

EGR 811 – Foundations of Engineering Education, FS17

Instructor: Dr. Recktenwald, gdr@egr.msu.edu

Office: 2328b Engineering Building, (517) 432-3658,

Lectures: Tu & Tr from 12:40-2:00 in 1202 Engineering Building

Office hours: TBD

Website: Desire-to-learn (D2L.msu.edu) - Check for announcements, updates, & solutions.

Textbook(s): “Teaching and Learning Stem – A practical Guide” by Felder and Brent.

“Classroom Assessment Techniques: A Handbook for College Teachers” by Angelo and Cross

Other assigned readings will be provided by the instructor or available electronically.

Overview: This course is designed to serve as a practical course in engineering pedagogy for graduate students interested in academic careers. The course is a mixture of three components: developing practical skills and knowledge of pedagogy, understanding engineering education literature and best practices, special topics relevant to building a successful academic career.

** Successful completion of this course counts toward the MSU Certification in College Teaching program (<http://grad.msu.edu/CCTP>)

Content: Some course content will be adjusted to fit the specific experiences and goals of the students taking the course.

This course will contain several special topics by guest lecturers.

Objectives: Upon completing this course students will

- (1) be able to set course objectives for a new course.
- (2) understand and be able to implement backwards course design.
- (3) be able to develop assessments relevant to course objectives.
- (4) be able to write a “Teaching Philosophy Statement”.
- (5) be experienced in teaching and assessing teaching.
- (6) have an understanding of best practices for engineering education.
- (7) be able to critique others work and utilize critiques to enhance their own.

Course Projects:

Class discussion (20% + 10%) – Classroom discussions are a significant part of this course. Your discussion grade is based on your participation in course discussions and leading of an in-class reading discussion.

Teaching Statement or Teaching Philosophy (15%) – Academic positions with a teaching requirement require a 1-2 pages document that outlines your teaching philosophy, experience, and goals. You will be writing and editing your teaching statement throughout the semester.

Teaching practicum (25%) – Since this is a teaching course, you are required to teach one lecture during the semester. I will work with you to find a course and instructor or ‘class’. Your grade for this project will be comprised of your preparation, your notes, a statement of how this lecture is related to course objectives, the lecture itself, and a reflection paper on the experience.

Peer assessment report (10%) – For this project you will attend two lectures, one by a professor in your department and one by a peer in this class. After attending the lectures you will write up an assessment of the strengths and weaknesses of the presentations you observed.

Course development portfolio (20%) – As we discuss course design you will be working to design an engineering course in your area of expertise. Your course design assignments and feedback will constitute your course development portfolio.

Grading: Your course grade will be based on your in-class grade total, see projects for percentages.

Class total %	☉90%	☉85%	☉80%	☉75%	☉70%	☉65%	☉60%	<60%
course grade	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0

Peer Review: Many assignments in this course will reviewed and critiqued by other members of the class. All critiques are required to be constructive. The peer review process is heavily utilized in academia, and it is vital that we understand how to give and how to receive critiques.

Office Hours: I am delighted to meet with students during office hours to clarify course issues and concepts. It is expected that students will give forethought to their questions prior to attending office hours. Don’t be embarrassed to visit with a “simple” or “easy” question; often the answers to simple questions provide the most insight.

Electronics: Cellphones and computers can be distracting to yourself and other students. Recent research has shown the use of cellphones in class can lead to significantly lower course scores. Unless you receive prior permission to use them, they should remain silently in your bag.

Class Attendance: Because this is a discussion based class, class absence and tardiness significantly detract from your learning and peer learning. *Students are expected to prepare for class by reading material prior to class and bringing questions and/or discussion points to lecture.* Class absence is not an excuse for being unaware of course announcements or course materials. Lecture notes should be obtained from a peer in the class, the instructor is not responsible for providing lecture notes due to a student's absence.

Communication: Email and other communication should comply with professional standards of corporate best practice. Use informative subject lines like “EGR 811 question: What is scaffolding?”.

Accommodations for Students with Disabilities: Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at rcpd.msu.edu. Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation ("VISA") form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). Requests received after this date may not be honored.

Ethics: Engineers must adhere to a rigorous code of professional ethics. Unethical conduct in ME811 will result in the maximum disciplinary action permitted by Michigan State University. Unethical conduct in this class includes, but is not limited to, plagiarism of papers. “Turn-it-in” will be used to check the originality of student work. There is a professional duty to report unethical conduct by others, including peers. If you have any questions, your instructor is available to discuss issues of professional expectations and ethics.

The Associate Students of Michigan State University (ASMSU) proudly launched the following Spartan Code of Honor academic pledge.

As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.” – Spartan pledge