

College Classroom Course
College of Engineering - Engineering Professional Development
690 Teaching Science and Engineering: International Students, International Faculty,
#70817
Spring 2006, Wednesdays, 2:30-4:30
Room 2535 Engineering Hall

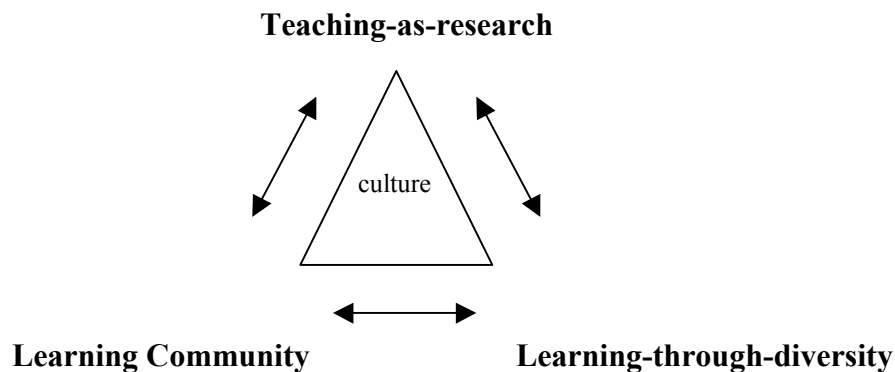
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Course Framework

Designed especially for graduate students in science, technology, engineering, and mathematics (STEM) disciplines, this course provides a unique forum in which to integrate cultural connections and global perspectives with the issues of learning-through-diversity, learning community, and teaching-as-research. We use the lens of “cultural connections and global perspectives.” The course is designed to promote the development of those skills and habits-of-mind, along with the knowledge base associated with international cultures and high-quality teaching, learning, and assessment. We define “teaching-as-research” as “a deliberate, systematic, and reflective use of research methods to develop and implement teaching practices that advance the learning experiences and learning outcomes of students as well as teachers.”



Consonant with this definition, you will develop your own plan for ongoing research where you can experiment with approaches to develop your own effective teaching practices that will maximize your students’ learning and involvement. Through learning-through-diversity and engaging in teaching-as-research as an interconnected cycle of teaching and learning, you will learn to use ongoing formative assessment to continually gauge your students’ learning and adjust your teaching accordingly. By participating in an inclusive learning community, you will, in turn, learn how to build an inclusive learning community for students.

Course Components

1. Learning through diversity: In this component, you will examine issues of teaching to diverse students (e.g., cultural, gender, and age-related issues), a focus of the course will be the paradigm shift from instructor-centered to student-centered curricula, various learning theories (e.g., learning as an active process, learning as socially constructed, and learning as cognitively guided), different learning styles (e.g., auditory, visual, kinesthetic), and common misconceptions (e.g., learning with understanding vs. memorizing).
2. Learning Community: In this component, you will learn strategies that connect students' prior knowledge and experience to new learning experiences, facilitate student interactions, and promote collaborative and active learning (e.g., case studies, cooperative learning, concept tests, and problem-based learning).
3. Teaching-as-research: In this component, you will learn about issues that affect the effectiveness of teaching (e.g., respect of, and attitudes towards students, availability, and clarity of goals and expectations) and about the purposes of assessment (e.g., to guide instruction, enhance learning, provide opportunities to learn, evaluate, and assign grades), the types of assessment (e.g., formative vs. summative, traditional vs. alternative), issues surrounding assessment (e.g., cheating, grading, and using rubrics) and analyze models of assessment design (e.g., procedurally vs. conceptually difficult questions, levels of conceptualization, and the content validity of problems)

Although we will focus on these three components early in the course, they will in fact be interwoven throughout the course as they must be in any effective course.

Course Goals and Objectives

After completing this course, graduate students as well as participating post doctoral candidates and faculty are expected to be active participants in an international learning community and more reflective practitioners who have a full appreciation of the interconnected cycle of learning-through-diversity, learning community, and teaching-as-research. You will be able to use ongoing formative assessment to continually gauge your students' learning and adjust your teaching accordingly. Hand-in-hand with learning about teaching-as-research and viewing your classrooms as sites for ongoing research into your own teaching, you will consistently seek to improve your teaching in ways that meaningfully enhance student learning.

As a result of this international teaching and learning experience, you will be able to

- Develop a deeper understanding of and appreciation for diverse cultures by
 - respecting cultural differences and understand cultural dynamics
 - identifying and appreciating similarities among diverse cultures
 - breaking down false stereotypes of groups and cultures
 - communicating effectively with students from diverse cultural backgrounds
 - gaining awareness of diversity resources for teaching and learning
 - building positive interactions between domestic and international students
 - providing support for and becoming more comfortable with networking with people from multiple cultures

- Create an inclusive classroom environment to engage all students by
 - being aware of and able to use diverse experiences of students to enhance and enrich everyone's learning
 - knowing how to address diversity issues in the classroom and acknowledging the inherent inequities in educational settings
 - using a variety of teaching practices that accommodate students' learning styles and needs
 - connecting to other learning and life experiences among peers, faculty, and other learners
 - facilitating student interactions that are functional, productive, and reflective of the learning goals
 - creating opportunities for active and collaborative learning

- Design effective learning experiences for students by
 - Starting with expected learning outcomes
 - Using ongoing formative assessment to continually gauge students' learning and adjust your teaching accordingly
 - Developing a deliberate, systematic, and reflective approach to teaching practices that advances the learning experiences and learning outcomes of students.
 - Using research as a basis for solving real world teaching and learning issues.
 - Using peer reviews as an opportunity to give and receive feedback for improvement.

- Articulate your approach to teaching and learning.

- Develop confidence in your abilities to teach for student understanding.

Special Needs

We wish to fully include persons with disabilities in this course. If you have special circumstances that you believe may affect your performance in this class, please meet with one of the instructors to make necessary accommodations that will enable you to fully participate. We will maintain complete confidentiality of any information you share with us.

Course Readings

Readings will be available on the course homepage on the learn@UW:

<https://uwmad.courses.wisconsin.edu/>

Course Requirements

1. Course Readings: Questions and Responses

Discussion of the readings and occasional weekly assignments will be an integral component of the weekly class sessions. In addition, you will be expected to read and reflect on the ideas and research presented in the readings. Come to class prepared to discuss the readings, offering additional insights, critiques, and questions. We look forward to intelligent questions and well-supported debates.

2. Cultural Presentation

Select a culture and research it by finding information on the web, reading books on the culture, and/or talking with people from the culture. Identify the social norms of people of this culture and think about how these might affect your teaching methods. Prepare a 15-minute presentation for the class on your findings.

3. Cultural Report

Prepare a written summary (3-5 pages, double-spaced) of your findings from your research for the Cultural Presentation.

4. Teaching and Learning Philosophy: Personal Statement

Beliefs, values, goals, and practices as they relate to teaching and learning have come to be known as one's teaching and learning philosophy. You will write, peer-review, and rewrite your teaching and learning philosophy twice during the semester. The peer-review will allow exposure to a range of ideas, lenses, and perspectives that can be used to refine your philosophy.

At the end of the semester, you will have several drafts of your teaching philosophy, the last of which you can use in your job search. Keep in mind that your philosophy may, and in fact, probably will, change over time, as you gain more experience teaching different courses, teaching to diverse students, and in different environments.

5. Micro-teaching: A Research Approach to Teaching and Learning

A distinctive feature of this course will be the research approach to microteaching. You will identify a concept or goal, design a teaching strategy (i.e., design the learning plan describing how you will present and assess a particular concept), teach, reflect, and re-design the plan for both student understanding and your continuous improvement. In keeping with the Teaching as Research philosophy, your microteaching strategies must include the perspective of the research literature for teaching in your discipline or a related area. The strategies must include assessment methods that provide formative assessment of the group's learning as well as feedback for the individuals in your group about their command of the material.

6. Learning Plan and Syllabus

The learning plan will be one to teach a concept in your discipline. The plan should include goals, learning outcomes, methods, and classroom assessment technique. If you are taking the course for three credits, the syllabus you design will be one for a course you most likely will be teaching as a new faculty member. It should include such things as: course logistics (course name, meeting times, office hours, texts), course components/framework, course goals, learning objectives, requirements, grading policies, and course schedule.

Evaluation

1. Evaluation and grading

Evaluation of student learning will be assessed in ways that correspond to the above experiences:

- a. Class participation
- b. Cultural presentation
- c. Learning plan
- d. Teaching and learning philosophy
- e. Micro-teaching experience
- f. Inclusive syllabus (three credits)
- g. Culture report (three credits)

2. Credit value

Students may enroll for either three or two credits. Course grades will be determined according to the following structure:

- a. For **two** credits:

Cultural presentation	10%
Review of paper in STEM education	10%
Learning plan	20%
Teaching & learning philosophy	10%
Micro-teaching with self critique	50%

- b. For **three** credits (all of above plus two more learning experiences):

Cultural presentation	10%
Review of paper in STEM education	10%
Learning plan	20%
Teaching & learning philosophy	10%
Micro-teaching with self critique	30%
Culture report	10%
Syllabus	10%

3. Rubrics for assessments of all assignments will include these criteria

- Demonstrate understanding of different cultures in teaching and learning
- Demonstrate understanding of learning through diversity
- Demonstrate understanding of teaching-as-research
- Demonstrate understanding of inclusive learning community

4. Late policy

Late papers and incompletes will involve penalties as a matter of fairness and courtesy to everyone in the class. Instructors will not be able to provide extensive written feedback for late papers. Students who submit late or incomplete assignments will receive lower grades up to one letter grade lower for each day submitted past the due date.