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College of Engineering and Applied Sciences

InSPIRE

College of Engineering and Applied Sciences
Western Michigan University

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Engineering management joins ranks of globally certified programs

WMU's master's degree in engineering management is now one of six programs certified globally by the American Society for Engineering Management (ASEM).

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Graduate students awarded research and travel grants

Congratulations to the recipients of the Graduate Student Research and Travel Grants during 2016-17.

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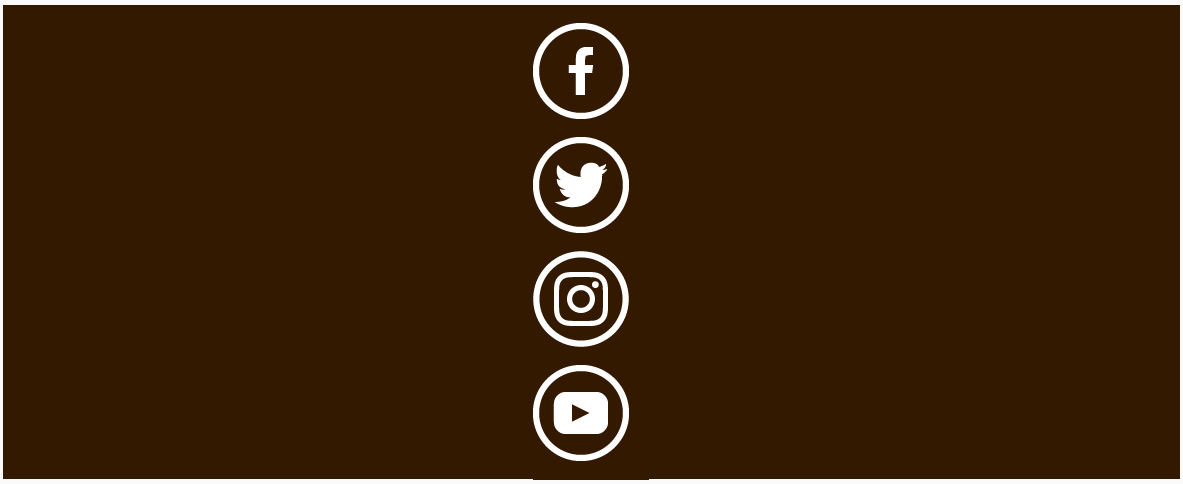

Our mailing address is:
1903 W. Michigan Ave.
Kalamazoo, MI 49008-5314

Engineering management joins ranks of globally certified programs

Dr. David Lyth

WMU's master's degree in engineering management is now one of six programs certified globally by the American Society for Engineering Management (ASEM). The certification is designed to recognize master's programs that meet the rigorous standards of the organization.

According to ASEM, "Certification represents outstanding achievement in quality and content by those programs who achieve this distinction, and it places them among the elite in the country in offering their graduate programs."

"We are so pleased to have our program recognized with this prestigious certification," said Dr. Steve Butt, chair of the Department of Industrial and Entrepreneurial Engineering and Engineering Management. "Our faculty is outstanding and have created a solid program that meets the needs of employers, challenges our students and makes them ideal candidates for leadership positions in industry."

Dr. Larry Mallak

Dr. David Lyth and Dr. Larry Mallak lead the program and were notified that it passed its initial certification in November. ASEM evaluators visited campus in October to assess the program quality and meet with students, faculty, alumni and staff involved in the program. The evaluators were impressed with what they observed and noted the rigor of the program.

Engineering management is a multidisciplinary field that bridges the gap between engineering and business, integrating the management of people, money and projects. This focus appeals to students with engineering and technical backgrounds who seek to advance their technical knowledge while adding management skills. The demand for leadership in modern manufacturing and service-based industries has dramatically increased the need for people with both skill sets.

Senior, full-time engineering faculty teach courses in the program, with core courses in engineering management, quality, capital budgeting and project management. Graduates of

WMU's program lead engineering efforts in companies such as Google, Apple, General Motors, Stryker, Denso, JR Automation and many others.

Students who graduate from the newly certified program will earn the Certified Associate in Engineering Management (CAEM) credential. The CAEM is recognized internationally in the engineering management community as a mark of quality for professionals in engineering management and is the stepping stone to the Certified Professional in Engineering Management (CPEM) credential. Graduates of the engineering management master's program already benefit from WMU's Registered Educational Provider status with the Project Management Institute and earn credit toward project management certifications as a Project Management Professional (PMP) and a Certified Associate in Project Management (CAPM). Many also graduate with their Six Sigma Green Belt certification.

The 30-credit graduate program is offered in Kalamazoo, as well as in Grand Rapids and beginning in fall 2018, at a regional location in Florida. Florida classes will meet monthly on Fridays and Saturdays to accommodate busy professionals and those who fly in for classes.

For additional information, contact the program advisor, Dr. David Lyth, at david.lyth@wmich.edu or (269)276-3368.

Graduate students awarded research and travel grants

Congratulations to the following recipients of Graduate Student Research and Travel Grants during 2016-17. Twenty students from the College of Engineering and Applied Sciences received the awards. WMU's Graduate Student Research Fund and Travel Grants supports graduate students engaged in independent scholarly research, scientific inquiry, inventive technology and original artistic activity. Grants are fully funded and administered by the Graduate College and range up to $1,000. Students may apply for up to $600 of additional support to defray the cost of international travel.

*indicates student received additional funding for international travel

Akram, Ayaz

Electrical and Computer Engineering

Travel (Sep 16)

X86 Computer Architecture Simulators: A Comparative Study

Akram, Ayaz

Electrical and Computer Engineering

Travel (Jan 17)

X86 Computer Architecture Simulators: A Comparative Study

Alcantara, Jerico

Chemical and Paper Engineering

Research

Direct Succinic Acid Production from Lignocellulosic Biomass Using Sequential Solid-State and Slurry Fermentation with Mixed Fungal Cultures

Aledhari, Mohammed A.

Computer Science

Research

Design and Implementation of Eye-Like Smart Wearable Device for Blind and Visually Impaired People

Aledhari, Mohammed A.

Computer Science

Research

A New Obstacle Avoidance Algorithm In Support of Visually Impaired Individuals

Al Qaralleh, Mohammad

Civil and Construction Engineering

Research

Fatigue Behavior of Reinforced Concrete Beams Strengthened with Externally Bonded Carbon Fiber Reinforced Polymers

Awan, Muaaz Gul

Computer Science

Research

Accelerating Proteomics Software Pipeline Using Graphical Processing Units for Speeding Up Protein Analysis for Systems Biology Studies

***Bansode, Subodh**

Electrical and Computer Engineering

Travel

Design and Implementation of Regulated Pressure Brace with On-Board Control and Monitoring Abilities for the Treatment of Scoliosis

Bilal, Ghassan

Electrical and Computer Engineering

Travel

Network Reduction for Frequency Domain Transient Analysis of Power Components

Chlaihawi, Amer Abdulmahdi

Electrical and Computer Engineering

Travel

Novel Screen Printed and Flexible Low Frequency Magneto-Electric Energy Harvester

Ferguson, Alexandra

Electrical and Computer Engineering

Travel

Using Experimentally Informed Neuron Models to Find Optimal Neural Stimuli in the Medicinal Leech

Hussain, Mohammed

Electrical and Computer Engineering

Travel

Equivalent Representation of Machine Winding in a Frequency Domain Model for Fast Transient Studies

Save the Date

Engineers Week Dinner

February 20, 2018 in the Bernhard Center

5:30 pm Social Hour

6:30 pm Dinner

7:30 pm Program

Featuring Don McMillan, nationally known comedian and engineer

"The Funny Side of Engineering"

Don McMillan, comedian and engineer, will be the featured speaker during this year

Watch for details and ticket information in the February InSPIRE!

New director of academic advising joins the college

Tammi Smith joins the college this month as Director of Academic Advising. She replaces Rebecca Scheffers, who departed at the end of the year to spend more time with her family.

Smith has been an academic advisor at WMU since 1999, most recently serving as assistant director of advising and coordinating pre-health advisor for the College of Arts and Sciences. She has a bachelor of science degree in biology and environmental studies from Western, and a master of science degree in animal behavior/chemical ecology, also from WMU.

Smith has received a number of awards from WMU, including the Carl and Winifred Lee Honors College Distinguished Service award for advising efforts with Honors College students (2012) and the semiannual "Make a Difference Award" (2014).

Tammi Smith, the new Director of Academic Advising at the College of Engineering and Applied Sciences.

58 undergraduates receive research awards

Congratulations to the following students who received Undergraduate Research Excellence Awards during 2016-2017. Of the 67 awards university-wide, 58 were presented to students from the College of Engineering and Applied Sciences.

Alhouz, Odai

Civil Engineering

Effectiveness of Bicycle Signals for Improving Safety and Multimodal Mobility at Urban Intersections

Faculty Mentor: Dr. Jun-Seok Oh

Anderson, Adam

Aerospace Engineering

Preventing Concussion with Innovative Smart Helmet

Faculty Mentor: Dr. Pnina Ari-Gur

Aurand, Andrew

Mechanical Engineering

3D Printer Plastic Recycler

Faculty Mentor: Dr. Lee Wells

Bakker, Joshua

Aerospace Engineering

Preventing Concussion with an Innovative Smart Helmet

Faculty Mentor: Dr. Pnina Ari-Gur

Black, Dustin

Civil Engineering

Developing Policies and Guidelines for Enhancing Non-Motorized Mobility within Construction Zones

Faculty Mentor: Dr. Upul Attanayake

Bliss, Mark

Mechanical Engineering

BCM Espresso Machine

Faculty Mentor: Dr. Richard Meyer

Bosma, Gregory

Mechanical Engineering

Development of a CubeSat Separation Mechanism

Faculty Mentor: Dr. Kristina Lemmer

Brower, Christian

Mechanical Engineering

Plastic Recycler Project

Faculty Mentor: Dr. Lee Wells

Carlo, Eric

Industrial and Entrepreneurial Engineering

Laser Augmented Diamond Drilling

Faculty Mentor: Dr. John Patten

Caruso, Joseph

Manufacturing Engineering Technology

SLA 3D Bio Printer

Faculty Mentor: Dr. Pavel Ikonomov

Chantrenne, Tyler

Mechanical Engineering

CubeSat ADCS Validation and Testing Apparatus

Faculty Mentor: Dr. Jennifer Hudson

Cole, Ian

Mechanical Engineering

Compressor for Portable Biogas Purification System

Faculty Mentor: Dr. Muralidhar Ghantasala

Cook, Eric

Manufacturing Engineering Technology

SLA 3D Bio Printer

Faculty Mentor: Dr. Pavel Ikonomov

Curle, David

Mechanical Engineering

BCM Espresso Machine

Faculty Mentor: Dr. Richard Meyer

Drumm, Robert

Mechanical Engineering

Use of a Magnetorheological Fluid for System Actuation

Faculty Mentor: Dr. Claudia Fajardo-Hansford

Drummond, Andrew

Mechanical Engineering

WALI (Western Aerospace Launch Initiative) CubeSat Separation Mechanism

Faculty Mentor: Dr. Kristina Lemmer

Griffith, Matthew

Aerospace Engineering

Separation and Orbital Propagation

Faculty Mentor: Dr. Jennifer Hudson

Haji, Magreth

Aerospace Engineering

Shape Memory Alloys (Nano- Composite)

Faculty Mentor: Dr. Pnina Ari-Gur

Hiller, Ross

Mechanical Engineering

Design and Kinematic Analysis of CubeSat Separation Method

Faculty Mentor: Dr. Kristina Lemmer

Hiltner, Samuel

Aerospace Engineering

LASS Unmanned Aerial System

Faculty Mentor: Dr. William Liou

Hughey, Logan

Chemical Engineering

Periphyton-Fungi Co-Culture Systems for Capturing Non- Point Phosphorus

Faculty Mentor: Dr. Andro Mondala

Izaguirre, Gregory

Aerospace Engineering

Propellant Tank and Feed System

Faculty Mentor: Dr. Kristina Lemmer

Kerber, Thomas

Aerospace Engineering

NEON-EAGER Air Microbiome Sampler

Faculty Mentor: Dr. Kristina Lemmer

Kurth, Robin

Mechanical Engineering

Compressor for Biogas Purification System

Faculty Mentor: Dr. Muralidhar Ghantasala

Lerner, Kevin

Aerospace Engineering

Magnetorquer Controller

Faculty Mentor: Dr. Jennifer Hudson

Lloyd, Nathan

Construction Engineering

Laboratory Evaluation of a Bridge Field Monitoring System

Faculty Mentor: Dr. Upul Attanayake

Malphrus, Jason

Mechanical Engineering

Cooling System Development for an Automotive Application

Faculty Mentor: Dr. Claudia Fajardo-Hansford

McNamara, Dylan

Mechanical Engineering

BCM Espresso Machine

Faculty Mentor: Dr. Richard Meyer

Melton, Andrew

Mechanical Engineering

Fatigue Testing of Materials

Faculty Mentor: Dr. Daniel Kujawski

Miller, Cole

Engineering Management Technology

SLA 3D Bio Printer

Faculty Mentor: Dr. Pavel Ikonomov

Mirshab, Ramin

Mechanical Engineering

Advanced Materials and Manufacturing Techniques for IC Engine Induction Systems

Faculty Mentor: Dr. Claudia Fajardo-Hansford

Mohsini, Ali Akbar

Aerospace Engineering

Magnetorquer Controller

Faculty Mentor: Dr. Jennifer Hudson

Molina, Roberto

Aerospace Engineering

3-Axis Magnetorquer for CubeSat

Faculty Mentor: Dr. Jennifer Hudson

Mooney, Margaret

Aerospace Engineering

Airborne Microbiome Project

Faculty Mentor: Dr. Kristina Lemmer

Nimtz, Brandon

Mechanical Engineering

Biogas Separator and Storage Tank

Faculty Mentor: Dr. Muralidhar Ghantasala

Nye, Jacob

Mechanical Engineering

Design of Computerized Surgical Screwdriver

Faculty Mentor: Dr. Peter Gustafson

Ostroy, Greg

Computer Science

Sampling Criteria for Monitoring Influenza Emergencies Under Constrained Testing Capabilities

Faculty Mentor: Dr. Diana Prieto

Pines, Wilson

Engineering Design Technology

SLA 3D Bio Printer

Faculty Mentor: Dr. Pavel Ikonomov

Pokorzynski, Vincent

Mechanical Engineering

Piezoelectric Energy Harvesting for White Canes

Faculty Mentor: Dr. Pnina Ari-Gur

Pool, Michael

Aerospace Engineering

LASS Unmanned Aerial System

Faculty Mentor: Dr. William Liou

Preston, Mackenzie

Mechanical Engineering

Plastic Recycler

Faculty Mentor: Dr. Lee Wells

Richardson, Trevor

Mechanical Engineering

Biogas Separator and Storage Tank

Faculty Mentor: Dr. Muralidhar Ghantasala

Graduate students shine in 2017 Research and Creative Activities Poster Day

Congratulations to our graduate students who were winners in WMU's 2017 Research and Creative Activities Poster Day:

Ahmed Sulaiman M Alharbi

Mentor: Dr. Elise de Doncker

Computer Science

"Deep Neural Network Model for Twitter Sentiment Analysis by Incorporating User-Level Information"

Hasnaa Imad Al- Shaikhli

Mentor: Dr. Elise de Doncker

Computer Science

"An Approximation Algorithm Motif Finding in DNA Sequences"

Katie Gaviglio

Mentor: Dr. Andro Mondala

Chemical and Paper Engineering

"Phosphorus Speciation of Riverbed Sediments from a Eutrophic Watershed in SW Michigan: Assessment of Phosphorus Recovery Potential"

Megan Kuk

Mentor: Dr. Steven E. Butt

Industrial and Entrepreneurial

Engineering and Engineering Management

“Analysis of Emergency Medical Services Response Continuum for Motor Vehicle Crashes in Michigan”

Robert Makin

Mentor: Dr. Steven Durbin

Electrical and Computer Engineering

“Exploiting Disorder in Novel Semiconductors for Optoelectronic Devices”

Lusanni Acosta Rodriguez

Mentor: Dr. Valerian Kwigizile

Civil and Construction and Engineering

“Evaluation of the Effectiveness of Clearview Font and Fluorescent Yellow Sheeting on Michigan’s Freeways”

Trials Funded by the U.S. Institute of Education Sciences

Tai-Hsien Wu

Sponsor: Dr. William Rantz

Chemical and Paper Engineering

A Numerical Approach to Investigate the Influence of Deformable Blockages on Blood Flow in an Elastic Vessel

Congratulations to Dr. Sam Ramrattan

Congratulations to Dr. Sam Ramrattan, professor in the Department of Engineering Design, Manufacturing and Management Systems, who recently received the prestigious British Foundry Medal at a ceremony in London. He is a world leader in metal casting research and runs the college’s student-centered metal casting lab.

Dr. Sam Ramrattan receiving his British Foundry Medal.

College Snapshot: 2016-17 Career Outcomes for Undergraduates