

**Plant Pathology 801/Engineering Professional Development 690  
Diversity in the College Classroom (Fall 2005)**

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**General Course Information**

1 credit

September 13 - October 18, 2005, University of Wisconsin-Madison

Course meets: Tuesdays, 10 am -12 pm, 594 Russell Labs

**Course instructors:**

Jo Handelsman

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**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:**

[plpath801-3-f05-agg@lists.wisc.edu](mailto:plpath801-3-f05-agg@lists.wisc.edu)

**Contact information for supporting programs:**

The Delta Program in Research, Teaching, and Learning

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

[info@delta.wisc.edu](mailto:info@delta.wisc.edu)

The Wisconsin Program for Scientific Teaching

<http://scientificteaching.wisc.edu>

[scientificteaching@mailplus.wisc.edu](mailto:scientificteaching@mailplus.wisc.edu)

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### **Course overview:**

The purpose of this course is to explore what is known and theorized about the ways that diversity affects learning and help educators develop practical classroom strategies that address diversity. The course is designed for science, technology, engineering, and math (STEM) educators who are interested in considering diversity issues in their teaching. We will examine how scientists and engineers define “diversity” and for what purposes, and discuss the ways different definitions of diversity might influence what and how we teach our scientific disciplines. We will consider the possibility that our definition might affect both *how* and *what* we teach.

### **Course objectives:**

When you will leave this course, you will have constructed:

- a personally meaningful definition of “diversity”;
- knowledge of some of the fundamental literature on diversity that pertains to science, engineering and math;
- a rationale for why you include the content you do in your teaching, and an understanding of how the selection of this content is influenced by your definition of diversity;
- a toolbox of tips and ideas on how you might address diversity in future courses you might teach;
- a community of peers who are a resource for your teaching career;
- knowledge of theory and data one can use to support claims about the benefits and challenges of diversity in STEM education

### **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 if we can make appropriate accommodations.

### **Course structure:**

We have designed a two-credit, two-module sequence for the investigation of diversity in the college classroom. Students may participate either in only the first 7-week module for one credit, or both for two credits. This course is the first of these modules, and is focused on reading the literature on diversity in STEM university-level teaching, with class time mainly dedicated to in-depth discussions. It is organized through a collaboration between members of the Wisconsin Program on Scientific Teaching (Jo Handelsman and Chris Pfund), and the Delta Program on Research, Teaching and Learning (Alice Pawley and Chris Pfund). We encourage you to find out more about these programs from their websites:

WPST: <http://scientificteaching.wisc.edu/>

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

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This course follows four themes:

**Foundation.** Foundational knowledge on the topic of diversity and its particular application within STEM educational contexts. What do people mean when they use the word “diversity”? In what contexts is it used? What are some of your ideas about why it is used in these contexts?

**Research on bias.** Experimental and analytical work on bias, prejudice, and assumption. How do aspects of diversity affect the judgments do we make about people and their work? This theme will form a basis for developing self-awareness and reflection on the biases and assumptions we bring to subsequent course material.

**Ways of knowing, ways of learning.** Theoretical work on diversity in education has often used the theme of “ways of knowing,” to describe the different research traditions and cultural traditions that people use to make sense of their worlds. Experimental work examines “ways of learning” – practices that promote learning of diverse groups of people . How do we reconcile the ideas of these disciplines with the research on bias? How do we extrapolate from research showing group differences without imposing a new set of stereotypes and prejudices?

**Action: where now from here?**

As teachers, we hold power. How does our understanding of diversity inform our use of that power? We study what others have done and brainstorm collectively and individually about ways to address diversity in our own teaching of science.

In the second module (Oct 24-Dec 15) 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 first module 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 science and engineering teaching.

**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 (both in person and online), 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

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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.

***Expected “assignments”:***

1. *Reading Assessment*

Everyone is expected to do all of the readings for each class session. For each class session, one team of students will be assigned the job of developing a “reading assessment” that we will all do at the beginning of class. The reading assessment may be a quiz, a puzzle, or a short problem to solve that is based on the reading. Reading assessments should take no longer than 10 minutes and should assess understanding of the key points of the “lead reading” for that day (designated on the syllabus).

2. *Choice of: Classroom Observation OR Syllabus Development*  
(each requires 2 drafts)

*Option 1. Classroom Observation*

One of the most effective ways to improve your own teaching and learning practice is to observe the practices of others. Based on your observations of the students and the teacher in a given classroom, you can think about what worked, what didn't what was missing, and how you might teach a similar topic in the future. For this assignment, we ask you to:

Observe a class being taught in your discipline. While you are observing, you might consider the following questions:

- What worked well in this class? Who did it work well for?
- What did not work well? How could it be improved?
- How ethnically diverse was the student population? Is there a relationship between ethnicity and seating patterns or student participation?
- As a student, how well this instructor's teaching style/approach match your learning style?
- Consider the learning atmosphere: was the flow of knowledge uni-directional or shared?
- Did the instructor take full advantage of the diversity in the classroom in order to gain a wider perspective?

For the second part of this assignment, we ask you to observe a different class and reflect on your experience. You may consider the same questions listed above. Note if you are more aware of certain aspects of diversity than you were during the first observation. Also note if you are more easily able to come up with ideas for how you would improve the teaching and learning if you were teaching the class.

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*Option 2. Syllabus Development*

One of the first tasks we face when teaching a course for the first time is developing a syllabus. In many senses, a course syllabus is a distillation of the instructor's hopes and intentions for the course. For the first part of this assignment, we want you to:

- acquire (from faculty you've worked with, from friends, from your pile of notes from your undergraduate days) a copy of a syllabus for a course that you may have to teach in the future;

OR

- bring a syllabus for a course you have already developed and taught.

For the second part, we would like you to retool this syllabus based on the conversations about diversity we have in this course. How, if at all, is a syllabus where the instructor is highly concerned with issues of diversity different from one where the instructor is not?

For those who select this assignment, you will have the opportunity to submit your retooled syllabus to the National Women's Studies Association Inclusive Syllabi Project (read more here: <http://cirtl.wceruw.org/diversityinstitute/content%5Fmatters/>).

3. *Teaching Philosophy: The Diversity Component (2 drafts)*

Applications for teaching positions often include a teaching statement or philosophy. Develop *part of* your teaching philosophy that directly incorporates the concept of diversity. (If you are taking PP800, you may integrate this diversity component into your overall teaching philosophy.)

4. *Action Plan (1 draft)*

We would like you to leave this course with an articulated "action plan." This can be either an immediate plan for what you would like to do for your participation in the second module of this course series, or (for those not going on) for something you'd like to do later in your career.

**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 both WPST and 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.

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<b>Course Schedule</b>				
<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Readings</b>	<b>Assignment due</b>
<b>Foundation</b>				
1	Sept 13	Diversity defined	No reading	Teaching statement-1 <sup>st</sup> draft
2	Sept 20	Value of diversity	McLeod, Lobel and Cox 1996 Nemeth 1985 Chan 2001 Sands 2001	
3	Sept 27	Unconscious bias, prejudice, and stereotype threat	Steele & Aronson 1995 Steinpreis, Anders & Ritzke 1999	Syllabi: Modified syllabus from a course taught in your discipline OR Observation: 1st classroom observation and reflection
<b>Ways of Knowing, Ways of Learning...</b>				
4	Oct 4	Ways of learning: Biology, practice, and environment	Angier & Chang, 2005 DeHaan 2005	
5	Oct 11	Race, gender, and pedagogy	Little Soldier 1989 Choice of: Knapp & Woolverton 1995 Irvine & York 1995	Syllabi: Modified syllabus from a course taught in your discipline OR Observation: 2 <sup>nd</sup> classroom observation and reflection
6	Oct 18	Multicultural and feminist pedagogy	Banks 1995 Calabrese Barton 1998 (ch 2)	Teaching statement -2 <sup>nd</sup> draft
<b>Action: where to from here?</b>				
7	TBD	Participant action plans	Riley 2003 Choice of: Middlecamp 2006 Blair, Ma and Lenton 2001	Action plan

**Texts:**

All readings will be available electronically from the course website. The readings that we request you to do in advance of class are the following:

- Angier, Natalie and Kenneth Chang. 2005. "Gray Matter and the Sexes: Still a Scientific Gray Area." Pp. 1 in *New York Times*. New York.
- Blair, Irene V., Jennifer E. Ma, and Alison P. Lenton. 2001. "Imagining stereotypes away: the moderation of implicit stereotypes through mental imagery." *Journal of personality and social psychology* 81:828-841.
- Banks, James A. 1995. "Multicultural education: historical development, dimensions and practice." Pp. 3-24 in *Handbook of Research on Multicultural Education*, edited by J. A. Banks and C. A. M. Banks. New York: Simon & Schuster Macmillan.

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- Barton, Angela Calabrese. 1998. *Feminist Science Education*. New York: Teachers College Press.
- Chan, Sucheng. 1995. "You're short, besides!" in *Race, class and gender: an anthology*, edited by M. L. Andersen and P. Hill Collins. Belmont, CA: Wadsworth.
- DeHaan, Robert. 2005. "The Impending Revolution in Undergraduate Science Education." *Journal of Science Education and Technology*, 14 (2): 253-269.
- Irvine, Jacqueline Jordan and Darlene Eleanor York. 1995. "Learning styles and culturally diverse students: a literature review." Pp. 484-497 in *Handbook of research on multicultural education*, edited by J. A. Banks and C. A. M. Banks. New York: Simon & Schuster Macmillan.
- Knapp, Michael S. and Sara Woolverton. 1995. "Social class and schooling." Pp. 548-569 in *Handbook of research on multicultural education*, edited by J. A. Banks and C. A. M. Banks. New York: Simon & Schuster Macmillan.
- Little Soldier, Lee 1989. "Cooperative learning and the Native American student." *Phi Delta Kappan*, October, pp. 161-163.
- McLeod, Poppy Lauretta, Sharon Alisa Lobel, and Taylor H. Cox. 1996. "Ethnic diversity and creativity in small groups." *Small group research* 27:248-264.
- Nemeth, Charlan Jeanne. 1985. "Dissent, group process, and creativity: the contribution of minority influence." *Advances in group processes* 2:57-75.
- Riley, Donna. 2003. "Employing liberative pedagogies in engineering education." *Journal of Women and Minorities in Science and Engineering* 9:137-158.
- Steele, Claude M. and Joshua Aronson. 1995. "Stereotype threat and the intellectual test performance of African Americans." *Journal of personality and social psychology* 69:797-811.
- Sands, Aimee. 2001. "Never meant to survive, a Black woman's journey: An interview with Evelyn Hammonds." Pp. 17-25 in *Women, Science and Technology: A Reader in Feminist Science Studies*, edited by M. Wyer, M. Barbercheck, D. Giesman, H. Orun Ozturk, and M. Wayne. New York: Routledge.
- Steinpreis, Rhea E., Katie A. Anders, and Dawn Ritzke. 1999. "The impact of gender on the review of the curricula vitae of job applicants and tenure candidates: a national empirical study." *Sex roles* 41:509-528.

We will be providing you with additional references each week that may be of interest to you. We will try to post these on the course website for you to peruse at your leisure. In addition, as you progress through this module and come across other readings and books that might be of interest to the class, please email the reference to us and we will keep a list for the benefit of the class.

**Course website**

We will be using a My UW Desire2Learn website that should be accessible through your MyUW portal (<http://my.wisc.edu>). Here we will post all the required readings, 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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**Giving and receiving feedback**

You can best benefit from your teaching practice if you receive clear feedback. This requires an open and caring atmosphere in which your fellow participants feel comfortable enough to offer honest feedback, motivated by your willingness to receive it. Feedback provides you with information about how you affect others and how well your behavior and activities match your intentions; it helps you identify your strengths and areas for improvement.

**Giving constructive feedback**

Constructive feedback is descriptive rather than evaluative. By describing one's own reaction and avoiding evaluative language, the individual receiving feedback is less likely to react defensively. Constructive feedback has the following characteristics:

1. It is specific rather than general.
2. It considers the needs of the receiver and giver.
3. It is directed toward behavior that the receiver can change. Frustration is generated when a person is reminded of a shortcoming s/he cannot control.
4. It is solicited rather than imposed. Feedback is most useful when the receiver has a question the observers can answer.
5. It is given immediately after the event.
6. It is checked to ensure clear communication. Have the receiver rephrase the feedback.

Both giver and receiver can check with others on the accuracy of the feedback; is this one person's impression or a shared impression?

**Feedback Basics**

<b>Recommended</b> <i>(focus on the giver's perception, specific)</i>	<b>Not Recommended</b> <i>(judgmental, general)</i>
I was confused when you explained...	Your explanation was confusing.
It would help me understand better if you could pause longer between introducing major concepts.	Your lecture went too fast.
It would help if you didn't stand behind the high podium.	You are too short to be seen.
It would help if you make more eye contact during the class and ...	It felt unfriendly and cold when you taught.