals and groups. Multicultural issues will be addressed in regards to strategies for prevention, treatment, and recovery and students will be expected to participate in self-exploration of their beliefs, values, and behaviors.  3 hours

ADA 6340 Recovery Oriented Systems of Care  This course will examine the understanding that recovery from substance abuse and dependency is a process of change which occurs within a systemic model of care that includes prevention, intervention, treatment, and management of substance abuse disorders. Students will have exposure to various substance abuse screening and assessment instruments, counseling strategies, and treatment modalities in order to assess, treat, and refer to the appropriate service providers along the continuum of care. (Cross-listed with CECP 6360 and SWRK 6550).  3 hours

ADA 6400 Co-Occurring Disorders and Addictions  The course will instruct students on how to screen for co-occurring disorders with various assessment tools, address each diagnosis in a comprehensive treatment approach, and assist them in developing skills to deliver supportive, appropriate treatment services for clients with more than one disorder.  3 hours

ADA 6410 Addiction in Family Systems  This course will examine how substance use disorders affect family members, couples, and significant others as well as how they impact and influence the user. In addition, the models of diagnosis, assessment tools, and methods of intervention for these groups will be identified and discussed. Strategies and behaviors that family members, couples, and significant others must adopt in order to assist in sustaining recovery and healthy relationships will be outlined.  3 hours

ADA 6420 Clinical Supervision of Addiction Services  This course will prepare students to understand the various clinical supervision theories, roles, and modalities in order to implement leadership in the counseling profession. Moreover, aspects of the supervisory alliance will be addressed as well as issues surrounding critical thinking, self-awareness, competency, and organizational/administrative skills.  3 hours

ADA 6500 Substance Abuse Assessment  This course deals with the physical, social, psychological, vocational, economic, and legal symptoms of substance abuse. Instrumentation for assessment in clinical practice is presented as well as medical and non-medical diagnostic criteria. This course includes clinic-based instruction in assessment strategies.  3 hrs.

ADA 6700 Field Practicum  The field practicum component of the graduate certificate is designed to be a capstone learning experience during which students, with the guidance and assistance of those persons who are currently working in the substance abuse field, can apply the knowledge and information obtained in the academic setting to further develop and refine his/her skills. Since skills are acquired by the application of information, knowledge, and many hours of practice, field practicum is required of all students in order to complete the graduate certificate in substance abuse.  3 hrs.

ADA 6800 Clinical Supervision in Substance Abuse Service  This course explores the theories and techniques used in the provision of clinical supervision to substance abuse services practitioners. Direct clinical supervisory skills are covered in detail and clinic-based instruction in clinical supervision is included.  3 hrs.

ADA 7120 Professional Field Experience  2-12 hrs.
Blindness and Low Vision Studies

BLS 5770 Services for Persons Who Are Blind or Have Other Disabilities  This course explores issues that affect services for people who are blind or have other disabilities. It includes prevalence and incidence of various disabling conditions, adaptive recreation, history and current status of service legislation, consumer organizations, professional organizations, accreditation, models of service delivery, national and international agencies and organizations, national and international resources, social service programs, and trends and future issues.  1-2 hrs.

BLS 5840 Computer Technology in Rehabilitation  This course is designed to introduce the student to computer technology, as it relates to persons with disabilities. Students will learn the uses, parts, and operating commands of common adaptive computers, as well as the software used with them. In addition, the major adaptive forms of input and output are investigated.  3 hrs.

BLS 5860 Job Development and Placement  This course applies career choice and job placement concepts to persons with disabilities. It includes occupational aspects of disability, pertinent laws and regulations including ADA and sections 5010-5040, labor market analysis, job analyses, rehabilitation engineering, job development, and work modification strategies. It provides experience in making employer contacts, overseeing clients' job seeking efforts, and training in job-related social skills.  3 hrs.

BLS 5880 Psychosocial Aspects of Disability  This course provides an understanding of the psychosocial factors that impact upon the integration into society of individuals with disabilities. It examines the philosophy of rehabilitation, major classifications and paradigms, common stereotypes, attitudes and their measurement, psychiatric disabilities, theories of adjustment, psychosocial losses, issues relating to sexuality, personal adjustment training, the role of the family, the use of effective interaction skills, and the stages of group process.  2 hrs.

BLS 5890 Medical and Functional Aspects of Rehabilitation  This course presents an interdisciplinary approach to the study of multi-handicapping conditions in rehabilitation. It includes information on the major disabling conditions such as traumatic brain injury, orthopedic, neuromuscular, visual, learning, speech and hearing, cardiovascular, mental and emotional disabilities, and other selected disabilities. Emphasis is placed upon the cumulative effects of concomitant disabilities with additional emphasis on visual impairment.  2 hrs.

BLS 5900 Physiology and Function of the Eye  The anatomy, structure, and function of the eye, along with various eye diseases and malfunctions, are stressed in this course. The student is familiarized with various eye conditions, and their relationship to rehabilitation practice is emphasized.  2 hrs.

BLS 5910 Braille and Tactual Communication Systems  This course is designed to teach the Braille literary code as it applies to Rehabilitation Teaching. Braille teaching methods are also presented.  2 hrs.

BLS 5920 Orientation and Mobility with Children  This course will provide strategies for teaching orientation and mobility to children. Methods for teaching the typical orientation and mobility curriculum to children (indoor travel to business travel) will be presented. In addition, strategies for teaching areas specific to children, such as body image, sensory-motor, and concept development will be addressed. The focus will be on practical application in educational settings.  2 hrs.

BLS 5930 Methods of Teaching Adaptive Communications  Adaptive communication methods used by visually impaired persons and the techniques of teaching them are explored in this course. Specifically, Braille, handwriting, listening, and recording devices, and typewriting are presented. This course also includes a supervised practical teaching experience with a visually impaired person.  2 hrs.

BLS 5950 Introduction to Orientation and Mobility  The content of this course relates to problems of independent travel which result from reduced vision. Simulated experiences are provided which emphasize the sensory, conceptual, and performance levels needed for independent travel in a variety of environments.  Prerequisite: Restricted to students enrolled in the Orientation and Mobility and Special Education/Orientation and Mobility programs.  2-4 hrs.
BLS 5960 Electronic Devices  Systematic instruction in use of fundamental electronic travel aids and overview of major electronic devices. Prerequisite: BLS 5950. 1 hr.

BLS 5970 Principles and Practices of Low Vision  This course deals with assessment and remediation of functional problems encountered by low vision persons. Emphasis is placed on optical, non-optical, and electronic aids which increase visual functioning. In addition, the nature and needs of low vision persons and the interprofessional nature of low vision services are stressed. The concepts are explored that deal with initial intake procedures, assessment of near and distant visual acuity, assessment of near and distant visual field, color testing, evaluation of sunwear, evaluation of optical aids, training in the use of optical and non-optical aids, and use of equipment such as the lensometer and tonometer. Prerequisite: Approval of advisor. 2 hrs.

BLS 5980 Readings in Blindness and Low Vision  This course is arranged on an individual basis to provide students an opportunity to independently pursue an in-depth study of special areas of interest. 1-4 hrs.

BLS 6010 Small “N” Research: Design and Analysis  This course explores standard group research design, single subject and small numbers design. The emphasis is placed upon providing students with a working knowledge of an experimental methodology for demonstrating control in social/behavioral research where more traditional experimental control group paradigms are not feasible or desirable. This approach is based on an experimental methodology for demonstrating control with single or small numbers of subjects which includes design, internal replication, measurement, reliability, and visual or statistical analysis. 3 hrs.

BLS 6020 Gerontology in Orientation and Mobility and Rehabilitation Teaching  Elderly individuals who are visually impaired have specific rehabilitation needs that differ from those of younger people. This course is intended to provide students with discipline specific knowledge and adapted skills necessary to assist older persons who are blind or visually impaired meet their independent living and travel needs. The course begins with a brief overview of aging. Topics then include vision loss related to aging, assessment, hearing and vision screening, environmental evaluation and modification, and adaptation of independent living and travel techniques for people who are elderly. 2 hrs.

BLS 6040 Issues in Travel  This course is taken concurrently with BLS 5950. It presents theoretical content which facilitates effective teaching of independent travel skills to visually handicapped individuals. The topics of this course include development and use of spatial maps, use of the computer in mobility, conditions of travel, orientation to various environments, and types of guidance devices. Prerequisite: Restricted to students enrolled in the Orientation and Mobility and Special Education/Orientation and Mobility programs. 2 hrs.

BLS 6050 Practice in Low Vision  This is a laboratory course which provides experiences in initial intake procedures, assessment of near and distant visual acuity, assessment of near and distant visual field, color testing, evaluation of sunwear, evaluation of optical aids, training in the use of optical and non-optical aids, and use of equipment such as the lensometer and tonometer. Prerequisite: Approval of advisor. 1 hr.

BLS 6060 Adaptive Sports Activities for Visually Impaired Children  This course introduces students to the adapted methods that are utilized in teaching physical education, recreation, and sports skills to young learners with visual impairments. The course will include a combination of lecture and practice. It will present: a) basic techniques and rules for each sport, b) techniques for adapting the activities, c) methods for teaching these techniques, d) an overview of appropriate elementary games, and e) resources useful for obtaining sports and recreational materials and information. Participation will be required. Each enrollee will take part in many physical activities while under the blindfold or using low vision simulators. 1 hr.

BLS 6070 Adaptive Art Activities for Visually Impaired Children  This course will prepare students to instruct children who are visually impaired in the application of three-dimensional media such as raised line drawing, braille graphics, clay, plaster, wood, etc. 1 hr.

BLS 6100 Assisted Research  This course requires a semi-independent research project related to rehabilitation. The student contributes a project that has been developed by a faculty member and is conducted by more than one student. 1-6 hrs.
BLS 6300 Special Topics in Blindness and Low Vision This is a variable topics, variable credit graduate level course for consideration of current and special interests in blindness and low vision studies. Specific topics and number of credit hours will be announced each time the course is scheduled. 1-4 hrs. (variable credits)

BLS 6640 Principles of Rehabilitation Teaching This course is concerned with the development and the current status of rehabilitation teaching as an occupation, with particular emphasis upon the teaching methods and human interrelationships which are essential in instructing visually impaired adults in skills of independent living. 3 hrs.

BLS 6910 Practicum in Rehabilitation Teaching This course provides supervised teaching experiences with blind or visually impaired individuals in a variety of settings. Course Prerequisite: Restricted to students enrolled in the following programs: Rehabilitation Teaching and Rehabilitation Counseling and Teaching. 1-2 hrs.

BLS 6940 Principles of Orientation and Mobility This course is concerned with the development and current status of orientation and mobility as an occupation. It emphasizes the perceptual and cognitive bases of travel with impaired vision as well as teaching methods and human interrelationships which are essential for effectively instructing visually impaired adults in skills of independent travel. 3 hrs.

BLS 6950 Practicum in Orientation and Mobility This course provides supervised teaching experiences with blind or visually impaired individuals in a variety of settings. Included within this course is a weekly seminar to discuss procedures of assessment, principles of professional practice and effective strategies. Prerequisite: Restricted to students enrolled in the Orientation and Mobility programs. 1-3 hrs.

BLS 6970 Clinical Practice in Low Vision The course will familiarize the student with current practice and resources in the administration of a comprehensive low vision service. Further, the course allows for a practicum to be served in a low vision clinic where the student gains experience both in administration of the service, and in applied training methodologies with low vision clients. Prerequisites: BLS 5970 and 6050. 3 hrs.

BLS 6990 Research Projects in Blindness and Low Vision Studies Special research projects of individual need or interest under the direction of a BLS faculty member. May be elected with approval of department chairperson and faculty member. Application must be submitted and approved prior to the election of this course. Prerequisite: Restricted to students enrolled in the Orientation and Mobility and TCVI/Orientation and Mobility programs. 1-6 hrs.

BLS 7100 Independent Research This course requires the completion of a research project related to rehabilitation and conducted with faculty guidance. Prerequisite: Restricted to students enrolled in the Orientation and Mobility, Rehabilitation Teaching, Rehabilitation Counseling and Teaching, and TCVI/Orientation and Mobility programs. 2-6 hrs.

BLS 7120 Professional Field Experience This course requires a supervised internship experience in an organization that serves blind and visually impaired persons, during which the opportunity is provided for practical application of principles and methods in blind rehabilitation. Prerequisite: Restricted to students enrolled in the Orientation and Mobility, Rehabilitation Teaching, and TCVI/Orientation and Mobility programs. 2-12 hrs.

Bronson School of Nursing
NUR 5300 Historical & Theoretical Foundations of Nursing and Health Care This course focuses on the theoretical and historical foundations of the American “health care system” (the hospital, self-care, and public health). Ideas, events, and people are introduced and examined for their influence and significance in sculpting both the institutions and the social roles of health care providers. The interrelationship among nursing and the social, political, economic, and intellectual contexts are considered. Theories, conceptual models, and ways of thinking about health, disease, the illness experience, nursing, and relationships within the health care system are
NUR 5310 Advanced Professional Nursing  This course focuses on forward-thinking approaches for the profession of nursing in the 21st century. New definitions of advanced professional nursing will be discussed and challenged. This course, building upon the introduction to professional nursing in the undergraduate program, addresses such areas as informed practice, the culture of nursing, current and future roles of nurses, the dynamics of professional development and professional practice strategies. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval.  3 hours

NUR 6300 Ethics and Culture; Foundations for Leadership  This course draws upon the disciplines of philosophy, ethics, and the social sciences in examining key concepts of professional practice that form the foundations for leadership. The key concepts include professional obligations, duties, and rights and cultural competence. The course builds upon the ethical and cultural foundations in the undergraduate program and leads to an increased understanding of the relationships between socio-cultural contexts, ethics, and the health/illness beliefs and practices of individuals, families, and communities from diverse backgrounds. Key aspects of relationship-centered care and the promotion of a holistic approach to meeting the health and illness needs of diverse individuals, groups, and communities provide a common basis for exploring what it means to be a culturally competent, ethical health care professional and leader in health systems or education. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval.  3 hours

NUR 6310 Community focused Care: An Interdisciplinary Approach  Relationship Centered Care and a holistic understanding of the nature of human beings, how they respond to health and illness, and the key role that health professionals play in promoting health and well-being of individuals, groups and populations is the focus of this core science course. The increasing complexity of illness care for populations with several chronic conditions calls for new ways of addressing client needs. Content includes interdisciplinary perspectives of health and illness, basic principles of epidemiology, community-based assessment and evaluation, issues of equity, and levels of prevention. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval.  3 hours

NUR 6320 Health Care Policy, Organization & Financing  This course provides an overview for understanding health care policy, organization, and financing of health care within a systems analysis framework. Current literature and research related to health care policy development and the health care delivery systems are examined. Specific attention is paid to the role of nursing leadership in policy development and in changing the health care delivery and the health care education of systems. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval.  3 hours

NUR 6400 Professional Inquiry: Qualitative and Quantitative Methods  This course focuses on qualitative and quantitative methods of inquiry and the appropriate analyses with associated packages used for those studies. The course builds upon the foundations of research critique and evidence for informed practice studies at the baccalaureate level. The outcome of the course is the development of a proposal. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval.  3 hours

NUR 6410 Methods for Measuring Quality in Health and Educational Systems  This course analyses various levels of quality found in health care systems and educational institutions for the purposes of comprehensive evaluation and to improve individual, operational and organizational effectiveness. The course presents knowledge about major theories of quality management and quality metrics with actual case and practice examples. Additionally, the course will examine how such quality levels may or must be targeted for improvement. Students are expected to participate in the development of specific quality measures and explain the prospective use of such measures in an operational, practice, or organizational system. Prerequisites: Admission to the Master of Science in Nursing program or instructor approval.  3 hours

NUR 6500 Health Care Information Systems and Technology  This course provides nurse leaders with working knowledge of technical, user and environmental factors that are important to consider in the selection and use of clinical information systems that support nursing care and decision making processes. It builds on the foundations of informatics taken at the baccalaureate level. Students will gain an understanding of technology, data,
human processing, and standards related to clinical information systems, and how these elements are used to make evidence-based decisions in health care systems and services. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval. 3 hours

NUR 6510 Leadership in Organizations and Systems This course is designed to explore ways to demonstrate effectiveness of health care interventions and quality of care. Health care professionals are now expected to make decisions based on evidence of effectiveness at individual, unit, and systems levels. This course focuses on higher order interdisciplinary critical thinking, strategic planning, and leadership for transformational change within health/illness care organizations and systems. Content relative to the changing requirements of health/illness care within the USA and the changing workforce needs is included. Emphasis is placed on the leadership role that nurses can play in creating healthcare systems that are safe, effective, and accessible to all. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval. 3 hours

NUR 6520 Health Care Financing and Reimbursement This course provides an in-depth analysis of current methods for financing and payment for services rendered across sites of service. This course explores both traditional and non-traditional financing mechanisms, the role of state and national governments, professional associations, and insurance companies in setting limits of coverage, and current payment methods, including billing codes. Foci include managing nursing resources including personnel, supply and capital budgets, and the role of the nurse leader in using this information to plan for quality service delivery. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval. 3 hours

NUR 6530 Clinical Nurse Leadership Practicum This course is designed to provide a mentored internship practicum that offers the opportunity to apply leadership content and refine leadership abilities in a setting and practice area mutually agreed upon by the student and course faculty. The practicum experiences will occur at the organizational or system level. Requirements include a written contract with specified outcomes developed by the student, and agreed to by the preceptor/agency, and course faculty. One outcome of the practicum will be the completion of a formal report on an agency or system–specific project demonstrating clinical nursing leadership. Periodic seminars are included. Prerequisites: Admission to the Master of Science in Nursing program and successful completion of NUR 6500, NUR 6510, and NUR 6520. 3 hours

NUR 6600 Curriculum and Teaching of Theory in Health Disciplines This course is designed to provide experienced health professionals currently holding (or planning to hold) faculty positions, with the theoretical foundations of how adults learn, how to design curricula in a health professional discipline, what and how to teach in the theoretical domain, and how to evaluate whether learning has occurred. The primary focus of the course is promoting excellence in classroom teaching with adults. Content includes values clarification, personal learning styles, critical thinking and communication strategies. Micro-teaching with peer assessment is included. A designated mentor teacher, nominated by the student and approved by the course director, works in partnership with the student and WMU faculty. Prerequisite: Admission to the Master of Science in Nursing program or instructor approval. 3 hours

NUR 6610 Clinical Teaching and Evaluation in Health Disciplines This course is designed to provide experienced health professionals currently holding (or planning to hold) faculty positions with the theoretical and practical aspects of teaching and evaluating learner performance in practice settings. The focus of the course is on clinical teaching and evaluation, preceptor preparation, and issues related to establishing and maintaining clinical sites for student learning. The theories and principles of teaching and learning related to adults explored in NUR 6600 provide the theoretical foundations, with application for the practice setting. A designated mentor teacher with a master’s or doctorate degree, nominated by the student and approved by the course director, works in partnership with the student and WMU faculty. Prerequisites: Admission to the Master of Science in Nursing program or instructor approval and successful completion of NUR 6600. 3 hours

NUR 6620 The Scholarship of Teaching in a Clinical Discipline This course builds upon the knowledge and experience gained in NUR 6600 and NUR 6610, as well as the knowledge and skills of the experienced clinician. The primary focus of the course is on the scholarship of teaching – evidenced based curricular designs, teaching methods, clinical competencies, and evaluation methods. Content also addresses what it means to be a scholarly teacher in both classroom and clinical settings. Academic responsibilities of faculty members, ethical and legal issues in teaching, and the impact of professional trends, health care policies, and rapidly changing health
and illness care environments on the education of tomorrow's health professionals are explored. Prerequisites: Admission to the Master of Science in Nursing program or instructor approval and successful completion of NUR 6610. 3 hours

NUR 6630 Practicum in Teaching This course is a mentored teaching practicum in the content area and site selected by the graduate student with agreement of course faculty. The practicum offers the learner an opportunity to develop, implement, and evaluate a teaching/course plan based on the principles of teaching & learning and curriculum development acquired in NUR 6600, NUR 6610, and NUR 6620. Requirements include development of a contract with the student’s mentor-teacher, measurable learning outcomes, a lesson plan, use of a variety of teaching methods and audio-visual aids, and both peer and student evaluation of effectiveness. Evaluation of learning includes development of a paper-pencil test following a test blueprint and use of a clinical tool as appropriate. Periodic seminars are included. Prerequisites: Admission to the Master of Science in Nursing program or instructor approval and successful completion of NUR 6600, NUR 6610, and NUR 6620. 3 hours

NUR 6990 Research Project in Selected Area of Study This course focuses on the application of the research process to the development and conduct a research proposal or project. This course includes advisement and supervision of the student’s selected investigation into the scholarship of teaching, the scholarship of clinical nurse leadership, or research with a selected population. The student may work with faculty member’s program of scholarship or with their own problem in designing, collecting and/or evaluating data. The outcome of the practicum will be a scholarly paper. Prerequisites: Admission to the Master of Science in Nursing program and successful completion of NUR 6400 and NUR 6410. 3 hours

Clinical Trials Administration (Program Currently Inactive)

CTA 5000 Introduction to Drug and Device Development This course introduces the student to the pharmaceutical and medical device industry and the process of drug and device development. Drug Development Phases I-IV are discussed. Preclinical (animal) research, regulatory requirements are reviewed along with the content of the Investigational New Drug Application (INDA), the New Drug Application (NDA), Pre-Market Approval (PMA), and the Marketing Authorization Application (international). The roles of the Investigator, Study Coordinator, Sponsor, and Monitor are discussed. Students are exposed to the skills necessary to function as a mid-level research employee. 3 hrs.

CTA 5100 Clinical Pharmacology in Drug Development This course provides an overview of pharmacology, highlighting pharmacodynamics and pharmacokinetics, both of which are necessary to understand new drug discovery and development. A review of selected therapeutic areas will be reviewed, including oncology, cardiovascular, central nervous system, and anti-infectives. 3 hrs.

CTA 5200 Clinical Trial Design and Statistical Concepts The course is designed to allow the student to develop an understanding of the use and importance of statistics in drug development. This course will teach the fundamental statistical concepts used in the design, analysis and regulatory review of clinical studies and drug dossiers. It will provide an understanding of the basic statistical theory used in the interpretation of clinical trial efficacy and safety results. It will give the student an understanding of the statistical requirements applied by regulatory agencies in their review processes. 3 hrs.

CTA 5300 Clinical Study Administration I This course covers the planning, development, implementation and management of clinical trials. Topics include regulations, protocol development, case report form design, clinical data management operation, writing and conducting informed consent, Institutional Review Boards, contracting, budget development, selection and evaluation of research sites and activities required for implementation of a clinical trial. Prerequisite: CTA 5000. 3 hrs.

CTA 5400 Clinical Study Administration II The course builds on the content of Clinical Study Administration I and presents the steps necessary to initiate, monitor, and close clinical trials within the context of Food and Drug Administration (FDA) regulations, Canadian Health Protection Branch regulations, and International Conference on Harmonization guidelines for Good Clinical Practices. Topics include: study monitoring, source document review, drug and device distribution and accounting, data correction and management, adverse event
reporting, auditing and preparing for FDA inspection, Data review and summarization and final study reports. 
Prerequisite: CTA 5300.  3 hrs.

CTA  5500 Ethical and Legal Issues in Clinical Research  Generally, biomedical professionals are expected to learn the high standards of their chosen profession by example and experience. In the area of clinical trials that involve human volunteers, the assimilation of ethical standards cannot be left to chance. Personnel involved in clinical trials must balance the dual goals of scientific merit and ethical acceptability. Ethical principles (respect for autonomy, non-maleficence, beneficence, justice), and other ethical concerns (privacy, confidentiality, compassion, relationships among patients and professionals) are studied and applied to contemporary problems in medicine and clinical research. This course is designed to be practical, incorporating the use of case studies that illustrate problems arising in the design and conduct of research trials.  3 hrs.

Gerontology
GRN  5210 Women and Aging  This course offers an examination of the impact of aging on women, with special emphasis on the diverse experiences, challenges, and social and economic conditions of older women. The course will explore the status and roles of women in an aging society. Topics to be covered include the economics and politics of aging, the health status of women, women as caregivers, and retirees. The plight of minority older women will be addressed.  3 hrs.

GRN  5250 Religion and Aging  A survey of the views of and attitudes toward the aging process and older people held by the world's major religions will be explored. Particular attention will be paid to the relation of religious views and social policy in the U.S.  3 hrs.

GRN  5300 Special Topics in Gerontology  This is a variable topic, variable credit course for consideration of current and special interests in gerontology. Specific topics, number of credit hours and prerequisites, if any, will be announced each time the course is scheduled.  1-4 hrs.

GRN  5430 Survey of Geriatric Medicine  This course provides an overview and survey of the care of the elderly patient from a medical perspective. The issues of medical problems, long-term care, nursing, rehabilitation, and the social considerations will be broadly discussed. In addition, the interaction of all of the issues of elderly care will be analyzed.  3 hrs.

GRN  5440 Aging and Mental Health  This is a survey of mental health and mental health treatment problems of older adults. Topics include the courses of major mental illness in old age, depression, and dementias. Consideration will be given to etiologies, current therapies, and treatments, as well as barriers to treatment in this population.  3 hrs.

GRN  5450 Alcohol, Drugs, and Aging  The problems of alcohol, medication, and legal and illegal drug use, misuse, and abuse among older persons will be discussed. Prevention, intervention, and treatment will be considered.  3 hrs.

GRN  5470 Alzheimer's Disease and Other Dementias  Dementia is a complex issue compounded by stereotypical views of aging and the aged. This course focuses on social, psychological, etiologic, and epidemiological issues related to dementia together with the problems of diagnosis and treatment. Alzheimer's Disease, probably the most common cause of dementia, will receive specific attention. The purpose of this course is to help students gain an understanding of dementia as both a social and medical problem.  3 hrs.

GRN  5810 Leadership in the Aging Network  The course examines the development of the aging network and the influence this development has had on what it means to be a leader in this environment and what leadership skills will be most effective. The complexities of managing service delivery in the aging network will be examined. This will include the who, what, when, where and why of different reporting requirements, for example the similarities and differences among nursing home regulations and hospice regulations; financial and funding features; and a survey of a variety of agency structures. Within this context, leadership and leadership styles will be considered. Knowledge, skills, and attitudes considered essential for successful service delivery will be studied. Motivation, conflict resolution, cultural and ethnic sensitivity and ethics will be discussed.  3 hrs.
GRN 5980 Readings in Gerontology
This course is offered as independent study and reading under the guidance of a faculty member. Initiative for planning the topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor and director. 1-4 hrs.

GRN 6700 Approaches to Aging
This course is a graduate-level introduction to the issues facing older persons, their providers and caretakers. Professional inter- and multi-disciplinary, cultural, ethnic, and non-western approaches to aging are some of the features of gerontology that will be discussed during the semester. The format of this course is a combination of traditional didactic instruction and online synchronous and asynchronous discussion. 3 hrs.

GRN 6800 Multidisciplinary Seminar in Gerontology
This seminar introduces students from different disciplines to older persons and their concerns through publications written by older persons and surveys of current issues in health care and health care policy. Readings present the personal perspectives of older persons in a variety of situations. Students will be required to analyze these perspectives within the context of their academic discipline. Current events are surveyed through multiple media. Students will analyze the impact of medical and social breakthroughs and legislative decisions. 3 hrs.

GRN 6810 Program Planning and Development in Gerontology
This seminar in the gerontology graduate specialty program will explore the process of program planning and development through meetings with national, state, and local funding agencies and meetings with service providers in various kinds of programs for older persons throughout the region. 3 hrs.

GRN 6900 Field Education in Gerontology
This course is designed to give the student a learning experience during which the student can apply some of the knowledge and information acquired in the gerontology academic setting and further develop and refine his/her professional skills with the guidance and assistance of those professionals currently working in gerontology. Prerequisite: Admission to the program and permission of instructor. 1-6 hrs.

GRN 7100 Independent Research
2-6 hrs.

GRN 7120 Professional Field Experience
2-12 hrs.

Holistic Health Care
HOL 5300 Special Topics in Holistic Health
Variable topic, variable credit course for consideration of current and special interests in holistic health. Specific topics, number of credit hours and prerequisites, if any, will be announced each time the course is scheduled. Special topics courses are offered each semester and may include: Bodymind Nutrition, Biofeedback and Neurofeedback, Humor/Fun Brain’s Learning Strategies, Experiential/Adventure Education, Meditation to Enhance Living, Advanced Meditation to Enhance Living, Yoga to Enhance Living, Mindfulness to Enhance Living, Introduction to Chinese Medicine, Taoist Tai Chi for Health, Power of Breath (Pranayama), Diversity and Holism, Introduction to Psychodrama, Advanced Spirituality, Spiritual Activism, and Understanding Children’s Drawings. Other topics are planned. 1-4 hrs.

HOL 5310 Introduction to Holistic Health
The primary purpose of this course is to provide an introduction to the philosophies, theories, and concepts involved in holistic health care. It is meant to serve both as a general educational experience for persons wishing to become familiar with holism and essential basic instruction for persons wishing to apply for admission to the graduate certificate program in Holistic Health Care. 3 hrs.

HOL 5320 Holistic Approaches to Relationships
The purpose of this course is to provide an understanding of relationship development. In order to do this, students will acquire knowledge in self-concept formation, social systems theory, values development, and communication models. A major emphasis in the course will be on how to assist people in establishing and maintaining healthy relationships. 3 hrs.
### HOL 5330 Holism and Community
A course designed to help students better understand the dynamics of community and the potential for holistic growth and health through the investment of self in a common and purposeful experience with others. 3 hrs.

### HOL 5340 Holistic Health and Spirituality
This course helps students better understand the spiritual dimensions of each individual and the relationship of spirituality to the meaning of health. Various spiritual traditions, philosophies, and practices will be explored with the primary emphasis on the implications of these teachings for everyday living. The course will address the role of spirituality in the therapeutic process for health care professionals and resources available for practitioners and educators. The format for the course will include lecture, discussion, experiential activities and audio/video presentations. 3 hrs.

### HOL 5350 Holistic Approaches to Stress
This course will focus on the nature, sources and symptoms of stress, and provide a holistic approach for the management of stress. The relationship between stress and personality, lifestyle, health and illness will be explored. In addition, the reasons for, and management of, professional and organizational burn-out will be presented. 3 hrs.

### HOL 5360 Counseling Skills for Health Professionals
This course is designed to provide basic information on the counseling process and techniques as they apply to health care settings. This course is designed for health care professionals in allied health professions and not for majors in counselor education, counseling psychology or social work. 3 hrs.

### HOL 5370 Health and Humor
This course will focus on the physical, intellectual, emotional and spiritual dimensions of laughter, humor and play. We will explore recent discoveries and research regarding their role in human physical and mental health. Students will learn about the social significance of humor and play, what makes people laugh and why, the role of happiness, and will learn ways to increase happiness and playfulness, use laughter and humor as a stress management technique, and build a basis for appropriate use of humor in helping others. 3 hrs.

### HOL 5500 Introduction to Holism and Expressive Arts
This course is a survey of expressive arts therapies used to facilitate the healing process and will deepen the student's understanding of the role of creative expression in health and healing. The use of arts therapies to promote health, reduce stress, and complement the traditional treatment of physical and mental illness will be discussed. Topics covered will be visual arts, sound/music, movement/dance, writing/poetry, and drama/psychodrama. The format for the course will be a combination of experiential creative activities, guest lectures, and video and audio presentations. No artistic experience or background required. 3 hrs.

### HOL 5510 Holistic Approaches to Healing Through Visual Art
This course introduces a holistic approach to the use of visual art in healing; how to choose and present appropriate art experiences; spontaneous and directed theme art activities, resources, and materials; guides for interpreting art; and ethics. A variety of activities such as drawing, painting, clay, sand tray, collage, mandalas, and masks will be explored. The format for the course is a combination of experiential activities, lectures, video, and slide presentations. The course is designed to give students and professionals in the counseling, social work, psychology, health care, occupational therapy, art, and other fields some practical tools and considerations for using art for health and healing with others or for personal growth. No artistic talent is required. 3 hrs.

### HOL 5520 Healing through Movement
This course is a survey of the use of movement for health and healing. Several movement and dance specialty areas are covered in order to explore personal growth, creativity, balance, stress reduction, spirituality, and cultural perspectives on healing of self and others. Body awareness, breathing, and communication will be emphasized throughout the exploration of movement modalities, such as Authentic Movement, Contact Improvisation, Creative Movement, Feldenkrais, Interplay, Labyrinth Walking, Progoff Journal Writing, Ta'i Chi Chuan, Dances of Universal Peace, and Movement Therapy. The format for the course will be a combination of lectures, discussion, experiential activities, and audio and video presentations. Students enrolled in social work, counseling psychology, occupational therapy, nursing, physical education, and dance will especially benefit from this course. No movement or dance experience is required. 3 hrs.
HOL 5530 Holistic Strategies to Illness and End of Life
This course will examine holistic strategies and techniques designed to help people cope with illness along the continuum from diagnosis through the end-of-life. Topics will include: complementary methods that assist with treatment, surgery, medical procedures, pain management; guided imagery; psychosocial/spiritual considerations; being/supporting the caregiver; and death and dying. Students will pursue their individual interests in a project which will include assessment, research and recommendations of holistic modalities for a person dealing with a particular illness. This course is appropriate for professionals/students in healthcare and related fields and for individuals who are looking for assistance with their own illness or caring for a loved one. 3 hrs.

HOL 5550 Successful Aging-Holistic Perspectives
This course will focus on holistic factors of aging and lifestyle choices that enable people to preserve and even enhance wellness and vitality in later life. Current images and myths of aging will be explored and research studies that outline holistic ways to delay, prevent, or positively treat common chronic diseases will be presented along with programs and policies that enable older people to practice positive aging strategies. This course will highlight the qualities of older people who remain physically active, intellectually engaged, emotionally involved, spiritually connected, and vital throughout their years. 3 hrs.

HOL 5980 Readings in Holistic Health
This course provides individualized, independent study and reading under guidance of a faculty member. Initiative for planning topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor. 1-4 hrs.

HOL 6500 Seminar in Holistic Methods
This course serves as a follow-up to HOL 5310 and is a required course for the Graduate Certificate in Holistic Health Care. It offers students an exploration of holistic approaches to wellness promotion, therapy, stress-management, and professional self-care that honor the interdependent relationship between body, mind, spirit, and community. The course also provides an overview of various paradigms of health, holistic approaches to assessment, skills in accessing and discerning relevant research, and examples of “holism in action” in the community. The format for the courses will be a combination of experimental activities, lectures, discussions, personal reflections, small group activities, guest speakers, and audio/visual presentations. Through these learning experiences students will have the opportunity to develop a deeper knowledge of the relationship between body, mind, and spirit as well as how to integrate this into their personal and professional practice. Prerequisite: HOL 5310 or instructor approval. 3 hrs.

HOL 6700 Professional Field Experience
This registration is designed to give the student a total learning experience during which the student can apply some of the knowledge and information obtained in the health and human services academic setting and further develop and refine his/her professional skills with the guidance and assistance of those professionals currently working in the health and human service area. Prerequisites: HOL 5310 and HOL 6500. 1-6 hours.

HOL 6910 Spirituality and the Therapeutic Process
This seminar will explore the relationship of spirituality and the therapeutic process as they relate to clinical practice. Spirituality will be studied as an important resource in psychological health and in healing. In addition, the spiritual lives of therapists will be looked at as a means to support their ability to offer the core therapeutic conditions. Theoretical models for integrating spirituality into practice will be offered and specific teachings and practices from a variety of religious traditions will be presented as resources for the healing process. One goal of the seminar is to enable those in the healing professions to work with their client’s spiritual life without imposing their own framework. This course is designed for all health and human service workers, but has a special emphasis on the therapeutic process. 3 hours.

HOL 6970 Independent Study in Holistic Health
This course will provide an independent study instructional format for Holistic Health Care certificate students. Prerequisite: Instructor approval. 1-4 hours.

HOL 7120 Professional Field Experience
The purpose of this course is to provide advanced students in a health care related area an opportunity to become familiar with the “holistic” approach to health care. While using their own discipline as a beginning point, each student will become acquainted with different approaches to health care from both traditional and non-traditional perspectives. The principal goal is to
encourage a perception of clients as whole persons whose symptoms represent an underlying discoordination in mind, emotions, and body. 2-12 hrs

**Interdisciplinary Health Studies**

HSV 6350 Special Topics in Health and Human Services  
This is a variable topics, variable credit graduate level course for consideration of current and special interest in health and human services. Specific topics and number of credit hours will be announced each time the course is scheduled. 1-4 hrs.

HSV 6700 Field Education  
This course is designed to give the student a total learning experience during which the student can apply some of the knowledge and information obtained in the health and human services academic setting and further develop and refine his/her professional skills with the guidance and assistance of those professionals currently working in the health and human service arenas. Prerequisite: Consent of instructor. 1-6 hrs.

HSV 6980 Readings in Health and Human Services  
This course is offered as independent study and reading under the guidance of a faculty member. Initiative for planning the topic for investigation and seeking the appropriate faculty member comes from the student, with consultation from the advisor. Prerequisite: Consent of instructor and program advisor. 1-4 hrs.

IHS 6240 Scientific Inquiry in Health and Human Services  
This seminar orients students in the Ph.D. program in Interdisciplinary Health Sciences to historical factors and milestones in the development of current methods of scientific inquiry in health and human services, leading to current interdisciplinary research practices. Students will learn to analyze critically the assumptions of current theories and models used in research across health and human services disciplines. Format of sessions will include lecture and seminar features of student-led discussion and presentations. This course is restricted to students in the Ph.D. in Interdisciplinary Health Sciences. 1 hour

IHS 6250 Health and Human Service Organization and Delivery Systems  
Provides a systematic approach to understanding the origin, evolution, and utilization of health and human services in the United States, including comparisons with the provision of services in other countries. Concepts and perspectives concerning the influence of economics and politics on current service provision are also explored. The course examines the institutional and individual providers, alternative delivery models, the dynamics of health and human service markets, and the impact of changing service environment on service organizations and delivery strategies. Topics such as managed care including Medicaid Managed Care, community health care, and the development of services responsive to the needs of special populations, multicultural societies, and underserved communities will be discussed. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6260 Qualitative Research Concepts in HHS  
Provides students with the ability to design, conduct, and analyze research findings using various qualitative research methods. These methods include comparative, historical, case study, content analysis and other types of observation and interview strategies for data collection. Students will learn to determine the strengths and limitations of qualitative research methods for expanding the knowledge base in health and human services. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6270 Health and Human Services Policy and Politics  
Develops a systematic and analytical framework for understanding policy-making processes in health and human services, including identification of need and the formulation, implementation, and evaluation of policy. The political processes by which decisions are made and resources allocated and the ethics, laws, institutions, and forces, which affect these processes at local, state, and federal levels, are also considered. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6280 Quantitative Research Concepts in Health and Human Services  
Provides an overview of the statistical concepts and methods often used in HHS research. Course content will include concepts of probability, hypothesis testing, measures of central tendency and dispersion, and sampling. Students will learn to
conduct bivariate and multivariate statistical tests common in HHS research, and to interpret the results. Students will be introduced to basic concepts in parametric and non-parametric statistical analyses. Examples will be drawn from current research in health and human services, and students will acquire skills in critiquing research designs and statistical approaches. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6290 College Instruction and Assessment Examines current theories on learning, intelligence, memory, and learning styles and individual capabilities, and their application to curriculum design, instruction, and methods of assessment. The effects of class, gender, and culture on learning and teaching are analyzed, as well as curricular issues related to accreditation of programs and to professional licensure and certification. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 2 hours

IHS 6300 Designing and Conducting Health and Human Services Research Provides students who are beginning to plan their dissertation research an opportunity to learn about formulating and focusing research questions, collecting and managing data, and analyzing and evaluating data. Topics included in this course include commonly used research designs, threats to internal and external validity of research results, and scaling of data. Ethical issues in designing, conducting and reporting of research findings will also be discussed, along with issues of multiculturalism in research design. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6310 Proposal Development and Management Provides students with skills needed to compete successfully for funding in various health and human services venues. This course provides an overview of grant writing, including identifying sources of research and program development support and developing successful proposals, including drafting budgets, preparing evaluation plans, and developing collaborative relationships to strengthen grant proposals. Principles of project management will also be discussed. These include ensuring fiscal and ethical accountability, supervision of staff, and documenting progress toward project goals. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6320 Innovative Pedagogy and Instructional Design Examines models of teaching and related research and the inclusion of innovative pedagogy, including teaching through technology, problem-based learning, collaborative learning, and distance learning. Techniques for instructional design and assessment are discussed. Issues relating the shift from teacher-centered to learner-centered instruction are explored. Learners will be expected to apply one or more innovative pedagogies in an applied area. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6330 Ethics and Law in Health and Human Services Professions and Scientific Research Applies principles of ethics to health and human service decision-making, policy formulation, and to clinical and research situations. Current issues and research in biomedical and social ethics are examined, together with the legal and ethical concerns which affect interdisciplinary collaborative practice. Laws are discussed which influence the provision and delivery of care and services at local, state, and federal levels. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6350 Evidence-Based Interdisciplinary Practice in Health and Human Services Uses a seminar format for student-led discussions of interdisciplinary research and service delivery issues. Course topics include theory and historical foundations, management structures and economic factors, team dynamics and communication, collaborative decision-making and conflict resolution, case management and client-centered care, and outcome measurement and program evaluation. Students will apply the lens of evidence-based practice within and across disciplines to develop an interdisciplinary vision for addressing critical current issues in health and human services. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.

IHS 6360 Advanced Statistics in Health and Human Services Examines theory and practice using advanced concepts of quantitative statistics with application to complex problems in interdisciplinary health and human services. Addresses topics such as ANOVA and linear and logistic regression. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or instructor approval. 3 hrs.
IHS 6970 Dissertation Seminar Assists students in the preparation of a dissertation proposal and facilitate the transition from course work to dissertation research. The student will work under close supervision of a faculty member and his/her dissertation committee to design and develop a dissertation proposal. Prerequisite: Completion of coursework in PhD in Interdisciplinary Health Sciences. 1-3 hrs.

IHS 7100 Independent Research Prerequisite: Enrollment in the Ph.D. in Interdisciplinary Health Sciences and instructor approval. 2-6 hrs.

IHS 7130 Practicum in Teaching in the Discipline Students will apply the theory and techniques learned in the pedagogical module and develop instructional skills through participation in a supervised teaching practicum. The student will teach an entire semester-length, three-credit course. This mentored teaching experience will provide the student with a wide range of instructional experiences, including course preparation, instruction, and assessment of students. The student must use innovative instructional techniques. Prerequisite: Admission to the Ph.D. in Interdisciplinary Health Sciences or permission of director. 3 hrs.

IHS 7300 Doctoral Dissertation 1-12 hrs.

IHS 7350 Research Practicum The research practicum will provide students with an introduction to interdisciplinary research and to work collaboratively in teams under the guidance and supervision of a faculty member. Students will begin this longitudinal interdisciplinary group research practicum during the second semester of the program and complete it by the spring semester of the following year. The research will form the basis for the paper that must be submitted for publication as a requirement of the comprehensive examination.

**Occupational Therapy**

OT 5300 Sensory Integration and the Child Study of theoretical principles and their application to evaluation and treatment of the child with sensory integrative dysfunction. Students will observe and participate in screening and evaluation of children, and they will design treatment plans for selected clients. Prerequisites: OT 4750. 3 hrs.

OT 5730 Assistive Technology This course explores how a professional goes about evaluating, designing, and adapting technology to improve people’s participation in activities of their choice. The course also explores current commercially available technology and available community-based services for people with impairments and/or activity limitations. Prerequisite: Senior standing or permission of instructor. 3 hrs.

OT 5800 Advanced Clinical Application of OT Clinical Reasoning This course will provide advanced knowledge of clinical evaluation tools and techniques. Students will be given additional training on the most commonly used and the state-of-the-art clinical evaluation tools. Advanced use of guidelines for practice and the integration of knowledge for clinical reasoning will be emphasized. Students will develop treatment plans for people with a variety of conditions and diagnoses. Evidence-based practice in OT will be used for analysis of evaluation tools and guidelines for practice. Prerequisite: OT 4750. 3 hours.

OT 5810 Work Analysis and Consultation This course introduces students to work analysis in a variety of settings. Students learn to write job descriptions using ADA (Americans with Disabilities Act) standards (essential and nonessential job functions) and will learn to evaluate workers to determine their individual capability to perform a certain job (work capacity evaluation). Students will evaluate actual jobs to make recommendation (following current legislation) for modifications for the worker, work site, and work organization to decrease potential job-related injuries. Students will also develop a wellness and injury prevention program to address injury prevention for a specific population. Prerequisites: OT 4720 and 4750 or neurology, kinesiology, biomechanical background, and one, successful internship with consent of instructor. 3 hrs.

OT 6000 Advanced Clinical Practice in Occupational Therapy This lecture/lab/discussion course is focused on the development of advanced knowledge and skills in both traditional and emerging areas of occupational therapy practice. Students will review and discuss current literature related to theory and research in three selected clinical practice areas followed by application through participation in intensive hands-on workshops. Prerequisite: Admission to program. 3 hrs.
OT 6210 Introduction to Neurodevelopmental Treatment for Adults  Foundations of neurophysiology and motor development are discussed. Opportunity is provided for application of neurodevelopmental theory, treatment principles and techniques to occupational therapy. Special attention is given to management problems of adults with hemiplegia.  3 hrs.

OT 6330 Administration of Occupational Therapy  This course utilizes the basic skills of administration (planning, organizing, directing, coordinating, and controlling) in the development of a model of practice for occupational therapy services. These services will be developed for an agency or institution that does not now offer occupational therapy services, or for an agency or institution whose occupational therapy services need to be expanded. In addition to the model of practice, the student will prepare a grant proposal that could be used to initiate funding for the model.  Prerequisites: All required undergraduate course work except Fieldwork II.  3 hrs.

OT 6400 Theory in Occupational Therapy  This course explores core concepts, models, and paradigms of the past, present, and future and their influence on education, research, administration, and practice of occupational therapy. Components of theory, formulation of theory, and the effect of theory development on occupational therapy will also be explored.  Prerequisites: All required undergraduate course work except Fieldwork II (OT 4530 may be taken concurrently).  3 hrs.

OT 6600 Research in OT I  This course explores research in occupational therapy and related fields while developing research skills. It will include principles of research design, analysis and critique of research, ethical research practices, proposal development, and beginning familiarity with statistical analysis.  Prerequisites: All required undergraduate course work except Fieldwork II and III.  3 hrs.

OT 6610 Research in OT II  The purpose of this course is to build the research skills necessary to engage in scholarly scientific inquiry. It will include data analysis, basic statistical procedures, dissemination of research, critiques of research, funding and basic computer use for statistical analysis.  Prerequisite: OT 6600.  3 hrs.

OT 6860 Graduate Seminar  This course examines topics relevant to new developments in environmental adaptations, treatment techniques, and/or innovations in the delivery of occupational therapy services.  Prerequisites: All required undergraduate course work except Fieldwork II.  3 hrs.

OT 6900 Fieldwork Level II  A twelve-week, full-time affiliation in a hospital or community agency providing the student experience in designated areas of occupational therapy. Departmental consent only.  Prerequisite: Completion of OT 4820.  3-12 hrs.

OT 6910 Fieldwork Level II  A twelve-week, full-time affiliation in a hospital or community agency providing the student experience in designated areas of occupational therapy. Departmental consent only.  Prerequisite: Completion of OT 6900.  3-12 hrs.

OT 6970 Investigations in Occupational Therapy  Independent study provided for the qualified occupational therapy student under the guidance of a departmental faculty member.  Prerequisite: Consent of graduate coordinator and proposed faculty supervisor.  1-3 hrs.

OT 7000 Master's Thesis  Prerequisite: OT 6600  6 hrs.

OT 7100 Independent Research  Prerequisite: OT 6600  2-6 hrs.

OT 7120 Professional Field Experience  Prerequisite: Consent.  2-6 hrs.

Physician Assistant
MDSC 6000 Problem-Based Learning I  This is a first course in a sequence of three courses designed to provide an opportunity for students to apply the concepts and skills previously learned in other program courses through the examination of patient medical cases. Students will develop clinical reasoning skills and integrate their knowledge into solving medical problems. The student will learn how to develop a differential
diagnosis, focus the physical examination of the patient, order appropriate laboratory tests, reach a conclusive diagnosis, and develop an appropriate treatment plan. Prerequisite: Admission to the Physician Assistant program. 3 hrs.

MDSC 6020 Problem-Based Learning II
This is a second course in a sequence of three courses designed to provide an opportunity for students to apply the concepts and skills previously learned in other program courses through the examination of patient medical cases. Students will develop clinical reasoning skills and integrate their knowledge into solving medical problems. The student will learn how to develop a differential diagnosis, focus the physical examination of the patient, order appropriate laboratory tests, reach a conclusive diagnosis, and develop an appropriate treatment plan. Prerequisite: Admission to the Physician Assistant program. 3 hrs.

MDSC 6030 Problem-Based Learning III
This is the third course in a sequence of three courses designed to provide an opportunity for students to apply the concepts and skills previously learned in other program courses through the examination of patient medical cases. Students will develop clinical reasoning skills and integrate their knowledge into solving medical problems. The student will learn how to develop a differential diagnosis, focus the physical examination of the patient, order appropriate laboratory tests, reach a conclusive diagnosis, and develop an appropriate treatment plan. Prerequisite: Admission to the Physician Assistant program. 3 hrs.

MDSC 6040 Renal, Musculoskeletal, and Dermatology
This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the renal, musculoskeletal, and dermatological systems, throughout the life span. Students will examine the pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 7 hrs.

MDSC 6050 Neuropsychiatry and Endocrine
This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the neuropsychiatric and endocrine systems, throughout the life span. Students will examine the bio-psycho-social model, wellness, as well as pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 8 hrs.

MDSC 6060 Gastrointestinal and Hematology
This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the gastrointestinal and hematological systems, throughout the life span. Students will examine the pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 6 hrs.
MDSC 6070  Reproduction and Urology  This course provides a foundation for the understanding, diagnosis, and treatment of diseases of the reproductive and urological systems, throughout the life span. Students will examine the pathophysiology of diseases of these systems, with an emphasis on the cellular mechanisms of disease and the body’s response to them. The course is designed to develop the competencies required for patient counseling and for focused medical history taking and physical examination, including system anatomy and complex regional relationships. The selection, utilization, and interpretation of clinical laboratory, imaging, and other diagnostic tests used to evaluate system function are examined along with concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. An integrative approach is used to encourage application of information through clinical problem solving in the formulation of differential diagnoses and development of therapeutic and patient education plans. Prerequisite: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 7 hrs.

MDSC 6100  Special Topics in Physician Assistant  This course examines selected topics in medicine. Topics considered will vary from semester to semester. Prerequisites: Enrollment in the Physician Assistant program and successful completion of previous MDSC courses. 1-3 hrs.

MDSC 6110  The Diagnostic Process I  This is the first in a series of three courses designed to develop the knowledge, attitudes and skills requisite for medical history taking, physical examination, clinical problem solving, diagnostic assessment, treatment implementation, and for counseling and educating patients. Learning methods include lecture format, skills performance, clinical decision-making, role-playing, individual research, and case problem solving to integrate and synthesize these competencies. Prerequisite: Admission to the Physician Assistant program or departmental permission. 2 hrs.

MDSC 6120  The Diagnostic Process II  This is the second in a series of three courses presented sequentially through the pre-clinical year of training. This course provides opportunities for the systematic evaluation of patient problems through history and physical examination, problem exploration, critical thinking and creative problem solving, lectures, demonstrations, group problem solving, practicum sessions, student examination of patients, as well as written and performance evaluation of these modalities, are included among the learning methodologies. Emphasis is placed on interviewing and physical examination, but more so on information gathering and synthesis to accomplish problem oriented patient care. Students will refine skills in eliciting and recording a complete patient database, as well as formulating differential diagnoses. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 2 hrs.

MDSC 6130  The Diagnostic Process III  This is the summative offering in this series of three courses designed to develop competence in both the art and the science of patient evaluation. Students will continue to assess patients utilizing history taking and physical examination skills. Students will master special examinations such as for the pediatric patient, as well as the pregnant patient. Further emphasis will be placed on formulating diagnoses, therapeutic and patient education plans. Students will develop competencies in prevention strategies, and recording and communicating information in a medical team model. Prerequisite: Admission to the Physician Assistant program. 1 hrs.

MDSC 6210  Medical Pathophysiology I  This is the first in a three part sequence designed to provide the physician assistant student with a foundation for understanding human diseases. Students will review clinically relevant physiology and acquire a working knowledge of pathophysiology. Emphasis will be on the cellular mechanisms of disease and the body's reactions to them. Topics covered will parallel those in concurrent clinical science courses. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 1 hr.

MDSC 6220  Medical Pathophysiology II  This is the second in a three part sequence designed to provide the physician assistant student with a foundation for understanding human diseases. Students will review clinically relevant physiology and acquire a working knowledge of pathophysiology. Emphasis will be on the cellular mechanisms of disease and the body's reactions to them. Topics covered will parallel those in concurrent clinical science courses. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 1 hr.
MDSC 6230 Medical Pathophysiology III This is the third in a three part sequence designed to provide the physician assistant student with a foundation for understanding human diseases. Students will review clinically relevant physiology and acquire a working knowledge of pathophysiology. Emphasis will be on the cellular mechanisms of disease and the body's reactions to them. Topics covered will parallel those in concurrent clinical science courses. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 1 hr.

MDSC 6310 Integrated Medicine I This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.

MDSC 6320 Integrated Medicine II This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.

MDSC 6330 Integrated Medicine III This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.

MDSC 6340 Integrated Medicine IV This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.
MDSC 6350 Integrated Medicine V

This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  

Prerequisite: Admission to the Physician Assistant program.  
2 hrs.

MDSC 6360 Integrated Medicine VI

This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  

Prerequisite: Admission to the Physician Assistant program.  
2 hrs.

MDSC 6370 Integrated Medicine VII

This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  

Prerequisite: Admission to the Physician Assistant program.  
2 hrs.

MDSC 6380 Integrated Medicine VIII

This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life.  

Prerequisite: Admission to the Physician Assistant program.  
2 hrs.

MDSC 6390 Integrated Medicine IX

This is the first of a series of nine primary care medicine courses, each of which will introduce students to a different area of primary care medicine. The courses will help students develop the knowledge required for the practice of medicine. The courses will cover clinical topics using a systems approach. Within each system, a lifespan approach will be used ranging from the pediatric patient through the geriatric patient. Each topic will be examined using the integration of pathophysiology, clinical diagnostic testing, diagnosis, treatment, including nutritional issues and available alternative medicine options. Students will also learn the knowledge, skills and attitudes required for counseling patients concerning clinical problems and educating patients in wellness and disease management and prevention. The integrated medicine
course will form the basis for clinical evaluation, diagnosis, management, and appropriate referral when necessary, of various health and wellness processes throughout a person’s life. Prerequisite: Admission to the Physician Assistant program. 2 hrs.

MDSC 6410 Procedures and Diagnostic Testing—I This is the first in a three course series. The series presents a foundation for understanding the appropriate uses and interpretations of clinical diagnostic testing. Through exploration of each of the major body systems, this course presents instruction in medical procedures used in the diagnosis or treatment of the common disorders of each system. It also provides the basis for the selection, utilization and interpretation of clinical laboratory, imaging and other diagnostic tests used to evaluate each system’s principal functions. Prerequisite: Admission to the Physician Assistant Program or departmental permission. 1 hr.

MDSC 6420 Procedures and Diagnostic Testing—II This is the second in a three course series. The series presents a foundation for understanding the appropriate uses and interpretations of clinical diagnostic testing. Through exploration of each of the major body systems, this course presents instruction in medical procedures used in the diagnosis or treatment of the common disorders of each system. It also provides the basis for the selection, utilization and interpretation of clinical laboratory, imaging and other diagnostic tests used to evaluate each system's principal functions. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 1 hr.

MDSC 6430 Procedures and Diagnostic Testing—III This is the third in a three course series. The series presents a foundation for understanding the appropriate uses and interpretations of clinical diagnostic testing. Through exploration of each of the major body systems, this course presents instruction in medical procedures used in the diagnosis of treatment of the common disorders of each system. It also provides the basis for the selection, utilization and interpretation of clinical laboratory imaging and other diagnostic tests used to evaluate each system's principal functions. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 1 hr.

MDSC 6510 Health Promotion and Patient Counseling I This is the first course in a three-semester series presented sequentially through the preclinical year of training. This course will focus on the knowledge, skills and attitudes requisite for counseling and educating patients. These courses will emphasize counseling techniques, with application to clinical problems such as crisis intervention, substance abuse, human sexuality, multiculturalism, and patient/practitioner transference/counter transference. Theories of personality and psychopathology will be investigated as they relate to patient and practitioner coping styles and effectiveness. Students will also develop expertise in educating patients in wellness and disease prevention. Students will investigate the caregiver role and become insightful regarding their own needs and limitations. Prerequisite: Successful completion of prior semester of P.A. course work or departmental permission. 1 hr.

MDSC 6520 Health Promotion and Patient Counseling II This is the second course in a three-semester series presented sequentially through the preclinical year of training. This course will focus on the knowledge, skills, and attitudes requisite for counseling and educating patients. These courses will emphasize counseling techniques with application to clinical problems such as crisis intervention, substance abuse, human sexuality, multiculturalism, and patient/practitioner transference/counter transference. Theories of personality and psychopathology will be investigated as they relate to patient and practitioner coping styles and effectiveness. Students will also develop expertise in educating patients in wellness and disease prevention. Students will investigate the caregiver role and become insightful regarding their own needs and limitations. Prerequisite: Successful completion of prior semester of P.A. course work or departmental permission. 1 hr.

MDSC 6530 Health Promotion and Patient Counseling III This is the third course in a three-semester series presented sequentially through the preclinical year of training. This course will focus on the knowledge, skills, and attitudes requisite for counseling and educating patients. These courses will emphasize counseling techniques with application to clinical problems such as crisis intervention, substance abuse, human sexuality, multiculturalism, and patient/practitioner transference/counter transference. Theories of personality and psychopathology will be investigated as they relate to patient and practitioner coping styles and effectiveness. Students will also develop expertise in educating patients in wellness and disease prevention. Students will
investigate the caregiver role and become insightful regarding their own needs and limitations. Prerequisite: Successful completion of prior semester of P.A. course work or departmental permission. 1 hr.

MDSC 6550 Professional Issues for Physician Assistants I This is the first in a series of two courses designed to examine the role of the Physician Assistant and the place and relationships of the PA profession in society. It also examines the legal aspects of P.A. practice including licensing, malpractice, supervision, delegation, and prescribing. Finally it addresses the ethical and practice standards which society expects of a medical professional. Prerequisite: Admission to the Physician Assistant program or departmental permission. 1 hr.

MDSC 6560 Professional Issues for Physician Assistants II This is the second in a series of two courses designed to examine the role of the Physician Assistant and the place and relationships of the PA profession in society. It also examines the health care delivery systems including reimbursement, documentation, coding, and billing. Finally, it addresses the socioeconomic issues affecting health care. Prerequisite: Successful completion of Professional Issues for Physician Assistants I. 1 hr.

MDSC 6610 Pharmacotherapeutics I This is the first of a sequence of three courses that focus on the concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. This course sequence will present the pharmacology, pharmacokinetics, side effects, complications, dosages, and contraindications using a systems approach. Prerequisite: Admission to the Physician Assistant program or departmental permission. 2 hrs.

MDSC 6620 Pharmacotherapeutics II This is the second of a sequence of three courses that focus on the concepts of pharmacotherapeutic principles necessary to provide a rational basis for clinical prescribing decisions. This course sequence will present the pharmacology, pharmacokinetics, side effects, complications, dosages, and contraindications using a systems approach. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 2 hrs.

MDSC 6630 Pharmacotherapeutics III This is the third of a sequence of three courses that focus on concepts of pharmacotherapeutics principles necessary to provide a rational basis for clinical prescribing decisions. This course sequence will present the pharmacology, pharmacokinetics, side effects, complications, dosages, and contraindications using a systems approach. Prerequisite: Successful completion of prior semester P.A. course work or departmental permission. 2 hrs.

MDSC 6710 Advanced Clinical Anatomy I This is the first course in a three-semester human anatomy sequence designed to parallel and support clinical science courses in the Physician Assistant curriculum. Emphasis will be on achieving an understanding of anatomical concepts as they pertain to clinical problem solving and physical diagnosis. A laboratory component involving the study of cadaver prosections is included. Prerequisite: Admission to the Physician Assistant graduate program. 2 hrs.

MDSC 6720 Advanced Clinical Anatomy II This is the second course in a three-semester human anatomy sequence designed to parallel and support clinical science courses in the Physician Assistant curriculum. Emphasis will be on achieving an understanding of anatomical concepts as they pertain to clinical problem solving and physical diagnosis. A laboratory component involving the study of cadaver prosections is included. Prerequisite: Admission to the Physician Assistant graduate program. 2 hrs.

MDSC 6730 Advanced Clinical Anatomy III This is the third course in a three-semester human anatomy sequence designed to parallel and support clinical science courses in the Physician Assistant curriculum. Emphasis will be on achieving an understanding of anatomical concepts as they pertain to clinical problem solving and physical diagnosis. A laboratory component involving the study of cadaver prosections is included. Prerequisite: Admission to the Physician Assistant graduate program. 1 hr.

MDSC 6800 Research Concepts for Physician Assistants Topics considered vary from semester to semester. Topics include a review of statistics, Epidemiology, study design, methods and measures, and strategies for critically evaluating medical literature and medical informatics. Emphasis will be placed on the interpretation of medical literature and the application of evidence from clinical research in clinical decision-
The course prepares students to understand the methods and limitation of various types of research and how research impacts their practice of medicine. Prerequisite: Enrollment in the Physician Assistant program. 1-3 hrs.

MDSC 6810 Professional Field Experience - Women's Health This course will place the student in a structured obstetrics/gynecology medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6820 Professional Field Experience - Pediatrics This course will place the student in a structured pediatrics medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6830 Professional Field Experience - Surgery This course will place the student in a structured surgery medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6840 Professional Field Experience - Medical Psychiatry This course will place the student in a structured mental health clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6850 Professional Field Experience - Emergency Medicine This course will place the student in a structured clinical emergency medicine rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and will develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 4 hrs.

MDSC 6860 Professional Field Experience - Family Medicine This course will place the student in a structured family medicine clinical rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 8 hrs.

MDSC 6870 Professional Field Experience - Internal Medicine This course will place the student in a structured clinical internal medicine rotation under the direct supervision of a qualified preceptor. Students will be expected to become proficient with a variety of clinical presentations and procedures, subject to site limitations, and will develop competence in diagnosing, evaluating, monitoring, treating, educating and/or referring patients. Selected readings will also be assigned to the students. These readings will change frequently to reflect current medical literature.
medical literature. Prerequisite: Completion of the preclinical year of the Physician Assistant program or departmental permission. 8 hrs.

MDSC 6910 Clinical Practice Issues I  This is the first course of a three-course seminar series designed to present and discuss various topics relevant to current clinical practice. The topics will be generated by the challenges the students will encounter in the practice of medicine. The course will also address the evolutionary trends in the healthcare arena and will facilitate the student's transition to professional practice. Prerequisite: Completion of the preclinical year and concurrently enrolled in a professional field experience course or departmental permission. 1 hr.

MDSC 6920 Clinical Practice Issues II  This is the second course of a three-course seminar series designed to present and discuss various topics relevant to current clinical practice. The topics will be generated by the challenges the students will encounter in the practice of medicine. The course will also address the evolutionary trends in the healthcare arena and will facilitate the student's transition to professional practice. Prerequisite: Successful completion of MDSC 691 and concurrently enrolled in a professional field experience course or departmental permission. 1 hr.

MDSC 6930 Clinical Practice Issues III  This is the third course of a three-course seminar series designed to present and discuss various topics relevant to current clinical practice. The topics will be generated by the challenges the students will encounter in the practice of medicine. The course will also address the evolutionary trends in the healthcare arena and will facilitate the student's transition to professional practice. Prerequisite: Successful completion of MDSC 692 and concurrently enrolled in a professional field experience course or departmental permission. 1 hr.

MDSC 6950 Special Clinical Topics in Physician Assistant  This course examines selected topics in clinical medicine. Topics considered will vary from semester to semester. Prerequisite: Enrollment in the Physician Assistant program and successful completion of the first year of MDSC courses. 1-3 hrs.

MDSC 7100 Research Project/Professional Experience  This course will ensure that students are qualified in applying the lessons learned in MDSC 6800 in a practical clinical manner. This is the culmination course of the master's curriculum, and requires a paper of publishable quality and presentation of the same. Several permutations are possible, including research under faculty supervision, clinical elective field experience focus on a research topic, clinical case investigation, and others. Prerequisite: Completion of the preclinical year and at least one MDSC Field Experience or departmental permission. 2-6 hrs. (8 hrs. required in program)

Social Work

SWRK 5970 Teaching Apprenticeship in Selected Social Work Curriculum Areas  The course focuses on the development of educational skills for social workers through faculty-directed participation in teaching activities in a selected social work course. Specific learning objectives and expectations for apprentices are arranged with participating faculty. This course may be taken a second time (1-4 hrs., or a maximum of 8 total toward degree) by a student who wishes to increase teaching skills through applied practice in another social work area. Prerequisite: Consent of instructor. 1-4 hrs.

SWRK 5980 Readings in Social Work  Offers advanced students with good scholastic records an independent program of study, arranged in consultation with the instructor. One to four hours credit per semester. Prerequisite: Consent of instructor. 1-4 hrs.

SWRK 6100 Foundations of Social Welfare Policy  This is the first course in the graduate program social welfare policy sequence. Its purpose is to introduce the subject area of social welfare policy as a central concern of social work. The goals of the course are to help the student identify evolving socio-cultural and economic bases of social welfare in America, to gain understanding of the substance of particular social policy areas, and to learn to approach the study of social welfare policy within the context of analytic frameworks. While SWRK 6100 places primary focus on the content of social welfare policy, other policy courses focus on specific subject areas or on the development of policy practice skills. Prerequisite: Admission to the MSW program or approval of the School of Social Work Director of Admissions. 3 hours
SWRK 6200 Social Services in Schools  The role of the social worker in elementary and secondary schools and the necessary adaptations to the changes taking place in the educational scene are examined and evaluated. Problem solving approaches are given special attention within the structure and organization of the schools and their relationships with the surrounding community. The specific contributions of a school social worker as a helping person to the pupils, the school staff, and the homes by various interventive means are explored. Prerequisite: Consent of instructor. 3 hrs.

SWRK 6230 Leadership in Nonprofit Organizations  This course addresses knowledge, skills, and attitudes in building leadership for developing, supporting, and maintaining effective service delivery in nonprofit organizations. The course focuses on such topics as leadership styles, power, motivation and conflict, task-group skills, supervision, women and other minorities in management, and ethics and values in leading nonprofit organizations. 2 hrs.

SWRK 6270 Planning in Nonprofit Organizations  The course focuses on planning program changes and new programs in nonprofit organizations. Program planning is viewed as a creative, dynamic process carried out by a team. The stages and tasks of program planning are studied from analytical, technical, and interactional perspectives. 2 hrs.

SWRK 6300 Social Change and Community Analysis  Social workers have a responsibility to promote social justice and to strive to abolish injustice. The course identifies and explores historical, theoretical, and ideological perspectives on social change issues. Social change is studied by analyzing the community at the local, national and international level and by exploring strategies for change at each level. Emphasis is placed on racism, sexism, and classism, and the social movements to alleviate these problems. Prerequisite: Admission to the MSW program or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6310 Human Behavior and the Social Environment  This course provides students with a conceptual and theoretical framework for understanding human development and behavior as they are influenced by the social environment across the life span. Human development and behavior are approached as part of historical and contemporary socio-cultural processes acting interdependently with psychology, biology, economics, geography, and politics. Diversity issues such as race/ethnicity, gender, sexual orientation, and social class are taken into consideration as critical elements in these processes and their relationships. The role of social welfare policy in the context of issues relevant to this course is also explored. Prerequisite: Admission to the MSW program or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6320 Organizations, Communities, Societies: A Change Perspective  The course reviews frameworks for analyzing organizations, communities, and societies as a means of preparing students to engage in planned change. Students learn strategies and tactics to influence change in organizational, community, and societal structures and processes. The course explores historical, theoretical, and ideological perspectives on change. Prerequisite: Admission to the Social Work Advanced Standing Program. 3 hours

SWRK 6330 Advanced Seminar in Culture, Ethnicity, and Institutional Inequality in Social Work Practice  This course explores the social, psychological and structural implications of race and culture for social work practice. In order to relate more effectively to individuals and groups of different ethnic, cultural, and philosophical backgrounds, it is essential to: (1) gain knowledge about those differences; (2) understand our individual and collective reactions to those differences; and (3) discover ways in which those differences can be bridged within the context of social work practice. Prerequisite: Admission to the MSW program or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6350 Special Topics in Social Work  This is a variable topics, variable credit graduate level course for consideration of current and special interests in Social Work. Specific topics and number of credits will be announced each time the course is scheduled. May be repeated for credit. 1-4 hrs.

SWRK 6360 Theory and Practice of Group Treatment  The focus of this seminar is on the theory and practice of social group work in clinical settings. Consideration is given to such issues as group
dynamics, therapeutic factors, leadership, composition, direct and indirect intervention, and the use of group activities under various conditions and different settings. Prerequisite: SWRK 6600 or SWRK 6620. 3 hours

SWRK 6380 Psychopathology for Social Work Practice This course provides students with knowledge of psychopathology as an aspect of human functioning and cultural labeling. Primary focus is on the interaction between physiological, developmental, emotional, and social aspects of adult and child psychopathology from both descriptive and psychodynamic points of view. General implications for social work intervention, ethical and value issues, and relevant research will receive some consideration. Emphasis of course sections may be adults, children, or adolescents. Prerequisite: SWRK 6310 or SWRK 6320 (may be taken concurrently) or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6400 Social Work Research Methods This course is designed to increase student knowledge of research as a tool for social work practice. Students will acquire the basic skills and knowledge to utilize existing social research for practice-related decision-making as well as the capacity to carry out systematic methods of inquiry in their practice setting. The implementation of these research skills will enhance social service delivery and contribute to the knowledge of the profession. Prerequisite: Admission to the MSW program or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6420 Evaluation of Social Work Practice This course focuses on the knowledge and skill to understand and carry out research on social work practice. The components of the course consist of program evaluation, designs appropriate for the evaluation of clinical practice, and studies of empirical research that address the features and effectiveness of interventions in relation to the conditions that are targeted for amelioration. The course is designed to help practitioners make informed judgments about the utility of different treatment modalities, and their import for service delivery design. Prerequisite: SWRK 6400 or SWRK 6750 or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6430 Leadership and Management in Human Services This course addresses knowledge, skills, and attitudes essential in building leadership for developing, supporting, and maintaining effective service delivery in human service agencies. The course focuses on such topics as leadership styles, power, motivation and conflict, task group skills, supervision, women and minorities in management, and ethics and values in leading human service organizations. Prerequisite: Admission to the M.S.W. program or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6530 Causes of Substance Abuse This course will examine the three major theories that explain the causes of psychoactive substance use: the biological, psychological, and sociological. The historical responses of society to substance use such as strategies including control, prevention, intervention, and treatment will be outlined and the research of various epidemiologic patterns and social correlates of substance use will also be studied. (Cross-listed with ADA 6060 and CECP 6340). 3 hours

SWRK 6450 Administration in Human Service Organizations The course introduces students to elements of administration in human service organizations. It focuses on project management, budgeting, fund development and marketing, and the role of governing boards in nonprofit organizations. The course is required for social work students concentrating in Policy, Planning and Administration. It is also intended to serve human services practitioners who are engaged in policy, planning, and administration. Prerequisite: SWRK 6100 or SWRK 6320 or approval of the School of Social Work Director of Admissions. 3 hours

SWRK 6550 Recovery Oriented Systems of Care This course will examine the understanding that recovery from substance abuse and dependency is a process of change which occurs within a systemic model of care that includes prevention, intervention, treatment, and management of substance abuse disorders. Students will have exposure to various substance abuse screening and assessment instruments, counseling strategies, and treatment modalities in order to assess, treat, and refer to the appropriate service providers along the continuum of care. (Cross-listed with ADA 6340 and CECP 6360). 3 hours

SWRK 6600 Seminar on Social Work Practice with Individuals, Families, and Groups This course provides a conceptual framework for understanding, analyzing, and implementing social work practice with individuals, families, and groups from various theoretical perspectives within a “systems” frame of reference.
ultimate goal is for students to initiate the development of a practice model that is logically sound and consistent with their convictions and style, and congruent with professional social work values. This course also focuses on the concrete relationship building and maintenance skills and knowledge necessary for working with diverse human systems. Such diversity should include gender, race, religion, sexual orientation, age, physical capabilities, socio-economic status, and political orientations. Prerequisite: Admission to the Social Work Advanced Standing Program. 3 hours

SWRK 6610 Social Work Practice: Individuals and Families This course focuses on foundation level knowledge and skills necessary to help individuals and families. This includes engagement, assessment, contracting, problem-solving, and evaluation with attention to social work values, theoretical knowledge and practice conditions. Problem-solving in a bio-psycho-social framework and facilitation of client coping, competency and empowerment undergird this course. Prerequisite: Admission to the MSW program. 3 hours

SWRK 6620 Social Work Practice: Groups and Organizations The course focuses on knowledge and skills related to social work practice with groups and organizations. Attention is paid to interpersonal, intrapersonal, and organizational levels of intervention. Practice skills in working with groups and organizations are developed. Prerequisite: SWRK 6610 3 hours

SWRK 6630 Seminar in Substance Abuse I An interdisciplinary seminar designed to reflect broadly conceived intervention strategies ranging from primary prevention to rehabilitation of the addict. The basic training in the principles of intervention and clinical practice will continue to be taught within the student's basic professional discipline. The seminar will be used to elaborate upon the application of these principles to the problems of substance abuse. 3 hrs.

SWRK 6640 Social Work Practice in Special Areas Study of problem-solving in specialized areas of social work practice. Focus upon the role of the social work practitioner in assessment, goal establishment, and intervention in the use of various social work methods in different arenas of practice. Specific topic will be announced each semester. 3 hrs.

SWRK 6650 Seminar in Substance Abuse II Continuation of SWRK 6630. 3 hrs.

SWRK 6660 Social Work Practice with Individuals This course will increase the student’s skill in providing social work practice with individuals. Social, psychological, economic, political, cultural, and biological factors are considered as they impact on the individual's efforts to grow and survive. Theoretical frameworks and related intervention models will be presented such as Humanistic, Existential, Solution-Focused, Crisis-Intervention, Psychodynamic, and/or Cognitive Behavioral. Particular attention will be paid to client's strengths. Prerequisite: SWRK 6600 or SWRK 6620. 3 hours

SWRK 6670 Program Planning The course addresses the models, stages, and tasks of program planning in the human services. Students will learn how to work with a team in planning a service program. The course focuses on the tasks that are essential in carrying out a problem analysis and needs assessment, formulating program goals and objectives, designing service programs, and writing program proposals. Corequisite: SWRK 6670 or consent of the School of Social Work Director of Admissions. 3 hrs.

SWRK 6680 Social Work Practice with Families This course will increase the student’s skills in providing social work practice with families. Family systems theory and principles and techniques of structural family therapy are the central foci of the course. Concepts from communications theory and related interventions are also covered. Aspects of human diversity are discussed in relation to their impact on family functioning. Prerequisite: SWRK 6600 or SWRK 6620. 3 hours

SWRK 6690 Advanced Seminar in Planning and Administration The course addresses the recruitment, selection, development, supervision, and evaluation of program staff. Selected aspects of personnel law, affirmative action, and sexual harassment are examined. Students have opportunities to develop skill in the analysis and management of critical incidents in staff relationships. SWRK 6690 is an advanced survey class that explores the often complex structure and functioning of non-profit organizations, and builds on previous learning in other
Policy, Planning, and Administration courses and the practicum. Prerequisite: SWRK 6670 or approval of the School of Social Work Director of Admissions. Corequisite: SWRK 6790 3 hours

**SWRK 6700  Seminar in Social Policy Practice**  This course is an integrative seminar in the Policy, Planning, and Administrative concentration that focuses on the skills needed for participation in the development and implementation of social policy in program planning and executive positions in the human services environment. The course focuses on technical and interactive aspects of practice, theoretical and ethical frameworks, and skills in the application of selected techniques of social policy practice. Prerequisite: SWRK 6100 or SWRK 6320 or approval of the School of Social Work Director of Admissions. 3 hours

**SWRK 6710  Field Education and Social Work Practice I**  This is the first of two field education courses that entails two hundred (200) hours practicing in a human service agency under the guidance of an agency social worker and a faculty member. Three six-hour field labs are conducted prior to beginning placement in an agency and one field seminar is held later in the semester. Field placement forms an integral part of the preparation of students for professional responsibilities in social work and serves as an integration of coursework into actual practice. All placements begin with an in-depth orientation to the specific agency setting. Students develop a working knowledge of the agency's functions, structure, processes, and its service provider role within the community. Students apply knowledge and develop skills in conducting interviews, problem identification, data collection, problem assessment, and goal formulation with the client systems in the context of social work values. Students integrate self-awareness and appreciation of diversity into professional practice. Prerequisite: SWRK 6610 (may be taken concurrently) 3 hours

**SWRK 6720  Field Education and Social Work Practice II**  This is the second of two field education courses that entails two hundred and twenty eight (228) hours of continuing practice in a human service agency under the guidance of an agency social worker and a faculty member. Two field seminars are held during the semester. Field placement forms an integral part of the preparation of students for professional responsibilities in social work. Students continue to develop a working knowledge of the agency's functions, structure, processes, and its service provider role within the community. Students improve their abilities to apply knowledge and develop skills in conducting interviews, problem identification, data collection, problem assessment, and goal formulation with the client systems in the context of social work values and ethics. Students continue to integrate self-awareness and appreciation of diversity into professional practice. The MSW field experience emphasizes generalist social work practice at the micro, mezzo, and macro levels. Prerequisite: SWRK 6610 or SWRK 6710. 3 hours

**SWRK 6750  Field Education in Advanced Standing Program Social Work Practice Interpersonal Practice Students**: This course provides the opportunity to integrate classroom learning into the application of clinical practice in face-to-face client situations. Placements are in agency units offering direct service experience with some combination of individuals, families, and groups for ninety-six (96) hours. Eight hours of field labs/seminar are also required. Students will practice skills related to assessment, intervention, termination, and evaluation of practice with client systems. Additional experiences are provided consistent with the student’s learning needs, social treatment objectives, and agency service plans. The placement will continue during fall and spring semesters in the same agency. Prerequisite: Admission to the Social Work Advanced Standing Program. Graded on a Credit/No Credit basis. 3 hours

**SWRK 6760  Field Education in Interpersonal Practice**  This course provides the opportunity to integrate classroom learning into the application of clinical practice in face-to-face client situations. Placements are
in agency units offering direct service experiences with some combination of individuals, families, and groups for two hundred and thirty six (236) hours. Two field seminars will also be required during the course. Students will practice skills related to assessment, intervention, termination, and evaluation of practice with client systems. Additional experiences are provided consistent with the student's learning needs, social treatment objectives, and agency service plans. The placement will continue during fall and spring semesters in the same agency.

Prerequisites: [SWRK 6720 or SWRK 6750] and SWRK 6660 (may be taken concurrently). Graded on a Credit/No Credit basis. 3 hours

SWRK 6770 Field Education in Social Policy, Planning, and Administration

Field education in the social policy, planning, and administration concentration (PP&A) is intended to provide students with opportunities to develop and exercise practice skills for designing, maintaining, and changing social systems. Field placements in social welfare organizations and special programs are arranged in accordance with student interests and abilities for approximately two hundred and thirty six (236) hours. Two field seminars will also be required during the course. Students are introduced to the theory and technique of planning and design in the planning seminar and in other courses. The student integrates and applies the knowledge given in the classroom to his/her field placement setting with the guidance of the field instructor and faculty liaison. Prerequisite: SWRK 6720 or SWRK 6750. Graded on a Credit/No Credit basis. 3 hours

SWRK 6780 Advanced Field Education in Interpersonal Practice

This course is a continuation of SWRK 6760. Students will remain in same field placement as the previous semester and continue direct service experiences and other activities to complete two hundred and thirty six (236) hours. One field seminar will also be arranged during the course. Although the course objectives are similar to those for SWRK 6760, a significant difference is that of the student’s refinement, articulation, and demonstration of methodology, helping skills knowledge, and self-awareness. The practicum is viewed as a progressive learning experience with the mastery of knowledge and skills increasing in both quality and quality from first to second semester. Prerequisite: SWRK 6760. Graded on a Credit/No Credit basis. 3 hours

SWRK 6790 Advanced Field Education in Social Policy, Planning, and Administration

Field education in the social policy, planning, and administration concentration (PP&A) is intended to provide students with opportunities to develop and exercise practice skills for designing, maintaining, and changing social systems. Field placements in social welfare organizations and special programs are arranged in accordance with student interests and abilities for approximately two hundred and thirty six (236) hours. One field seminar is also held during the course. Students are introduced to the theory and technique of planning and design in the planning seminar and in other courses. The student continues to integrate and apply the knowledge given in the classroom to his/her field placement setting with the guidance of the field instructor and faculty liaison. Prerequisite: SWRK 6770. Grade on a Credit/No Credit basis. 3 hours

SWRK 6800 Community Social Work

The aim of this course is to introduce students to the field of community social work, to present a range of community organizing philosophies and strategies and to assist students in developing the skills necessary for effective community organizing. Social workers have a rich history of involvement in community social work, organizing and advocacy. This course will be taught in social work’s long tradition of healing for the suffering and oppressed and to challenge unjust structures which cause oppression. Students will learn how to empower people to have control over the forces that affect their lives and to advocate for social justice. 3 hours

SWRK 6860 Applied Social Work Research

This course involves working as a member of a faculty-led research team. Students will be involved in the conceptualization of a research problem, the design of a methodology, the collection and analysis of data, and the development of a report of the findings. This course is offered occasionally, depending on the existence of an appropriate research project. SWRK 6860 may replace SWRK 6420 and one elective in the student's plan of study. Prerequisites: SWRK 6400, 6720. 3-6 hrs.

SWRK 6910 Advanced Social Work Practice with Individuals

This course is designed to provide students in the Interpersonal Practice concentration with the opportunity to deepen their knowledge of advanced clinical social work practice theory with its application to the at-risk client. Special attention is paid to interventions designed to promote the process of optimal ego functioning and successful resolution of developmental issues of individuals at-risk. The ego functions of the individual are seen as the system’s interface between the neuron-
biological system and the environmental systems of family and society in which it is nested. Prerequisites: SWRK 6380, SWRK 6660, and SWRK 6680. 3 hours

SWRK 6920 Advanced Social Work Practice with Children This course is designed to provide students in the Interpersonal Practice concentration with the opportunity to deepen their knowledge of advanced clinical social work practice theory with children and families in a variety of settings, e.g. child guidance, mental health, child welfare, schools, corrections, and medical settings. This course builds on the content of SWRK 6660, SWRK 6680, and SWRK 6380 and meets the requirement for the advanced practice course in interpersonal practice. Prerequisites: SWRK 6380, SWRK 6660, and SWRK 6680. 3 hours

SWRK 6960 Advanced Social Work Practice with Families This course provides students with the opportunity to broaden and deepen their knowledge of advanced clinical social work with families. Building on SWRK 6680, it provides theoretical content on structural strategic family therapy, which augments material previously taught, and may provide additional consideration of other perspectives such as communications and intergenerational approaches. Application of theoretical content is made to practice with families often encountered in social work practice, and seen as being at risk for problems in social and emotional functioning. The course is designed to meet the requirements for an advanced practice course in interpersonal practice. Prerequisites: SWRK 6380, SWRK 6660 and SWRK 6680. 3 hours

SWRK 6970 Advanced Social Work Practice in Selected Areas This course provides students an in-depth study of advanced interpersonal practice methods, models, and skills outside the scope of present course offerings. The topics vary from year to year, depending upon student interest and timeliness of topic. Prerequisites: SWRK 6660, SWRK 6680, and SWRK 6360 (may be taken concurrently). 3 hours

SWRK 7100 Independent Research 2-6 hrs.

Speech Pathology and Audiology

SPPA 5520 Communication Problems of the Aged This course acquaints the student with receptive and expressive communication problems common to older adults. Emphasis is on the clinical management of organic speech disorders and impaired auditory functions associated with aging. 3 hrs.

SPPA 5800 Psychoacoustics A study of the principles, theories, and methods which provide the bases for hearing measurement in clinical and experimental settings. Topics include quantification, measurement and analysis of acoustic signals and subjective responses to those signals. Prerequisite: Departmental approval. 3 hours

SPPA 5950 Language Development and Disorders for Educators This course provides the student preparing to be a classroom or special education teacher with information about the nature of spoken and written language, its development, conditions associated with language disorders, and the principles and methods of assessment and treatment for children, from infancy through adolescence, with specific language needs. Not applicable toward the master's degree in Speech-Language Pathology. 2 hours

SPPA 5970 Topics in Speech Pathology and Audiology Selected topics in speech pathology and audiology are systematically explored through lectures, laboratory experiences, and student projects. Possible areas of study are instrumentation in audiology, manual communication, electrophysiologic audiometry, computer applications to speech communication, and contemporary professional issues. a. Autism 3 hrs. b. American Sign Language I 3 hrs. c. American Sign Language II 3 hrs. 1-4 hrs.

SPPA 5980 Readings in Speech Pathology and Audiology Arranged on an individual basis to provide students the opportunity to pursue independently the study of special areas of interest in depth. 1-4 hrs.

SPPA 6010 Advanced Speech Science Overview of the anatomy, physics, biology, physiology, and psychology of human speech production and speech perception. This course is intended to focus not
only on well-established concepts in speech science, but also on the many research areas in which our understanding is incomplete.  Prerequisite: Department approval.  3 hrs.

SPPA 6030 Anatomy and Physiology of Audition and Balance A study of the anatomy and function of structures important to audition and balance.  Prerequisite: Department approval.  2 hrs.

SPPA 6150 Research Methods in Speech-Language Pathology and Audiology This course deals with methods and procedures for gathering, reducing and analyzing data to reach conclusions concerning hypotheses regarding communication disorders and processes.  Prerequisite: Department approval.  3 hrs.

SPPA 6160 Instrumentation in Audiology This course introduces the basic principles and applications of electronics and electronic instruments as they pertain to audiology. The first section of the course will be an introduction to basic principles of DC and AC electronics, with a particular focus on the concept of electrical impedance. The second section of the course will consist of a survey of the principles of operation and use of a variety of instruments that are used to generate, record, reproduce, control, calibrate, and measure electrical signals.  Prerequisite: Department approval.  3 hrs.

SPPA 6190 Seminar in Speech and Hearing Science Selected topics in speech and hearing science are systematically explored through individual study projects. Instrumentation, procedures, and techniques employed in perceptual, physical and physiological analyses of normal speech and hearing are among the areas considered. Topics vary from semester to semester and are announced in advance. Prerequisite: Department approval.  1-4 hrs.

SPPA 6200 Auditory Disorders This course deals with pathologies and disorders of the outer ear, middle ear, inner ear, the auditory nerve, and the central auditory pathways, including causes, treatments, and impact on hearing. Coverage of tinnitus and hyperacusis also is included.  Prerequisite: Department approval.  2 hrs.

SPPA 6210 Diagnostic Audiology I This course, which is one of two courses devoted to diagnostic audiology, deals with routine and special audiometric techniques for assessing hearing disorders to determine the need for medical or rehabilitative intervention.  Prerequisite: Department approval.  4 hrs.

SPPA 6220 Hearing Aids Components, characteristics, evaluation, selection, use and maintenance of hearing aids are studied in detail.  Prerequisite: Department approval.  3 hrs.

SPPA 6230 Pediatric Audiology This course deals with the identification, measurement, and management of hearing impairment in infants and young children.  Prerequisite: Department approval.  3 hrs.

SPPA 6240 Educational Audiology This course deals with educational, psychological, and vocational needs of the hearing impaired child and the parameters of educational programming. Prerequisite: Department approval.  3 hrs.

SPPA 6250 Industrial and Public Health Audiology A study of hearing conservation programs in industry, including noise measurement, damage-risk criteria, hearing measurement, and medico-legal problems; noise as a public health hazard; and hearing screening and deafness prevention programs. Prerequisite: Department approval.  2 hrs.

SPPA 6310 Diagnostic Audiology II A course dealing with electrophysiological and other advanced audiological techniques for assessing peripheral and central auditory disorders to determine the need for medical or rehabilitative intervention. Prerequisite: SPPA 6210 Diagnostic Audiology I or equivalent.  4 hrs.

SPPA 6320 Diagnostic Audiology III This course, the third in a series of courses in diagnostic audiology, focuses on electrophysiologic techniques used for the assessment of vestibular disorder. Prerequisite: SPPA 6310  3 hours
SPPA 6330 Auditory Habilitation of Children  This course deals with the assessment, management, and remediation of hearing impaired children in the areas of language, speech, and auditory skills development. Prerequisite: Department approval. 2 hrs.

SPPA 6340 Management of Audiologic Practice  A study of principles important to establishing and managing an audiologic practice. Topics include professional credentials, ethics, quality of service, legal issues, and business management. Prerequisite: Department approval. 2 hrs.

SPPA 6350 Otoacoustic Emissions  This course focuses on otoacoustic emissions, their measurement, interpretation, and integration in neurodiagnostic assessment. Prerequisite: Departmental approval. 1 hour

SPPA 6360 Geriatric and Rehabilitative Audiology  This seminar builds on knowledge already gained by the students through prior academic preparation as well as through clinical experience. Topics covered include general aspects (biological, sociological, and psychological) of aging, myths and attitudes regarding aging, the aging auditory system, and contemporary rehabilitative and counseling considerations unique to older persons who are hearing impaired. Prerequisite: Departmental approval. 2 hours

SPPA 6361 Cochlear Implants  This seminar builds on knowledge already gained by the students through prior academic preparation as well as through clinical experience. The overall focus is on pre- and post operative evaluation, treatment, and management of those considering and receiving cochlear implants. Prerequisite: Departmental approval. 2 hours

SPPA 6390 Seminar in Audiology  Selected topics in audiology are systematically explored through critical analyses of literature and through individual study projects. Pediatric audiology, geriatric audiology, hearing aids, residual hearing, and aural rehabilitation are among the possible areas of study. Topics vary from semester to semester and are announced in advance. a. Rehabilitative Audiology b. Geriatric Audiology c. Hearing Aids d. Cochlear Implants Prerequisite: Department approval. 1-4 hrs.

SPPA 6392 Data Analysis and Interpretation  This course provides a basic introduction to computational data analysis followed by use of selected statistical packages to analyze and interpret data. Prerequisite: Departmental approval. 2 hours

SPPA 6400 Voice Disorders  Organic, neurologic, and functional disorders of the larynx are studied in depth. Prerequisite: Departmental approval. 2 hours

SPPA 6405 Cleft Palate and Craniofacial Disorders  This course provides a broad examination of the speech, language, voice and resonance disorders that may co-occur with cleft palate and several common craniofacial conditions. The oral-facial structures are examined with particular attention given to the role of the velopharynx in speech production. Congenital and acquired structural disorders are discussed, including those associated with treatment for cancer of the head and neck. 2 hours

SPPA 6420 Stuttering  Theories and therapies applicable to the understanding and clinical management of stuttering are studied in depth. Prerequisite: Departmental approval. 3 hrs.

SPPA 6430 Aphasia in Adults  This course deals comprehensively with the identification and treatment of communication problems in the adult aphasic individual. Prerequisite: Department approval. 3 hrs.

SPPA 6440 Motor Speech Disorders  This course examines dysarthrias and verbal apraxis as manifested in children and adults. Prerequisite: Department approval. 3 hrs.

SPPA 6450 Augmentative and Alternative Communication  This course deals with alternative and augmentative communication (AAC) for individuals with severe communicative disorders. Strategies and technologies for establishing or restoring functional communication are investigated. Communication disorders of various etiologies are surveyed in relation to intervention needs. Assessment, intervention, and advocacy are discussed in detail. Practical and simulated experiences with low- and high-technological AAC are included. Overall
communication needs are highlighted in reference to educational, vocational, and social interaction purposes. Prerequisite: Department approval. 3 hrs.

SPPA 6490 Seminar in Speech-Language Pathology  Selected topics in speech pathology are systematically explored through critical analysis of literature and through individual study projects. Voice disorders, articulation disorders, language disorders, cleft palate, and stuttering are among the possible areas of study. Topics vary from semester to semester and are announced in advance. Prerequisite: Department approval. 1-4 hrs.

SPPA 6530 Diagnosis and Appraisal  The student is instructed in methods and procedures for evaluation of speech and language disorders. Prerequisite: Department approval. 3 hrs.

SPPA 6570 Disordered Language Development  Procedures and techniques for the identification, diagnosis, and clinical management of developmental disorders of language are explored intensively in this course. Prerequisite: Department approval. 3 hrs.

SPPA 6580 Theoretical Bases for Therapy  In this course disorders of communication are examined in terms of servo-system, learning theory, and personality theory. 3 hours

SPPA 6690 Ethics, Counseling and Professionalism  Professional and philosophical questions are analyzed as they apply to the contemporary practice of speech-language pathology and audiology. Approaches to counseling clients and their families are addressed. Prerequisite: Departmental approval. 3 hours

SPPA 6700 Clinical Practicum  Supervised clinical experience in the evaluation and/or management of speech, language and/or hearing disorders. Credit/No Credit only. Prerequisite: Department approval. 1 – 4 hours.

SPPA 6710 School Internship in Speech-Language Pathology  This is a 10 week intensive speech-language pathology practicum for students seeking endorsement as Teachers of Speech-Language Impaired in the state of Michigan or teacher certification in other states requiring school speech-language therapy internships. Prerequisite: Department approval. 6 hours

SPPA 7000 Master's Thesis  6 hours
SPPA 7100 Independent Research  2 – 6 hours
SPPA 7120 Professional Field Experience  2 – 12 hours

Graduate College
GRAD 7000 Master's Thesis  Candidates for the master's degree may elect to write a thesis in their field of specialization under the supervision of a thesis committee. Prior to the first registration in 7000, Master's Thesis, a Permission to Elect form (available at www.wmich.edu/grad/forms/html) must be completed and the student must meet with the Coordinator of Theses and Dissertations in the Graduate College so that the student is informed about the regulations pertaining to the preparation and publication of the manuscript and to the requirements for research involving regulated subjects and hazardous materials. Master's theses involving research with protected or regulated subjects must include documentation indicating compliance with federal, state, and University requirements for the protection of human/animal subjects or appropriate use of genetic or radioactive materials and chemical hazards. Written approval from the board/committee/officer must be included as an appendix to the thesis. The use of Guidelines for the Preparation of Theses, Projects, and Dissertations is required. This publication is available for purchase in Western's Campus Bookstore, or for free downloading at www.wmich.edu/grad/guidelines.pdf. The course 7000, Master's Thesis, is six credit hours and may be registered for in increments of one to six hours. Following a student's first enrollment in 7000, the student must have continuous enrollment in 7000 until all thesis requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the thesis within the first six hours of registration will be required to continue to enroll in 7000; however, only six hours of 7000 will count toward meeting the program requirements.
for the master’s degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. The thesis is graded on a Credit/No Credit basis. In case a student wishes to appeal a negative decision by the student's master's thesis committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case a master's thesis committee cannot reach unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the Dean of the Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the thesis. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the thesis committee if the case merits it. 6 hrs.

GRAD 7100 Independent Research Designed for highly qualified advanced graduate students, or small groups, who wish to pursue individual studies or projects under the direction of a member of the Graduate Faculty. The faculty member shall be the instructor of record who is responsible for turning in a grade to the Registrar’s Office. A Permission to Elect form, signed by the student’s graduate advisor and the faculty supervisor, must be submitted to the Records Office prior to registration. 2-6 hrs.

GRAD 7110 Readings in Doctoral Specialization In consultation with a faculty member, the doctoral student will design a reading list of 20 to 30 books in a specialized area; students wishing additional guided reading may register a second time. The student will master these works independently and, in consultation with faculty members, select a representative list of approximately 20 works on which to be evaluated in a two-hour oral examination, conducted by a committee of at least two faculty members. Prerequisite: Doctoral Candidacy. 3 hrs.

GRAD 7120 Professional Field Experience Designed for graduate students nearing completion of their degree who wish to pursue internships or apprenticeships. Effective internships relate to the student’s professional goals, require the student to function within the standard procedures of the setting, and require the student to assume increased specified professional activities. Because the work for a 7120 is ordinarily a culminating experience, students may enroll for 7120 only when the departmental graduate advisor or director deems that they have completed all appropriate course work and any other requirements that should precede the field experience. Permission to elect 7120 can be granted only when the student’s graduate advisor or committee deems that the project is integral to the student’s program of study and approves a prospectus outlining goals, rationale, activities, and methods of evaluation of the proposed field experience. 7120 should not supplant required or expected courses in the graduate program. If a graduate program has a required internship or field experience, approved by the university curricular review process, a maximum of 12 hours of 7120 may be applied to the graduate degree. 2-12 hrs.

GRAD 7130 Practicum in Teaching in the Discipline A practicum in teaching in the discipline will be done as collaborative teaching with an experienced faculty member in a broad-based undergraduate course. There will be opportunity for both guided praxis and reflection on praxis. 3 hrs.

GRAD 7200 Specialist Project The Specialist Project is designed for the units offering the specialist degree. Candidates for the specialist degree may elect to write a project in their field of specialization under the supervision of a project committee. Prior to the first registration in 7200, Specialist Project, a Permission to Elect form (available at www.wmich.edu/grad/forms.html) must be completed and the student must meet with the Coordinator of Theses and Dissertations in the Graduate College so that the student is informed about the regulations pertaining to the preparation of the manuscript and to the requirements for research involving regulated subjects and hazardous materials. Specialist projects involving research with protected or regulated subjects must include documentation indicating compliance with federal, state, and University requirements for the protection of human/animal subjects or appropriate use of genetic or radioactive materials and chemical hazards. Written approval from the board/committee/officer must be included as an appendix to the project. The use of Guidelines for the Preparation of Theses, Projects, and Dissertations is required. This publication is available for purchase in Western's Campus Bookstore, or for free downloading at www.wmich.edu/grad/guidelines.pdf. A specialist project is six credit hours. It may be registered for in increments of one to six hours. Following a student's first enrollment
in 7200, the student must have continuous enrollment in 7200 until all project requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the project within the first six hours of registration will be required to continue to enroll in 7200; however, only six hours of 7200 will count toward meeting the program requirements for the specialist degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. The project is graded on a Credit/No Credit basis. In case a student wishes to appeal a negative decision by the student's project committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case a project committee cannot reach unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the Dean of the Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the project. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the project committee if the case merits it.

6 hrs.

GRAD 7250 Doctoral Research Seminar Units offering doctoral programs may use this number to designate their research seminars. Such seminars may be taken more than once by the student. Permission of instructor is required. 2-6 hrs.

GRAD 7300 Doctoral Dissertation The Doctoral Dissertation is required in all doctoral programs (except the Doctor of Audiology) and is completed under the supervision of a dissertation committee. Prior to the first registration in 7300, Doctoral Dissertation, a Permission to Elect form (available at www.wmich.edu/grad/forms.html) must be completed and the student must meet with the Coordinator of Theses and Dissertations in the Graduate College so that the student is informed about the regulations pertaining to the preparation and publication of the manuscript and to the requirements for research involving regulated subjects and hazardous materials. Doctoral dissertations involving research with protected or regulated subjects must include documentation indicating compliance with federal, state, and University requirements for the protection of human/animal subjects or appropriate use of genetic or radioactive materials and chemical hazards. Written approval from the board/committee/officer must be included as an appendix to the dissertation. The use of Guidelines for the Preparation of Theses, Projects, and Dissertations is required. This publication is available for purchase in Western's Campus Bookstore, or for free downloading at www.wmich.edu/grad/guidelines.pdf. A doctoral dissertation varies in credit from a minimum of 12 credit hours to a maximum of 24 credit hours. The hours required in a program of study are determined by the student's department. The course 7300, Doctoral Dissertation, may be registered for in increments of one or more hours. Following a student's first enrollment in 7300, the student must have continuous enrollment in 7300 until all dissertation requirements are completed satisfactorily and approved by the appropriate bodies. A student unable to complete the dissertation within the program-stipulated hours will be required to continue to enroll in 7300; however, only the program-stipulated hours for 7300 will count toward meeting the program requirements for the doctoral degree. For students not enrolled in Summer I and Summer II sessions, pre-enrollment in the subsequent Fall semester is necessary for access to library resources during Summer I and Summer II. Continuous enrollment is defined as enrollment in all Fall and Spring semesters from the initial enrollment to the semester in which the student graduates. If the student will graduate in Summer I or Summer II, the student must be enrolled in that session. The dissertation is graded on a Credit/No Credit basis. In case a student wishes to appeal a negative decision by the student's doctoral dissertation committee, the student shall first take the appeal to this same committee, which shall hear the appeal and render a decision. In case a doctoral dissertation committee cannot reach unanimous agreement and the student wishes to appeal further a negative decision, a Review Committee shall be established consisting of the Dean of the Graduate College, the appropriate academic dean, and the chairperson or director of the unit. The Review Committee shall seek to resolve the controversy without passing on the dissertation. The Review Committee handling such a case is limited to procedural actions, such as reconstituting the doctoral dissertation committee if the case merits it. All doctoral dissertations will be microfilmed by ProQuest/UMI. The student is also required to prepare an abstract of the dissertation for publication in Dissertation Abstracts International. 12-24 hrs.

GRAD 7320 Doctoral Clinical Internship Designed for doctoral students pursuing a program-required 2,000 clock-hour internship at an approved professional site. Enrollment is approved for students with the
Prerequisite academic preparation by the department committee supervising the area of the student's training. Permission of department is required. 1-4 hrs.

**GRAD 7350** Graduate Research Units offering doctoral programs may use this number to designate research projects for their doctoral students. Such projects may be taken more than once by the student. Permission of instructor is required. 2-10 hrs.

**GRAD 7400** Teaching in Higher Education This course will prepare Western Michigan University graduate teaching assistants for teaching in the twenty-first century learning environments. The course will consist of instruction in the lecture environment, collaborative-learning environment, and adoption of appropriate technology to the classroom. Prerequisite: Permission of the department, college, and Graduate College is required. 1-3 hrs.

**GRAD 7450** Teaching Practicum in Higher Education This course continues the preparation of Western Michigan University graduate teaching assistants for teaching in the twenty-first century learning environments. The course will focus on the application of knowledge gained in GRAD 7400 via the preparation of course materials demonstrating mastery of instructional techniques for the lecture environment, collaborative-learning environment, and adoption of appropriate technology to the classroom. Prerequisite: Permission of the department, college, and Graduate College is required. 1-3 hrs.

**Evaluation**

**EVAL 6000** Foundations of Evaluation This course is designed to introduce students to the fundamental logic and methodology of evaluation, as it applies to the full range of potential evaluands including products, services, personnel, programs, projects, policies, interventions, organizations, manufacturing processes, information and communication systems. Topics will include an introduction to evaluation theory and models, needs assessment, the generation of comprehensive criterion checklists, setting standards, collecting and synthesizing mixed method data, drawing explicitly evaluative conclusions, and the basics of presenting evaluation findings to different client audiences. 3 hrs.

**EVAL 6010** Interdisciplinary Seminar in Evaluation This seminar will provide a forum for the integration of core evaluation concepts across the program, developing an understanding of evaluation as a profession, and for exchange of ideas among evaluation students, faculty, and industry representatives from multiple disciplines. Topics will include: the history and nature of the evaluation profession, evaluation standards, meta-evaluation, the application of evaluation to different types of evaluand, similarities and differences in evaluation approaches used for different purposes, current issues in evaluation, and needs/opportunities for innovation in evaluation. 1 hr.

**EVAL 6970** Advanced Evaluation: Variable Topics This course will present various advanced topics in evaluation theory, methodology, and/or practice, as applied to a diverse range of evaluands (e.g., products, policies, programs, and personnel) across a variety of disciplines, industries, and/or sectors. Although designed primarily for the interdisciplinary Ph.D. in Evaluation, this course is also likely to be of interest to students in other programs. Prerequisite: Permission of instructor. Prerequisites: SPED 537 or equivalent and consent of department. 1-3 hrs.

**EVAL 7100** Independent Research 2-6 hrs.

**EVAL 7110** Readings in Doctoral Specialization 3 hrs.

**EVAL 7120** Professional Field Experience 2-9 hrs.

**EVAL 7300** Doctoral Dissertation 1-12 hrs.