

**Engineering Professional Development 690
Diversity in the College Classroom (Fall 2005)**

General Course Information

1 credit

October 25 - December 15, University of Wisconsin-Madison

Course meets: Tuesdays, 10 am -12 pm, Science House (1645 Linden Dr.)

Course instructors:

Alice Pawley

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215-0594 (cell)

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261-1180

Course website:

<http://my.wisc.edu> under the “Academic” tab OR <https://uwmad.courses.wisconsin.edu>;
login with your UW ID and password.

Course email:

epd690-7-f05-hhh@lists.wisc.edu

Contact information for supporting programs:

The Wisconsin Program for Scientific Teaching

<http://scientificteaching.wisc.edu>

scientificteaching@mailplus.wisc.edu

The Delta Program in Research, Teaching, and Learning

<http://www.delta.wisc.edu>

info@delta.wisc.edu

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Course overview:

This course is a continuation from PP801/EPD 690. In this course, students will develop projects in a rigorous, peer-reviewed context. These projects may be based on the proposals developed in the “Action” section of the previous course, and may consist of instructional materials, course proposals or syllabi, grant proposals, instructional videos, websites, the diversity focus of a Delta internship proposal, or other projects focused around diversity in STEM/SBE teaching.

Course objectives:

During this course, you will:

- conceive of, develop and present a project on the topic of diversity in STEM/SBE
- learn how to receive, benefit from, and give constructive peer-review criticism regarding issues of diversity
- understand, and learn to apply concepts of “Teaching-as-Research,” “Scientific Teaching,” “Learning Community” and “Learning-through-Diversity” to your teaching.

Other course objectives will be co-constructed by the instructors and course participants during the first course meeting on October 25. These will be written up by the instructors and circulated by the second class meeting (on Nov 1) for your records.

Accessibility:

If you are a person with special circumstances that you believe will affect your class performance (for example, visual, hearing, or learning disabilities, or language differences), please let us know how we can make appropriate accommodations.

Student Assessment:

This course, as a graduate-level and optional course, will be graded based on a contract. In registering for this course, you are entering a simple contract with us the instructors: if you attend all the classes, participate in class discussions, and submit a good faith effort on the assignments that we describe below, you will receive an A for your course grade. Each uncompensated absence (see below) or missed assignment will result in lowering one grade level (i.e., A to AB, AB to B, etc.).

We understand that you may have responsibilities outside of class (professional meetings, sick children or partners, time-inflexible employers, etc.) that may cause you occasionally to miss class. We ask that you email us as soon as you know that you will miss class, and when you return to class, propose make-up work to compensate for your absence from class. As we will all miss the benefit of your insights when you are not there, we request that your make-up work be something that contributes to learning of the class. Please discuss your ideas with us.

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Expected “assignments”:

Project development

The main purpose of this course is to provide you with the structure and support to develop, and perhaps implement, a project of your choosing regarding the topic of diversity in STEM/SBE education. All classroom activities and most assignments will be organized around this project development.

Your project may be based on the action plan you developed from the previous course, or a different idea you have.

Consider the following possibilities:

- design and develop instructional materials (i.e. labs, case studies, problem-based learning activities, etc.) that can be used to educate faculty or students about diversity or enhance diversity in the classroom. Instructional material could be developed to teach:
 - undergraduate students about the value and impact of diversity on their college experience;
 - faculty how to be sensitive to diversity issues in their classroom;
 - a seminar on the value of diversity for colleagues or administrators.

Ideas might include:

- a video about group dynamics and diversity in the classroom for undergraduates; an accessible database of literature on diversity
- a collection of examples of diverse scientists or of your discipline taught in a social context.
- write a broader impact proposal for a grant you are planning to submit that incorporates some of what you have learned in this course into reaching broader audiences
- write a paper (and submit it for publication!) regarding how the topic of diversity is treated in your discipline
- develop a website the roles of women, ethnic minorities, people with disabilities, or other populations on the development of your discipline
- develop a course module that integrates diversity into an existing disciplinary course that you may need to teach some day
- write the diversity focus of a Delta internship proposal or a proposal to integrate diversity into an existing internship offering
- research the history of your discipline, and the contributions (or reasons for the lack thereof) of women and minorities to your field. Develop an informal educational product (website, poster, leaflet, museum exhibit) to share this history with others.
- other projects focused around diversity in science and engineering teaching.

Project initial description:

To make the best use of the 8 weeks we have together, we ask that you bring a 1-2 page write-up about the project you would like to pursue during this course. Include consideration of:

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- the goals of your project (and why these goals are important to you and your students)
- the audience for your project (and why you chose this audience)
- a short literature review/other background to support your idea
- what evidence you might need to prove the worth or success of your project

Peer review activity:

In university contexts, we often engage in activities which are determined academically acceptable if a selection of our peers have agreed that they are. We have designed peer review into the structure of this course to give you some experience in reviewing others' academic work, and to receive feedback on your own project from others engaged in similar pursuits.

You will be asked to:

- informally present your work to two of your peer participants
- provide specific, thoughtful feedback to two of your peer participants orally and by completion of a peer-review rubric that we will provide.

Project write-up and submission:

In addition to developing whatever project you like, we request that you write a short (5-10 page) paper describing the project. This paper should include the following:

- a description of the diversity-related issue/challenge you are addressing
- a rationale, supported with literature or a needs-assessment, for doing this project
- a description of your audience
- a description of your approach, supported by any relevant literature
- a plan for how you have/will assess or evaluate the success of your project
- a reflection on the development process (and, if relevant, the implementation) of your project.

In addition to this, we would like some kind of representation of your project to be submitted. For example, if your project is

- to create a video to be shown to faculty, then include the script
- to write a paper for publication, then include a draft
- to build a website to educate kids about your discipline, then include a mock-up or set of storyboards;
- to develop a module on the historical context of your discipline to be included in an intro geology class, then include class plans, handouts, a syllabus, or whatever else may be relevant.
- to redesign a lab you teach to be accessible to people with visual impairments, then include a video of how a real person with this disability tried out your modifications.

Please talk to us if you are unsure of how to “submit” your project.

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DCC Open Forum presentation:

We would like to give you the opportunity to share a visual representation of your projects, at whatever stage they are at by the end of the semester, in an “open forum” to members of the Delta teaching and learning community, the Wisconsin Program for Scientific Teaching community, and the broader UW-Madison community. We will discuss what this forum will look like throughout the course, as well as ways to visually translate your projects for display.

Course evaluation:

This course is experimental in two senses -- first, in the sense that this is the first time it has been offered, and second, that it is part of a larger research project for Delta. Because we hope to revise and improve the course for future offerings, you will be required to complete a course assessment at the end of the course. The evaluations will be conducted electronically and anonymously, but the person conducting the evaluation (not the instructors) will keep track of who has submitted an evaluation, so that the completion of the evaluation can be part of your grade.

Texts:

There are only a few required readings for this course. These will be posted on the course website. Other reading articles or chapters that may be circulated during the course are optional, based on your interest in the topic.

The required readings are:

Delta Pillars’ “one-pagers”: Teaching-as-Research, Learning Community, and Learning-through-Diversity.

Handelsman, Jo, Diane Ebert-May, Robert Beichner, Peter Bruns, Amy Chang, Robert DeHaan, Jim Gentile, Sarah Miller Lauffer, James Stewart, Shirley M. Tilghman, and William B. Wood. 2004. "Scientific Teaching." *Science* 304:521-522.

Course website:

We will be using a My UW Desire2Learn website that should be accessible through your My UW portal (<http://my.wisc.edu>). Here we will post the few required readings, as well as many supplementary readings as we can, links to useful websites, upcoming campus events that may be of interest, and the syllabus. We also have created a discussion forum -- if you have comments you would like to share between course meetings, feel free to post them here.

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Course Schedule

Week	Date	Class plan	Assignment due today
1	Oct 25	Introduction Course goals construction Guest: Don Gillian-Daniel, Delta Internship Program	Bring your action plan from the previous course.
2	Nov 1	Doing rigorous teaching research: <ul style="list-style-type: none"> • Delta's pillars • WPST's scientific teaching DCC Open Forum: structure and scheduling	Read: <ul style="list-style-type: none"> • Delta Pillar one-pagers • Handelsman et al, 2005 Initial project description due
3	Nov 8	Working time and project advising Guests: TBA	WORK ON YOUR PROJECT AT HOME
4	Nov 15	Personal project progress <ul style="list-style-type: none"> • Informal sharing of project progress and problems 	
5	Nov 22	Revisiting rigorous teaching research , including development of evaluation plans for each project	
6	Nov 29	Peer review session: guidelines and practice Ideas and questions about forum displays	Bring whatever materials, text, drawings, files, ideas you have created to share with your peer-reviewers
7	Dec 6	Translating projects to visual media	Project write-up due
8	Dec 13 To be rescheduled 3-5 pm?	DCC Open Forum (open to the public, including your guests!)	Visual display of projects due
Post course		Course evaluation	Complete online course evaluation