

ENE 68700: Mentored Teaching in Engineering

Spring 2019 (Tentative syllabus, 11/9/18)

Instructor

Michael C. Loui, Dale and Suzi Gallagher Professor of Engineering Education
Office: Armstrong Hall, Room 1331
Telephone: (765) 496-0194. E-mail: mloui@purdue.edu
Office hours: to be determined; and by appointment

Classes

Section 001: Tuesdays, 4:30 to 5:20 p.m., in Armstrong Hall, Room 3109
Section PEO: Online

Credit

One credit. The three-credit version will not be offered this semester. If you want to pursue a project for additional credits, contact the instructor in the first week of the semester.

Course Web Site

Blackboard (<https://mycourses.purdue.edu/>): Spring-2019-ENE-68700-001-XLST

Prerequisites

Registration in or completion of ENE 50600 (Content, Assessment and Pedagogy) or ENE 68500 (Educational Methods in Engineering); or permission of the instructor. Significant concurrent responsibility for teaching an engineering course (e.g., instructor of record, assigned teaching assistant).

Course Overview and Purpose

This course enables graduate students enrolled in any engineering program to deepen their understanding of college teaching and learning through a semester-long teaching experience with mentoring, feedback, and reflection. Most course topics complement topics in the prerequisite courses. The mentoring component could be structured to meet a requirement for the Certificate of Practice in College Teaching (CPCT) offered by the campus's Center for Instructional Excellence. This course fulfills a requirement of the Teaching & Learning in Engineering graduate certificate program.

Course Themes and Objectives

We will take a scholarly, professional approach to the teaching of engineering. Because teaching is a scholarly practice, you will relate your teaching activities to the research literature. Because teaching is a professional practice, your teaching experience

should resemble an engineering internship. As in an internship, you will work with a mentor to improve your skills. Like practicing engineering professionals, engineering instructors have the ethical obligations that we will explore during the course.

We will emphasize ongoing reflection to connect the readings with your concurrent teaching experiences. Through the assignments and discussions, in class sessions and online, you will have the opportunity to learn to

- Think critically about the relationships between your teaching experiences and the readings in this course and in the prerequisite courses
- Use reflection, mentoring, and student feedback to learn from teaching experiences
- Assemble a teaching portfolio that shows the quality and scholarship of your teaching in a public form, for possible peer review
- Explain the reasons for your choices of teaching methods
- Analyze evidence of student learning
- Identify and address ethical issues in teaching situations

Required Texts

- Svinicki, M. & McKeachie, W. J. (2014). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers*, 14th ed. Belmont, CA: Wadsworth. The 13th edition (2011) is similar and often less expensive; it will be acceptable.
- Additional readings as assigned. Available in Blackboard.

Class Sessions

In section 001, class sessions will include discussions of the readings, discussions of cases, and a few short lectures. Most sessions will include “Teachers’ Corner”: students can ask questions about practical teaching problems, to which we can apply knowledge from the readings and assignments, and we can share the wisdom gained from our diverse experiences. In the Discussions area of Blackboard, the “Teachers’ Corner” forum will be shared by students in both sections.

In section PEO, online students will have the opportunity to discuss the same readings and cases asynchronously each week. Lectures will be available as short video segments posted in Blackboard.

Assignments

Course assignments will help you achieve the objectives of the course. Brief descriptions of the assignments follow. Detailed instructions and grading rubrics will be provided when each assignment is given. Unless otherwise specified, all written assignments must be submitted in Blackboard. Due dates are specified in the Course Schedule section below.

Weekly Reflections

Each week, you will write an informal individual reflection of about 300 words on your current teaching experiences. Writing prompts will be provided. Some prompts will

invite you to connect your actual experiences in the classroom with the academic readings in ENE 687 and in the prerequisite courses. Two reflections will respond to the feedback that you will receive from your mentor (see below). One reflection will respond to early feedback that you will collect from students. One reflection can result from observing an experienced instructor conduct a class session. Each reflection should take no longer than one hour to complete.

You will post each weekly reflection in the Discussions area in Blackboard, and you will then comment substantively on the postings of at least two other students. A substantive comment requires at least 50 words. The individual reflection will be due at 8:00 a.m. on each Tuesday. The comments on other students' reflections will be due one week later. Although there will be 12 opportunities for reflections and comments, at most 10 reflections and at most 20 comments submitted on time will count toward the course grade.

Mentoring

You will choose a teaching mentor in your department/school. The mentor will observe you in a classroom teaching situation twice during the semester. The mentor should be an experienced instructor such as a professor or a more advanced graduate student. If you are a teaching assistant for a course, the course's instructor of record could serve as your mentor.

You will meet individually with your mentor four times: before and after the first classroom observation by your mentor, and before and after the second classroom observation by your mentor. Each meeting should take about 30 minutes. During the meetings before the observations, you will discuss your goals for the forthcoming class sessions and review your lesson plans. During the meetings after the observations, you will receive feedback from your mentor. After these meetings, you will write a reflection on the class sessions and on what practices you might change in the future. You may meet your mentor additional times as well.

Course Portfolio

You will assemble a benchmark course portfolio, a short version of a teaching portfolio. This portfolio will show the quality and scholarship of your teaching. Your portfolio will include copies of a syllabus, assignments, quizzes, other assessments, or lesson plans that you develop, examples of student work with your feedback (grading), and two essays that

- Justify the choices of teaching methods and activities, with references to the readings
- Analyze evidence of student learning

Each essay is expected to run from 1,000 to 1,500 words.

The course portfolio will be due at the beginning of Finals Week. You might submit the course portfolio as part of a teaching portfolio if you apply for an academic position.

Course Synthesis

At the end of the semester, you will examine how this course has influenced your teaching and your plans for an academic career. Expected length: 1,000 to 1,500 words.

Expected Time Commitment

The readings and assignments will require an average of two to three hours per week outside class sessions.

Grading

You may generally expect to receive feedback on your submissions within one week. More time may be necessary in extenuating circumstances, such as travel to professional conferences.

<i>Assignment</i>	<i>Points</i>
Weekly reflections (up to 10)	30
Comments on other students' reflections (up to 20)	20
Course synthesis paper	40
<u>Course portfolio</u>	<u>60</u>
Total	150

Course grades will be assigned on a criterion-reference scale as follows; minimum totals for grades may be lowered, but they will not be raised:

A 93%	A- 90%	B+ 87%	B 83%	B- 80%
C+ 77%	C 73%	C- 70%	D 60%	

Course Policies

We will follow all standard campus policies on accommodations for disabilities and religious practices, academic integrity, student conduct, and nondiscrimination:

<http://www.purdue.edu/drc/students/accommodations.html>

http://www.purdue.edu/studentregulations/regulations_procedures/classes.html

<http://www.purdue.edu/odos/osrr/academic-integrity/index.html>

<https://www.purdue.edu/provost/teachinglearning/honor-pledge.html>

http://www.purdue.edu/studentregulations/student_conduct/index.html

http://www.purdue.edu/purdue/ea_eou_statement.html

Attendance

Although attendance will not be recorded, you are expected to participate actively in class sessions and online. When students share ideas, all students benefit. In class sessions, you will collaborate to analyze readings and cases, and to review each other's draft papers.

Late Submission Policy

You are expected to submit assignments on the due dates. Because graduate students have many important responsibilities outside this course, there are no penalties for submitting assignments late, with the exception of the weekly reflections. You should use this late submission policy only when warranted, and you should tell the instructor

about your intention to submit late. You should submit all late assignments by the final class session.

Electronic Devices

During class sessions, you may use laptop and tablet computers for work related to ENE 687. Please silence cell phones. If your cell phone rings during a class session, you will be asked to bring snacks to the following class session.

Emergencies

For any emergency, call 911. If we hear an indoor fire alarm, we will evacuate to Stadium Mall outside the Student Health Center. If we hear an outdoor emergency siren, or if we receive an emergency notification to shelter in place, we will proceed as follows. For a tornado, we will move to the basement of Armstrong Hall. For a civil disturbance, we will remain in the classroom or in an interior hallway.

Course Schedule

Date	Assignments due	Readings due	Classroom activities
Week 1 Jan. 8		Svinicki & McKeachie Ch. 1 “Introduction”; Ch. 2 “Countdown for course preparation”; Ch. 3 “Meeting a class for the first time”	Course overview; Seven Principles
Week 2 Jan. 15	Weekly reflection #1	Enerson et al. “An introduction to classroom assessment techniques”	Classroom assessment
Week 3 Jan. 22	Weekly reflection #2	Svinicki & McKeachie Ch. 5 “Facilitating discussion”; Ch. 15 “Experiential learning”; Ch. 19 “Laboratory instruction” Frederick, “The dreaded discussion”	Questioning skills

Date	Assignments due	Readings due	Classroom activities
Week 4 Jan. 29	Weekly reflection #3	Svinicki & McKeachie Ch. 11 "Motivation in the college classroom"	Student motivation
Week 5 Feb. 5	Weekly reflection #4	Svinicki & McKeachie Ch. 13 "Different students, different challenges" Lewis, "Using midsemester feedback and responding to it"	Early feedback; classroom incivility
Week 6 Feb. 12	Weekly reflection #5	Svinicki & McKeachie Ch. 7 "Assessing, testing, and evaluating"; Ch. 9 "Good designs for written feedback for students"; Ch. 10 "Assigning grades"	Construct and critique grading rubrics
Week 7 Feb. 19	Weekly reflection #6	Bernstein et al. Ch. 2 "Capturing the intellectual work of teaching: The benchmark portfolio."	Teaching portfolios
Week 8 Feb. 26	Weekly reflection #7	Svinicki & McKeachie Ch. 12 "Teaching culturally diverse students" Grant Eldridge case	Individual differences, valuing diversity
Week 9 Mar. 5	Weekly reflection #8	Svinicki & McKeachie Ch. 20 "Teaching students how to become more strategic and self-regulated learners"; Ch. 21 "Teaching thinking"	Promoting metacognition

Week 10			Spring break
Mar. 12			
Week 11	Weekly reflection #9	Svinicki & McKeachie Ch. 22 "The ethics of teaching"	Ethics scenarios from Keith-Spiegel et al., <i>The ethics of teaching</i>
Mar. 19		Murray et al., "Ethical principles for college and university teaching" in Fisch	
Week 12	Weekly reflection #10	Hanson, "Between apathy and advocacy: Teaching and modeling ethical reflection" in Fisch	More ethics scenarios from Keith-Spiegel et al., <i>The ethics of teaching</i>
Mar. 26		Rodabaugh, "Institutional commitment to fairness in college teaching" in Fisch	
Week 13	Weekly reflection #11	Svinick & McKeachie Ch. 23 "Vitality and growth throughout your teaching career"	Teaching evaluations
Apr. 2		Benton & Cashin "Student ratings of teaching: A summary of research and literature"	
Week 14	Weekly reflection #12		To be determined
Apr. 9			
Week 15	Drafts of course portfolio essays		Peer review of course portfolio essays
Apr. 16			

Week 16 Course
synthesis
Apr. 23

To be determined

Finals Course
week portfolio

References and Supplemental Readings

- Benton, S. L., & Cashin, W. E. (2012). *Student ratings of teaching: A summary of research and literature*, IDEA Paper #50. Manhattan, KS: The Idea Center.
http://www.ideaedu.org/Portals/0/Uploads/Documents/IDEA%20Papers/IDEA%20Papers/PaperIDEA_50.pdf
- Bernstein, D., Burnett, A. N., Goodburn, A., & Savory, P. (2006). *Making teaching and learning visible: Course portfolios and the peer review of teaching*, Bolton, MA: Anker.
- Chickering, A. W., & Gamson, Z. F. (1991). Seven principles for good practice in undergraduate education. *New Directions for Teaching and Learning*, 47, 63–69.
- Dewar, J., Bennett, C., & Fisher, M. A. (2018). *The scholarship of teaching and learning: A guide for scientists, engineers, and mathematicians*. New York: Oxford University Press.
- Enerson, D. M., Plank, K. M., & Johnson, R. N. (2007). An introduction to classroom assessment techniques.
http://www.schreyerinstitute.psu.edu/pdf/Classroom_Assessment_Techniques_Intro.pdf
- Fisch, L., ed. (1996). *Ethical dimensions of college and university teaching: Understanding and honoring the special relationship between teachers and students*. *New Directions for Teaching and Learning*, 66. San Francisco, CA: Jossey-Bass.
- Frederick, P. (1981). The dreaded discussion: Ten ways to start. *Improving College and University Teaching*, 29(3), 109–114.
- Keith-Spiegel, P., Whitley, B. E., Balogh, D. W., Perkins, D. V., & Witting, A. F. (2002). *The ethics of teaching: A casebook*, 2nd ed. Mahwah, NJ: Lawrence Erlbaum.
- Lewis, K. G. (2001). Using midsemester feedback and responding to it. *New Directions for Teaching and Learning*, 87. San Francisco, CA: Jossey-Bass (pp. 33–44).