

History 117
Women, Science, and Technology

Fall 2005

Prof. Cooper

In this class we will explore the contribution of women engineers and scientists to their disciplines (women *in* science & engineering), as well as the impact of technology and science on the lives of everyday (women *and* science & technology). We will take an historical perspective on women's experiences and focus generally on the United States. Among the themes that we will explore in the first half of the course are women's access to education, patterns of employment, conflicts with family life, professional recognition, mentorships, workplace culture, and intellectual contributions. When we turn to the impact of science and technology on everyday life, we will consider the mechanization of housework, the entrance of women into new technically skilled jobs, feminist designs, the medicalization of women's bodies, women's appropriation of new technologies, and the power of consumers to shape products and markets.

Office hours

Maginnes Hall, Room 334.

Tuesday, 2:30-4:00; Wednesday, 9:00-10:00. And by appointment
gc05@lehigh.edu Office phone 610-758-4703.

Required reading:

Evelyn Fox Keller, *A Feeling for the Organism*.

George Johnson, *Miss Leavitt's Stars*

Articles: The articles assigned will be posted electronically on the Blackboard.

Grading and assignments

Reading, attendance, participation, and study questions	20%
Quizzes (2)	30%
Short paper (<i>Miss Leavitt's Stars</i>)	15%
Final paper project	
Short paper (<i>A Feeling for the Organism</i>)	20%
Expanded paper	15%

Class discussion of reading

Keeping up with the reading posted on Blackboard is essential. You will be expected to come to class each Thursday ready to discuss the week's assignments. In addition, twice during the semester you will be expected to post discussion questions for the reading on Blackboard. Please post your study questions by Tuesday before the discussion.

You will also read two books over the semester: George Johnson's Miss Leavitt's Stars and Evelyn Fox Keller's A Feeling for the Organism. You may read them at your own pace, but a suggested reading schedule for these books is listed in the syllabus. Keeping up with this reading is important as well; you must turn in a short paper on Miss Leavitt's Stars on September 20, and a short paper on A Feeling for the Organism on November 15. See details below.

Papers

You can expect to write two short papers (4-5 pages): one on George Johnson's Miss Leavitt's Stars, and a second on Evelyn Fox Keller's A Feeling for the Organism. Essays should be typed, double-spaced, with standard 1" margins; please submit a paper copy in class, and put an electronic copy in the Digital Drop-box by the end of the day. **Your essay on Miss Leavitt's Stars is due September 20, and A Feeling for the Organism is due November 15.**

The second paper will become part of your final project. Evelyn Fox Keller's book, A Feeling for the Organism, is about the career of Nobel-prize winning geneticist, Barbara McClintock. McClintock's letters have been gathered in an electronic archive, and your assignment is to read some of the collection on-line, and to use this new material to expand your short paper into a longer paper (8-10 pages). **This expanded paper is due in class Dec. 5;** please put an electronic copy in the Digital Drop-box by the end of the day.

Quizzes

There will be two quizzes, October 18 and November 1.

Accommodations for Students with Disabilities: If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and the Office of Academic Support Services, University Center 212 (610-758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.

Reading and Discussion Schedule

Part I. Women in Science & Engineering: Issues in Professionalism

Week 1: The practice of science & engineering; the debate over women's capabilities

#1 Charles Rosenberg & Carroll Smith-Rosenberg, "The Female Animal: Medical and Biological Views of Woman and Her Role in 19th-century America," JAH, 60 (1973), 739-754. [16]

#2 Nancy Leys Stephan, "Race and Gender: The Role of Analogy in Science," in The "Racial" Economy of Science, Sandra Harding, ed., (Bloomington: Indiana University Press, 1993), pp. 359-376. [18]

Aug 30 Introduction

September 1 Discussion

Week 2: The question of women's access; education, professionalism, and jobs

#3 Sally Gregory Kohlstedt, "In from the Periphery: American Women in Science, 1830-1880," Signs 4 (Autumn 1978): 81-96. [16]

#4 Margaret Rossiter, "'Women's Work' in Science, 1880-1910," in History of Women in the Sciences, Sally Gregory Kohlstedt, ed., (Chicago: University of Chicago Press, 1999), pp. 287-304. [18]

#5 Amy Slaton, "The Academics at Work," in Reinforced Concrete and the Modernization of American Building, 1900-1930, (Baltimore: Johns Hopkins University Press, 2001), pp. 20-25, 53-61. [14]

Johnson, Miss Leavitt's Stars, pp. 1-69.

Sept 6

Sept 8 Discussion

Week 3: The private side of professional life: parents, spouses, children

#6 Vivian Gornick, "Women in Science: Half In, Half Out," pp. 39-60. [22]

#7 Helena M. Pycior, "Marie Curie's 'Anti-natural Path': Time Only for Science and Family," in Uneasy Careers and Intimate Lives, Pnina Abir-am and Dorinda Outram, eds., (New Brunswick: Rutgers University Press, 1987), pp. 191-214. [24]

#8 Sally Gregory Kohlstedt, "Maria Mitchell and the Advancement of Women in Science," in Uneasy Careers and Intimate Lives, Pnina Abir-am and Dorinda Outram, eds., (New Brunswick: Rutgers University Press, 1987), pp. 129-146. [18]

Johnson, Miss Leavitt's Stars, pp. 70-130.

Sept 13

Sept 15 Discussion

Week 4: Professional recognition: acceptance, support, achievement

#9 Hilary Rose, "Nine Decades, Nine Women, Ten Nobel Prizes: Gender Politics at the Apex of Science" in Love, Power and Knowledge, Hilary Rose, (Bloomington: Indiana University Press, 1994), pp. 136-170. [34]

Sept 20 **Short paper #1 due in class**

Sept 22 Discussion

Week 5: Are women's contributions to their fields different than men's?

#10 Marcia Baring, "Is There a 'Female Style' in Science?" Science 260 (1993): 383-91.[9]

11 Londa Schiebinger, "The Exclusion of Women and the Structure of Knowledge," The Mind Has No Sex? (Cambridge, Mass.: Harvard University Press, 1989), pp. 265-277. [13]

#12 Emily Martin, "The Egg and the Sperm," Signs, 16 (1991), 485-501. [17]

Sept 27

Sept 29 Discussion

Week 6: Women in science & engineering today

#13 Judith McIlwee and J. Gregg Robinson, Women in Engineering: Gender, Power and Workplace Culture. Albany: SUNY Press, 1992), pp. 109-143. [35]

Oct 4

Oct 6 Discussion

Week 7: Women in science & engineering today

#14 Stephen G. Brush, "Women in Science and Engineering," American Scientist 79 (1991): 404-419. [15]

Oct 11 No class; Pacing Break

Oct 13 Discussion

Part II. Women and Science & Technology: Impact on Women's Everyday Life (*Or Why It Makes a Difference Who Practices Science and Engineering*)

Week 8: Redesigning Housework: Women as Experts

#15 Ruth Schwartz Cowan, "Ellen Swallow Richards: Technology and Women," in Technology in America, Carroll Pursell, ed., (Cambridge, Mass.: MIT Press, 1984), pp. 142-150. [9]

#16 Dolores Hayden, "Domestic Evolution or Domestic Revolution?" in The Grand Domestic Revolution (Cambridge, Mass.: MIT Press, 1981), pp.183-205. [23]

Keller, forward, preface, and chapters 1,2,3 [62]

Oct 18 **Quiz #1**

Oct 16 Discussion

Week 9: The Industrial Revolution in the Home

#17 Ruth Schwartz Cowan, "The Industrial Revolution in the Home," in D. MacKenzie and J. Wajcman, eds., The Social Shaping of Technology (Philadelphia: Open University Press, 1985), 55-66. [12]

#18 Ronald Kline, "Home Ideologies: Progress?" in Gender and Technology, Lerman, Oldenziel and Mohun, eds., (Baltimore: Johns Hopkins University Press, 2003), pp. 392-423. [23]

Keller, chapters 5, 6, 7 [58]

Oct 25

Oct 27 Discussion

Week 10: New Technology and Paid Work: Creating New Jobs?

#19 Lisa Fine, "Venturing into a Masculine World," The Souls of the Skyscraper (Philadelphia: Temple University Press, 1990), pp. 17-26. [9]

#20 TBA

Keller, chapters 8, 9, 10 [51]

Nov 1 **Quiz #2**

Nov 3 Discussion

Week 11: Transportation, Sociability, and Power

#21 Virginia Scharff, "Putting Wheels on Women's Sphere," pp. 135-143. [9]

#22 TBA

Keller, chapters 11, 12 [36]

Nov 8

Nov 10 Discussion

Week 12: Women's Bodies and Health

#23 Eugenia Kaw, "The Medicalization of Racial Features: Asian American Women and Cosmetic Surgery," in Rose Weitz, ed., The Politics of Women's Bodies (New York: Oxford University Press, 1998), pp. 167-83. [17]

#24 TBA

Nov 15 **Final project-short paper**

Nov 17 Discussion

Week 13: Historical Sources

Nov 22

Nov 24 No class. Thanksgiving.

Week 14: Do Consumers Shape Technology?

#25 Judith McGaw, "Why Feminine Technologies Matter," in Gender and Technology, Lerman, Oldenziel, and Mohun, eds., (Baltimore: Johns Hopkins University Press, 2003), pp.14-20 [7]

#26 Ruth Oldenziel "Man the Maker, Woman the Consumer," in Feminism in Twentieth Century Science, Technology and Medicine, Creager, Lunbeck, and Schiebinger, eds., (Chicago: University of Chicago Press, 2001), pp. 128-148. [21]

Nov 29

Dec 1 Discussion

Week 15: Women, Science, and Technology

Dec 6

Dec 8 **Final project-expanded paper due**