MDS/WGS 210: WOMEN AND GENDER IN SCIENCE AND TECHNOLOGY

Fall 2003—section 001
Wednesdays, 4:10-7PM, Harrelson Hall #147
Instructor: Mary Wyer, Women's and Gender Studies, Division of Multidisciplinary Studies, 2806 Hillsborough St. (Carter Williams Bldg.), Room #8.
Office Hours: W-Th, 1:30-2:30, and by appointment.
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Description.

This is an interdisciplinary introduction to the influence of scientific/technological research on contemporary understandings of women/men, and vice versa. We will place special emphasis on social factors influencing science and engineering professionals. The influences of scientific and technological knowledge on U.S. society are visible everywhere, from the cosmetic counter to the surgery ward. The social influences of U.S. culture on scientific and technological knowledge, however, are subtler but just as profound. Since the beginning of the century, Americans in general have imagined scientists and engineers as dispassionate, rational, obsessive, and amoral, living outside of their contemporary context and driven only by the excitement of uncovering incontrovertible Truth. But the realities of day-to-day interactions within science and engineering are very different from this image precisely because of the inescapability of social contexts. This course introduces students to those contexts, emphasizing the underrepresentation of women in scientific and technological fields. It offers students a unique survey of the ways that their experiences as men and women are relevant to their experiences with scientific and technological information.

Objectives.

In classroom and small-group discussions, students will develop a basic understanding of the social, economic, and institutional practices of scientific and technological research as shaped by the presence and absence of women. You will learn to identify cultural myths about scientists and engineers and describe how those myths in turn foster other myths about men and women. You will also learn to critically analyze research about women, examining scientific and technological knowledge in light of social debates about it. And you will learn to consider the ethical complexities that figure in the development and application of new insights. Most of all, you will learn to talk in class, to freely share their ideas and reactions to the material as part of the process of learning how your experiences as women and men are tied to the material in the course.

Texts, Dates, Prices.

All readings are from: *Women, Science, and Technology* (New York: Routledge, 2001), ed. Mary Wyer, Mary Barbercheck, Donna Giesman, Hatice Örün Öztürk and Marta Wayne. A list of additional recommended readings follows the syllabus.

Evaluation.
Grades will be based on written work, class attendance, and participation in discussions. We will have a take-home midterm essay exam (25%), a class presentation (25%), and a final take-home exam (25%). Students are expected to attend regularly and participate actively as part of their coursework responsibilities (25%). Some course time will be set aside to help you plan and organize your class presentation.

Policies and Procedures: My policies in regard to attendance, academic integrity, and discrimination, are as follows.

Attendance and class participation. Full attendance and participation are required. Students who must miss class due to an unavoidable and necessary health concern or family medical crisis should explain their absence in writing and make arrangements to complete assignments on a revised schedule. Attendance will be taken regularly.

Academic integrity. The learning activities in this course are designed to promote discussion among students as peer educators. All of the exams are open book and take-home. Though you are free to use any legitimate academic materials at your disposal, you may not discuss your answers with others enrolled in the course. I understand and expect all students to follow the university's honor pledge: "I have neither given nor received unauthorized aid on this test or assignment." For the full text, see the Code of Student Conduct at http://www.ncsu.edu/provost/hat/current/appendix/appen_k.html.

Policy on Teaching and Learning Practices. This course is designed to foster dialog about how a wide variety of exclusionary practices (including those based on gender, race, class, sexual preference, ethnic or religious background, and physical disabilities) promote social inequalities. Full participation in this course requires your willingness to (1) read the material, (2) share your reactions and experiences as well as (3) show respect for others' perspectives and experiences. It is my job to create a classroom environment in which you feel fully included. Please alert me if you have concerns about the course content or classroom culture as the semester progresses. In addition, I will make every effort to accommodate students who have special needs due to physical disabilities. For university policy, see http://www.ncsu.edu/provost/hat/current/appendix/appen_k.html

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Introduction

Week 1.
August 20. Beginnings. Introductions and overview of the course. Overview of issues.

Section 1. Biographies, autobiographies, and the experiences of women in science

Week 2.
August 27. Education I. Individuals and ideas about women.
Readings: "Preface" and "Introduction: Science and Feminism," xiii-xxviii; Section Introduction—"High Hopes, Broken Promises, and Persistence: Educating Women for Scientific Careers," pp. 1-9; Trecker, Janice Law. "Sex, Science and Education;" Keller, Evelyn Fox. "The Anomaly of a Woman in Physics"

Week 3.
September 3. Education II. Social/structural practices.
Readings: Subramaniam, Banu. "Snow Brown and the Seven Detergents;" Horn, Dara. "The Shoulders of Giants;" Wenneras, Christine and Wold, Agnes, "Nepotism and Sexism in Peer Review;" Rose, Hillary. "Nine Decades, Nine Women, Ten Nobel Prizes: Gender Politics at the Apex of Science"

Section 2. Science, Sex, and Stereotypes: Cultural Images of Science and Scientists

Week 4.
September 10. Evelynn Hammonds' Public Lecture. Details to come.
Reading: Sands, Aimee. "Never Meant to Survive, A Black Woman's Journey: An Interview with Evelynn Hammonds." Write a two-page typed summary of Hammonds' talk, including your reactions. This represents 5% of your participation grade.

Week 5.
September 17. Gender In Science
Readings: Barbercheck, Mary. "Science, Sex, and Stereotypical Images in Scientific Advertising;" Bleier, Ruth. "Sociobiology, Biological Determinism and Human Behavior"
Distribute Take-home Exam.

Section 3. Constructing Gender, Constructing Science: How Ideas about Women and Men Shape Science and Technology

Week 6.
September 24. Exams due by beginning of class. Keller, Evelyn. "Gender and Science: An Update." Video interview with Evelyn Fox Keller with class discussion to follow.

Week 7.
October 1. Constructing Gender and Sex Differences
Readings: Kessler, Suzanne. "The Medical Construction of Gender: Case Management of Intersexed Infants;" Martin, Emily. "Premenstrual Syndrome, Work Discipline, and Anger"

Week 8.
October 8. No class. This time is set aside for working on your presentation.

Section 4. New Science, New Knowledge: Bringing Feminist Perspectives into Science and Technology Studies

Week 9.
October 15. Technology and Gender.
Readings: Wacjman, Judy. "The Built Environment: Women's Place, Gendered Space;" Maines, Rachel. "Socially Camouflaged Technologies: The Case of the Electromechanical Vibrator"

Section 5. Reproducible Insights: Women Creating Knowledge, Social Policy, and Change

Week 10.
October 22. Are Feminist Perspectives and Science Incompatible?
Reading: Longino, Helen. "Can There Be a Feminist Science?" Fedigan, Linda Marie. "Is Primatology a Feminist Science?" On October 24, Helen Longino will be giving a public lecture at NC State (location to be announced). Attending her lecture and writing up a two-page typed description and your reactions is worth up to 5 extra credit points, to be added to your participation grade.

Week 11.
October 29. Including Women, Changing the World, I.
Readings: Perry, Ruth. "Engendering Environmental Thinking: A Feminist Analysis of the Present Crisis;" Daniels, Cynthia. "Between Fathers and Fetuses: The Social Reconstruction of Male Reproduction and the Politics of Fetal Harm"

Week 12.
November 5. Including Women, Changing the World, II.
Readings: Adam, Alison. "Feminist AI Projects and Cyberfutures;" Cohn, Carol. "Sex and Death in the Rational World of Defense Intellectuals." Come to class prepared to discuss the ways in which new technologies can either foster or discourage inequalities in our society. Pick a

technology and then come prepared to present a brief description and your assessment of its liberatory effects.

Week 13.
November 12. We will not meet in class this week. This time is set aside for preparing your class presentation.

Week 14.
November 19. Class presentations.

Thanksgiving Week.
November 26. Thanksgiving holiday.

Week 15.
December 3. Class presentations. Take-home final distributed.

Final Exams Are Due in My Office by *No Later than 5* PM on Friday, December 12. No Extensions.

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Recommended for further reading.

Birke, Lynda. 1986. *Women, Feminism, and Biology*. New York, Methuen.

Bleier, Ruth. 1984. *Science and Gender: A Critique of Biology and Its Theories on Women*. New York, Pergamon.

Fausto-Sterling, Anne. 1992. *Myths of Gender: Biological Theories about Women and Men*. New York, Basic Books, 44-53, 73-77.

Fausto-Sterling, Anne. 2000. *Sexing the Body: Gender Politics and the Construction of Sexuality*. New York, Basic Books.

Fausto-Sterling, Anne, Sue Rosser, Ruth Hubbard, and Nancy Tuana. 1992. "Forum--Building Two Way Streets: The Case of Feminism and Science," *National Women's Studies Association Journal* 4: 336-49.

Keller, Evelyn Fox. 1992. *Secrets of Life, Secrets of Death: Essays on Language, Gender, and Science*. New York, Routledge.

------. 1985. *Reflections on Gender and Science*. New Haven, Conn., Yale University Press.

------. 1977. "The Anomaly of a Woman in Physics," in *Working It Out*, ed. Sara Ruddick and Pamela Daniels. New York, Pantheon Books.

Keller, Evelyn and Helen Longino. 1996. *Feminism and Science*. New York, Oxford University Press.

Martin, Emily. 1987. *The Woman in the Body: A Cultural Analysis of Reproduction*. Boston, Beacon Press.

Rosser, Sue. 1990. *Female-friendly Science*. Elmsford, N.Y., Pergamon Press.

------. 1995. *Teaching the Majority: Breaking the Gender Barrier in Science, Mathematics, and Engineering*. New York, Columbia University, Teachers College.

Rossiter, Margaret. 1982. *Women Scientists in America: Struggles and Strategies to 1940*. Baltimore, Johns Hopkins University Press.

------. 1995. *Women Scientists in America, 1940-1972*. Baltimore, Johns Hopkins University Press.

Thomas, Valerie L. 1989. "Black Women Engineers and Technologists," *Sage: Journal of Black Women's History* 6 (Fall): 24-32.

Traweek, Sharon. 1988. *Beamtimes and Lifetimes: The Culture of High Energy Physicists*. Cambridge, Mass., Harvard University Press.

Tuana, Nancy. 1989. *Feminism and Science*. Bloomington, Indiana University Press.

Zuckerman, Harriet et al., eds. 1991. *The Outer Circle: Women in the Scientific Community*. New York, Norton.