

WOMEN IN SCIENCE AND ENGINEERING  
BIOLOGY/ WOMEN'S STUDIES 307  
Course Syllabus - Fall Semester 2009  
Class meets T-TH 11-12:15 in Room 205 Bessey

**Aug. 25 Introductions, course expectations, groups, and grading.**

The Pipeline Concept. Networking Activity. Pick up coursepack at the Memorial Union Bookstore.

Assignment for August 27:

Assess the status of women in a STEM (Science, Technology, Engineering, Mathematics) field of your choosing. Write an essay on the status and be prepared to present a summary to your group. Include graphics.

The following website is the main reference source of numbers available for women in the U.S.: The National Science Foundation (NSF) report entitled Women, Minorities, and Persons with Disabilities in Science and Engineering: 2009. This report may be viewed on the internet at: <http://www.nsf.gov/statistics/wmpd/>

Association of Women in Science (AWIS) provides various summaries that may also be helpful: <http://www.awis.org/displaycommon.cfm?an=1&subarticlenbr=22>

Read *More Women in Science* by Jo Handelsman et al. 2005 *Science* 309:1190-1191 (coursepack p. 1-2)

**Aug. 27\* Women, Minorities, and Persons with Disabilities in Science and Engineering.**

Meet with your group and familiarize yourself with the group process.

Present your assignment to the group and then hand it in to your instructor.

Report a summary of the groups' assessments to the class as a whole at the end of the period.

\*Written assignment on the status of women in your field due

**Sept. 1 Numbers of Women in Science and Engineering at Iowa State.**

Spend class time in your group discussing the handouts showing the STEM statistics at ISU. Be prepared to present to the class as a whole the main conclusions from this data. Also compare your conclusions to those you found in the first assignment.

What does your group find to be the most significant statistic from the ISU data?

Turn in a group report.

**Sept. 3\* Diversity, culture, science and engineering. Minority women in U.S.**

Write an essay reviewing the status of minority women in a STEM field. The NSF reports may be useful just as they were in our previous discussions of the status of women in general.

Speculate as to why so few minority women in STEM fields.

\*Present the assignment on the status of minority women to your group and also hand it in.

**Sept. 8 Women in Science and Engineering Archives tour with Tanya Zanish-Belcher, WISE archivist.  
Meet at Room 403 in the Parks Library.**

**Sept. 10 Bibliographic research methods.  
Meet in room 32 in the Parks Library.**

**Sept 15\* Diversity, culture, science and engineering. Disabled women in science.**

Present a short biography of a woman scientist or engineer from the United States who is considered to be disabled. Discuss special issues or concerns that these women face in their lives and careers. Relate these issues to the numbers of women in STEM fields.

\*Present the biographical assignment to your group and also hand it in to your instructor.

Presentation by Beth McCarthy on Student Conservation Association (SCA) Internships

**Sept 17\* Surprises across the cultural divide. Women scientists in other countries.**

As background reading everyone will be given the following article: *Marcia Barinaga. 1994. Surprises across the cultural divide. Science. 263: 1468-1472.* (coursepack p. 3-5)

Assignment: Present a short report on how women scientists are doing in another country. This could include numbers, if you can find them, or it may emphasize special areas of concern. This material is difficult to find (and often non-existent) so you may have to do quite a bit of searching.

Helpful website as a starting point: [http://ec.europa.eu/news/science/archives\\_en.htm?Page=1](http://ec.europa.eu/news/science/archives_en.htm?Page=1)

\*Present the assignment on status of women scientists in other countries to your group and also hand it in to your instructor.

\*Also develop, as a group, a set of questions for the panel of international women scientists who will be coming to our next class.

**Sept. 22 \* Diversity, culture, science and engineering.**

Panel of International Women Scientists and Engineers

**\*Turn in term paper topic and annotated bibliography.**

**Sept. 24 Gender Schemas.** In class activity (no assignment due). We will view and discuss a tutorial introducing the concept of gender schemas developed by Virginia Valian.

<http://www.hunter.cuny.edu/gendertutorial/index.htm>

Additional reading for Sept. 20th Valian, V. 2000. *Why So Slow? The Advancement of Women.* The MIT Press. Cambridge, Massachusetts. Chapter 1 (coursepack p. 6-17)

**Sept. 29 \* Being Evaluated.** Read and discuss in your group:

Wenneras, C. and A. Wold. 2001. *Nepotism and sexism in peer-review.* In M. Lederman and I. Bartsch (eds.) *The Gender and Science Reader*, Routledge, London. (coursepack p. 18-23)

\*Turn in answers to the discussion questions about the Wenneras and Wold article.

**Oct. 1\* Gender differences.**

Read and discuss in your group articles relating to a statement by a previous Harvard University President and responses to that statement found at the following websites:

<http://ksghome.harvard.edu/~lsummer/speeches/2005/womensci.html>

<http://www2.asanet.org/public/summers.html>

\*Turn in answers to the discussion questions on gender differences.

**Oct 6\* Gender and Education.**

Read and discuss in your group: Sadker, M. and D. Sadker . 1994. *Through the Back Door: the History of Women's Education.* Chapter 2 in *Failing at Fairness.* Touchstone, New York. (coursepack p. 24-37)

\*Hand in answers to discussion questions regarding the Sadkers' article.

**Turn in Term Paper**

**Oct 8 \* Climate for women in the engineering workplace.**

Read and discuss with your group: Frehill, L. M. 1997. *Subtle Sexism in Engineering.* pp 117-135 in *Subtle Sexism: Current Practices and Prospects for Change.* Sage. Newbury park, CA. (coursepack p. 97-106)

\* Hand in answers to the discussion questions on the Frehill article.

**Oct 13 Term Paper Presentations.**

**Oct 15 Term Paper Presentations.**

**Oct 20\* Term Paper Presentations.**

**Oct 22 \* Climate for women in the engineering workplace.**

Byko, M. 2005. *Challenges and opportunities for women in science and engineering.* *Journal of The Minerals, Metals & Materials Society.* 57: 12-15. (coursepack p. 82-85)

\*Hand in answers to the discussion questions on the Byko article.

**Oct 27 Climate for women in the engineering workplace. Panel of women engineers.**

**Oct 29\*** Library Research Day for Bibliography project

**\*Turn in Biographical Paper Topic and Annotated Bibliography to Dr. Debinski by 5 p.m. on Oct. 30<sup>th</sup>.**

**Nov. 3 Actions to improve the climate for women in STEM.** Panel of SWE, PWSE, ADVANCE Grant  
Read *Settles, I.H., L. M. Cortina, J. Malley, and A. J. Stewart. 2006. The Climate for Women in Academic Science: The Good, the Bad, and the Changeable. Psychology of Women Quarterly, 30: 47-58.*  
(coursepack p. 38-49)

\*Hand in answers to the discussion questions on the climate for women in academia article.

**Nov. 5\* Family and Career.**

*Williams, Joan. 2000. Unbending Gender. Why Family and Work Conflict and What to Do About It. Oxford Univ. Press. Chapter 1. (coursepack p. 68-81)*

Read and discuss with your group the material found on the following website:

<http://www.mothersandmore.org/Advocacy/WilliamsForum.shtml>

\*Hand in answers/responses to the questions provided relating to the information on the websites regarding family and career.

**Nov. 10 Family and Career.**

*Mason, M.A. and M. Goulden. 2004. Marriage and Baby Blues: Redefining Gender Equity in the Academy. The ANNALS of the American Academy of Political and Social Science 596: 86-103.*  
(coursepack p. 50-66)

Develop several questions for the Juggling Family and Career Panel in your group.

**\*Turn in Biographical Paper**

**Nov. 12 \* Juggling Family and Career Panel.**

**Nov 17\* Feminists who critique science and their critiques.**

Part one. Develop a short biography of the woman to present. (Photographs are always nice).

Part two. Present a summary of her philosophy or approach. For example with Sue Rosser you would try and explain what she means by female friendly science.

Read *S. V. Rosser. 1992. Are there feminist methodologies appropriate for the natural science and do they make a difference? Women's Studies International Forum 15:535-550* (coursepack p. 86-96)

\*Present the assignment on feminists and their critiques to your group and also hand it in to your instructor.

**Nov 19\* Women, Work and the Academy – Strategies for Success**

Read *Wylie, A, J. R. Jakobsen, and G. Fosado. 2007. Women, Work and the Academy: Strategies for responding to post-civil rights era gender discrimination. Barnard Center for Research on Women.*  
(coursepack p. 107-126)

\*Present the assignment on Women, Work and the Academy to your group and also hand it in to your instructor.

**Thanksgiving Break November 23-27**

**Dec. 1\* Women in the Field.** Panel discussion by women field biologists.

**Dec. 3** Biographical Presentations

**Dec. 8** Biographical Presentations

**Dec. 10** Biographical Presentations

**Dec 14** Final Exam date. Turn in your final essay by noon to Dr. Debinski (249 Bessey Hall). More information will be provided regarding this essay later in class.

## Grading Point Breakdown

Assignment	Points	Due Date
Term Paper Topic and Annotated Bibliography	20	Sept 22
Term Paper	50	Oct 6
Term Paper Presentation	30	Oct 13, 15, 20
Biographical Paper Topic & Annotated Bibliography	20	Oct 29
Biographical Paper	50	Nov 10
Biographical Paper Presentation	30	Dec 3,8,10
Class Participation	75	
Final Exam essay due	25	Dec. 14 <sup>th</sup> due by noon
Written assignments	10 at 10 points = 100 pts.	See Syllabus for due date. Choose 10 out of 13 possible written assignments.
Total points = 400		

Written assignments: Questions will be provided for each set of articles. Answers to the questions should be turned in either at the end of class the date they are due or, if necessary, by 5 p.m. on the due date. Five percentage points per day will be deducted from late assignments. Answers can be amended during class as a result of group/whole class discussion.

Separate handouts describing the other assignments (e.g. term paper) will be given out in subsequent classes.

### Instructor:

Dr. Diane Debinski  
 Professor  
 Ecology, Evolution, and Organismal Biology  
 249 Bessey Hall  
 294-2460  
[debinski@iastate.edu](mailto:debinski@iastate.edu)

office hours: To be announced; meanwhile please email or call for an appointment

### WISE Archivist and Resource Coordinator:

Tanya Zanish-Belcher  
 Department Head, Special Collections & University Archives and WISE Curator  
 Women in Science and Engineering Archives  
 403 Parks Library  
 294-6648  
[tzanish@iastate.edu](mailto:tzanish@iastate.edu)

Course Website <http://www.lib.iastate.edu/spcl/wise/web.html>

Note: If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with me soon to discuss this issue. Please request that a Disability Resources staff member (phone 515-294-7220) send a Student Academic Accommodation Request (SAAR) form verifying your disability and specifying the accommodation you will need. SDR is located on the main floor of the Student Services Building, Room 1076.