Instructor: Michael Sprague, Assistant Professor, School of Natural Sciences
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Discussion Time & Location: W 1:00 – 1:50 pm, COB 127

Office Hours: I will not have regular office hours for this course. However, students are welcome to e-mail, call, or just stop by my office. I am rarely on campus on Tuesdays & Thursdays, but can usually be reached via email or cell phone.

Course Webpage: Resources are located at

http://faculty.ucmerced.edu/msprague/math399_f2008.html

Co-requisite: Students must hold at least a 25%-time appointment as a Teaching Assistant for an undergraduate course in Applied Mathematics. Students must have either taken or are currently taking MATH 201 *Teaching & Learning in the Sciences*.

Course Units: One

Catalog Description: This course is centered on a student's classroom experiences as a Teaching Assistant in an undergraduate Applied Mathematics course. Provides a faculty-directed opportunity to implement teaching practices presented in the course Teaching and Learning in the Sciences (MATH 201). Course will involve video-taping of teaching, peer review, and weekly meetings with faculty.

Mike's Self-Assessment and Comments on Course:

This course is intended to provide a structured training mechanism for Teaching Assistants in Applied Mathematics. It is allowed to be taken up to two times, since it is a practicum, and would be of value to many students interested in improving their teaching.

I have been teaching university courses for about six years. However, I am no expert when it comes to teaching. As with most faculty members, I have very little formal training in teaching. While I get very good ratings in my student evaluations, I think it is mostly because (1) I use common sense in my teaching, (2) I do my best to promote a learning environment with mutual respect between me and the students, (3) I try to make it clear that I am doing my very best to help the students learn the material, (4) I try to be very receptive to students who are having difficulty grasping the material, and (5) I don't take myself too seriously. While these items help to get good student ratings, good student ratings do not speak well to how much students learned in the course, which is the most important thing!

It is my hope that we can help each other in this course to become more effective teachers. I think it really comes down to two things:
(1) How can we get our students to grasp the material better (beyond memorization)?
(2) How do we know to what extent we have succeeded?

The companion course MATH/QSB 201 was designed to expose you to modern ideas on effective teaching and assessment methods. You are expected to bring ideas presented in MATH/QSB 201 into this class. If I say something that is contradictory to what you learn in 201, by all means bring it up! Let's discuss it!

Course Goals: The theories of teaching and learning explored in MATH/QSB 201 describe real world phenomena and, as such, have implications for our practice as teachers. Given this, the goals of this course, University Teaching, are to 1) (in a math-specific context) implement and practice classroom applications of select elements of the Teaching as Research approach to instruction and 2) identify teaching challenges and use our understanding of the theory and evidence available in the teaching and learning literature to seek solutions. In short, we will be practicing implementing a learner centered, Teaching as Research approach to teaching in mathematics. We will do this both through activities designed to develop and practice relevant skills and by building a supportive teaching community in which we are all comfortable discussing our instructional challenges.

Learning Outcomes (What will this course do for you?):

To accomplish these goals, you will, by the end of the course, will be able to:

1. use your knowledge of the scholarship of teaching and learning to recognize and trouble shoot an instructional challenge;
2. develop and support an inclusive, respectful and fair learning environment;
3. identify or develop and implement instructional activities that address student variation in learning style;
4. effectively implement student centered, active learning pedagogies in your classroom;
5. constructively reflect on the instructional practices of your colleagues as well as your own;
6. conduct simple assessments that provide useful feedback to both you and your students about their learning as well as on the classroom environment and its impact on their learning;

Class organization Assessment and Scoring:

Class is organized around three categories of activities that are designed to enable you to achieve the learning outcomes: class discussions and activities, homework assignments to prepare you for the next class meeting, and two teaching events as well as a review of your in class instruction Each is discussed in turn below.

The first 15 to 20 minutes of every class meeting is set aside for a discussion of how your teaching is going, or more broadly as an opportunity to informally discuss instructional challenges with each other and to identify possible solutions. The idea is to practice looking to our knowledgeable colleagues for support and constructive solutions to teaching challenges. Ideally proffered solutions will be grounded in the literature of teaching and learning.

Homework and Class Preparation:

There will be minimal homework for this course. However, it is your responsibility to be prepared to discuss material taught in MATH 201 in the context of your own course.

True understanding grows from active engagement in a course and its content. Consequently, preparation, attendance and participation are mandatory components of this course. If you cannot avoid missing a class, you must inform Mike ahead of time. If you miss more than one scheduled class, you will have to complete a make-up assignment. Unexcused absences are grounds for receiving a *U* in the course.

Points will be earned weekly for preparation and participation. Please be sure to read the rubrics near the end of the syllabus to understand your specific responsibilities in this regard.

This course will be scored on a satisfactory (S)/unsatisfactory (U) basis. To earn a satisfactory (S):

- all attendance requirements must be met (see above).
- you must earn an average score of at least 2 for written homework.
- you must earn an average score of at least 2 for participation.

Rubrics for Participation

3 – Exemplary: Regularly makes thoughtful and appropriate contributions to discussions and activities that seek to broaden understanding and application of material, to facilitate synthesis and/or to rethink current understanding. Works to connect discussion to other parts of the course or external teaching and learning experiences. Regularly references evidence and scholarly resources during discussion. Encourages participation of others and is respectful of others contributions. Can earn exemplary participation in absence of exemplary preparation if able to move class discussions and/or activities forward productively due to analytical engagement.

2 – Sufficient: Contributions to discussions and class activities are on-topic and generally seek to improve understanding and/or to link or integrate current discussion topics with other course materials or external teaching and learning experiences. Engages classmates in a respectful, productive manner. Occasionally references evidence or scholarly resources.

1 – Insufficient: Contributions to discussions and class activities are very infrequent and/or do not enrich or broaden discussion because are superficial, off-topic or otherwise inappropriate. They are not offered in a way that promotes learning.

0 – Did not attend class

Rubrics for Written Homework

3 – Exemplary: Assignment has been complete in a timely, reflective manner. Complete understanding of material is not necessary, but rather evidence of a significant, honest attempt to thoroughly engage in and respond to the assignment and to assimilate and organize understanding of material in the course context.

2 – Sufficient: Assignment has been wholly complete in a timely fashion with good effort.

1 – Insufficient: Assignments have been only cursorily completed or not completed in the appropriate time frame.

0 – Did not complete

Textbooks: There are no required textbooks for this course. However, the list below is of titles deemed relevant and useful:

- W.J. McKeachie and M. Svinicki, *McKeachie's Teaching Tips, Strategies, Research, and Theory for College and University Teachers*, Houghton Mifflin, 2006.

Dropping the Course: Please see the UC Merced *General Catalog* for more details.

Special Accommodations: If you qualify for accommodations because of a disability, please submit a letter from Disability Services to the instructor in a timely manner so that your needs may be addressed. Student Affairs determines accommodations based on documented disabilities. I will make every effort to accommodate all students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance. Please speak with me during the first week of classes regarding any potential academic adjustments or accommodations that may arise due to religious beliefs during this term.

Academic Integrity: Academic integrity is the foundation of an academic community and without it none of the educational or research goals of the university can be achieved. All members of the university community are responsible for its academic integrity. Existing policies forbid cheating on examinations, plagiarism and other forms of academic dishonesty. The current policies for UC Merced are described in the Academic Honesty Policy. Go to http://studentlife.ucmerced.edu/ and look under "Student Judicial Affairs."