English Studies + STEM: Envisioning a 21st Century Curriculum

Gwen Tarbox

*Western Michigan University, gwen.tarbox@wmich.edu*

Follow this and additional works at: https://scholarworks.wmich.edu/acad_leadership

**WMU ScholarWorks Citation**


https://scholarworks.wmich.edu/acad_leadership/55
The Heart of the Matter

In addition to sharing information on successful STEAM regarding our involvement in preparing WMU undergraduates to take both the STEM fields and the humanities into account as they pursue careers in a variety of disciplines?

- What can the WMU English Department do to enhance its involvement in preparing WMU undergraduates to take both the STEM fields and the humanities into account as they pursue careers in a variety of disciplines?

- How can English Department faculty work with colleagues across the university to encourage STEAM initiatives?

Rethinking the English Major: Respecting Traditions/Supporting Innovation

The last 2 decades, English departments have experienced a change in mission, especially as the traditional liberal arts curriculum has altered to afford students the education curriculum has altered to afford students the

The term STEAM, which is featured in The Heart of the Matter, refers to adding "art," broadly conceived, into the STEAM curriculum.

In response to this call to action, my Academic Leadership project poses these questions:

- What can the WMU English Department do to enhance its involvement in preparing WMU undergraduates to take both the STEM fields and the humanities into account as they pursue careers in a variety of disciplines?

- How can English Department faculty work with colleagues across the university to encourage STEAM initiatives?

STEAM Working Group – WMU Center for the Humanities

In Spring 2014, Dr. Gigante and I wrote a proposal for a WMU Center for the Humanities grant to establish a STEAM Working Group. We asked Dr. Steve Malcolm, Professor of Biological Sciences, and Dr. Jocelyn Steanie, Professor of Communication, to join us as organizers. The grant was awarded in April 2014 for implementation in Fall 2014.

The STEAM Working Group will address these topics:

- Session One: Defining STEAM
  - At the first meeting, participants will develop a working definition of STEAM as it applies in a higher education environment. Facilitators will lead the group in establishing a homework assignment for the next meeting: reading about a successful STEAM initiative at a peer or aspirational university.

- Session Two: Learning About STEAM Initiatives in Higher Education
  - In addition to sharing information on successful STEAM initiatives undertaken at other universities, participants will listen to a short presentation by a faculty member from a university in the region who has lead a STEAM initiative on his or her campus.

- Session Three: Developing a STEAM Initiative at WMU
  - The working group will discuss possible STEAM initiatives at WMU and decide upon one to pursue. A guest from OVPR will assist the working group on applying for external and internal funding related to the initiative.

- Session Four: Creating a WMU STEAM Action Plan
  - For its final session the STEAM working group will develop an action plan for its initiative and determine whether the group should continue to meet.

Developing Achievable Goals

In 2013, the department appointed me and Dr. Maria Gigante, a rhetoric and writing studies assistant professor who specializes in science writing, to explore ways we could enhance our curriculum to benefit WMU students interested in pursuing STEM careers and to encourage English majors to explore STEM connections to their work in the humanities.

Our goal was to identify the gaps in our ability to engage in the STEAM movement and to produce achievable goals to address those gaps.

Our resulting goals include:

- Reaching out to faculty across the university to build STEAM partnerships
- Increasing the number of course offerings that focus on the relationship between STEM and the humanities

Course Offerings Project

In Fall 2013, I chaired an ad hoc committee on developing STEAM initiatives in the Department of English. In addition to studying other English departments’ STEAM projects, our committee recommended establishing a number of courses around these topics: digital writing, science writing, and medicine and literature. As a result, the following courses are or will be taught in 2014 and 2015:

- English 4060: Writing for Social Media, Dr. Maria Gigante (Fall 2014)
  - Students will participate in different online social networks and critically examine them to explore the available means of persuasion in digital forums. Issues that are central to this course include how identity and ethos are negotiated in social media networks, and how knowledge is made, accepted, and distributed.

- ENGL 3060: Rhetoric, Writing, and Culture: Writing in the Sciences, Dr. Maria Gigante (Spring 2015)
  - This is a writing course designed specifically for science majors who want to learn how scientists construct arguments for their peers and for non-expert publics. Students will learn to critically analyze scholarship in their fields and to create their own projects through various media.

- ENGL 4100, Special Topics: Medicine and Literature (tentative date: Fall 2015)
  - Designed as a venue to introduce humanities and science students to depictions of illness, the practice of medicine, and ethnic issues surrounding these topics as they appear in Western literature over the last three centuries.

From Gaps to Goals Change

The slide from Peter C. Dams’ presentation that inspired my ALA Project.

While all of the ALA sessions were informative and helpful, I found that Peter C. Dams’ workshops on systems theory provided me with the practical tools necessary to address our department’s curricular evolution. Dr. Dams encouraged me to identify gaps in our current curriculum and in our engagement with STEM departments, to establish achievable goals designed to address those gaps, and to seek feedback regarding our projects so that our department remains continuously engaged in making its STEAM collaborations and course offerings a part of our culture.

- In Spring 2015 and Fall 2015, I will work with Dr. Gigante to gauge student enrollment and satisfaction with our STEAM course offerings, with the goal of exploring the development of an English minor in Science, Literature, and Culture.

- In addition to the working group and curricular initiatives, I will endeavor to connect WMU’s Department of English to HASTAC, an international organization designed to bring scholars from every discipline together to create a common set of practices for integrating critical, scholarly, and technological approaches to problem solving.

- In Spring 2013, I attended the Annual HASTAC Conference in Toronto, Ontario, where I learned about how creative writing programs at the University of Southern California and at the University of Maryland-Baltimore are enabling graduate students to create and to publish short stories, novels, and poems within digitized environments. I hope to work with my colleagues to explore this sort of writing instruction at WMU.

English Studies + STEM: Envisioning a 21st Century Curriculum

Dr. Gwen Athene Tarbox, Department of English, ALA 2013-2014