

# HIST 324: History of Women & Science

## Course Description

This course will introduce students to feminist perspectives on science and its history. We will chart how sexual and gender differences have been construed in different historical contexts, how the professionalization of science has worked to exclude women, how determined women gained access to higher education and careers in science. This course will analyze how the figure of the scientist and what is accepted as science are deeply rooted in specific cultural contexts.

## Course Learning Objectives

Over the course of the semester,

- we will analyze changing notions of gender and sex
- we will analyze how pre-theoretical, gendered notions have influenced researchers and scientific contributions
- we will scrutinize how women came to be written out of the history of science
- we will examine women's struggles to gain a foothold in professional science and to receive recognition for their contributions to science
- we will analyze visual images, including videos, for their historical and cultural content
- you will design an oral presentation
- you will hone your ability to defend opinions with persuasive arguments and evidence in discussion with your peers
- you will write analytical essays that synthesize and draw on primary and secondary sources
- you will hone your skills cooperating with colleagues

## Grading and Evaluation

- Participation: 15%
  - Your participation grade will be determined by your active presence in the classroom: it is not enough to be in the classroom, your grade will depend on the quality of your oral participation and your written responses on the course's discussion board.

- Current Events Presentation: 5%
  - Prepare a presentation in which you scrutinize a piece of science journalism, taking this seminar's discussion on science and gender into account. Each student will give one presentation over the course of the semester and will post the article they selected on blackboard by Sunday, 11:59 PM.
- Paper: 20% (7-10 pp)
  - Depending on the focus of your paper you may be able to develop your paper into a short article to be submitted to the Max Planck Institute for History of Science's series "[Spotlight on Women.](#)" Recently launched, this series features articles on forgotten researchers who contributed to science in important ways.
- Wikipedia Entry *or* Oral History Project: 20% (Group Project) (2-5p pp)
  - Option A: When the Swedish academy announced the 2018 winner of the Nobel prize in physics, the woman among the recipients – Donna Strickland – had no Wikipedia page; in fact, an entry had been written, but not been published because she was not deemed "notable." This has brought the gender bias of Wikipedia into the spotlight. Contribute to the "WikiProject Women Scientists" or "Under-representation of Science and Women in Africa" and discuss critically the nature of Wikipedia's guidelines of who is deemed "notable," by what criteria, and hence merits a Wikipedia entry. This will be a group project (teams of 2-3 students).
  - Option B: An Oral History Project, in which students will interview Scientists and Engineers at UMBC who identify as female to document their experiences, biographies, and perspectives on women & science.
- Midterm: 15%
  - The midterm will consist of "Identification Terms" (IDs) from the first half of the semester, asking students to briefly describe and explain the importance of key concepts and developments. In addition, students will be asked to write one essay assessing their understanding of the material covered in the course thus far and their ability to make evidence-based arguments.
- Final Exam: 25%
  - The final exam will consist of "IDs" from the second half of the semester, asking students to briefly describe and explain the importance of key concepts and developments. Second, students will be given several quotes from the assigned readings and will be asked to identify the author and explain the meaning of the quote. Third, students will be given a primary source with a prompt and asked to write an essay answering the prompt and demonstrating their ability to work with primary sources.

Late Policy: For the discussion posts at the end of each unit as well as your final paper, late work will be penalized 10 points per day late. Extensions for assignments are only granted in documented emergencies. That said, I understand that these are unprecedented circumstances and I urge you to contact me as soon as

possible in case of an emergency so that I can work with you individually. If you need to ask for an extension, make sure to do so before the deadline has passed.

Tutoring: Please take advantage of the resources at your disposal. In addition to the research appointments offered by the library, please consult with the Academic Success Center as needed. This center offers free, one to one writing tutoring through our Writing Center.

Tutors can help you with every step of the writing process and help you to become a better writer.

### Upload Assignments on Blackboard & Save a Copy

It is your responsibility to save a copy of all your assignments on your device or whatever storage device you choose. To avoid difficulties with Blackboard, I strongly suggest that you type out your responses with a word processing program and then cut and paste them into Blackboard rather than the other way around. ONLY email essays or postings in the event of a Blackboard emergency.

## Grading Scale

A: 900-1000 points

B: 800-890 points

C: 700-790 points

D: 600-690 points

F: 0-599 points

## Important Dates

Midterm: Week 8

Deadline to decide whether you will pursue a wikipedia entry or an oral history project for your group project:  
Week 6

## Course Schedule

### Section I: The Science of Sex

*How has sexual difference and gender been defined historically?*

#### **Week 1: Introduction**

Introductory Lecture

Course overview and the big questions at stake

How to succeed in a history course: note taking; reading strategies; exercise in identifying good writing; how to work with the library

## **Week 2: From the One-Sex to the Two-Sex Body**

Assigned Readings:

Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge: Harvard University Press, 1990): selections.

## **Week 3: The Modern Study of Sex**

Assigned Readings:

Lynda Birke, "In Pursuit of Difference: Scientific Studies of Women and Men," in *Gender and Science Reader*, edited by Muriel Lederman and Ingrid Bartsch, (Basingstoke: Routledge, 2001), 309-322.

Londa Schiebinger, *Nature's Body: Gender in the Making of Modern Science* (Boston: Beacon Press, 1993): selection.

## **Week 4: "Dueling Dualisms"**

Assigned Readings:

Anne Fausto Sterling, "Dueling Dualisms," in *Sexing the Body: Gender Politics and the Construction of Sexuality*, (New York: Basic Books, 2000), 1-29.

Anne Meyerowitz, *How Sex Changed: A History of Transsexuality in the United States* (Cambridge, MA.: Harvard University Press, 2002): selection.

\*\*\* DISCUSSION: WIKIPEDIA; ORAL HISTORY \*\*\*

## Section II Gendered Science

*How has gendered language influenced scientific thought? And how did the figure of the scientist come to be envisioned as masculine?*

## **Week 5: The Mind Has No Sex?**

Assigned Readings:

Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge: Harvard University Press, 1989), chapter "Skeletons in the Closet."

Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution* (New York: Harper, 1980): selection.

## **Week 6: Gendered Science**

### Assigned Readings:

Evelyn Fox Keller, "Spirit and Reason at the Birth of Modern Science," in *Reflections on Gender and Science* (New Haven: Yale University Press, 1985), 43–65.

Alison Kelly, "The Construction of Masculine Science," *British Journal of Sociology of Education*, vol. 6, no. 2 (1985), 133-154.

\*\*\* DEADLINE TO FORM GROUPS AND DECIDE WHETHER YOU WILL PURSUE AN ORAL HISTORY OR A WIKIPEDIA ENTRY FOR YOUR GROUP PROJECT \*\*\*

## **Week 7 Gendered Science - Continued**

### Assigned Readings:

Emily Martin, "The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles," *Signs: Journal of Women in Culture and Society*, vol. 16, no. 3 (1991), 485-501.

Londa Schiebinger, *Nature's Body: Gender in the Making of Modern Science* (Boston: Beacon Press, 1993): chapter "Why Mammals are Called Mammals."

## **Week 8: The Matilda Effect**

### Assigned Readings:

Margaret W. Rossiter, "The Matthew Matilda Effect in Science," *Social Studies of Science* 23, no. 2 (1993): 325–341. Naomi Oreskes, "Objectivity or Heroism? On the Invisibility of Women in Science," *Osiris*, 1996, 11: 87-113.

\*\*\*\* MIDTERM \*\*\*\*

## **Week 9: Intersectionalities**

### Assigned Readings:

Evelyn Boyd Granville, "My Life as a Mathematician" 1989

<https://www.agnesscott.edu/lriddle/women/granvill.htm>

Haynes, Douglas. "[Always the Exception: Women and Women of Color Scientists in Historical Perspective.](#)" *Peer Review* 16 no. 2 (2014).

Evelynn Hammonds and Banu Subramaniam, "[A Conversation on Feminist Science Studies.](#)" *Signs* 28, no. 3 (2003): 923-944.

*Presumed Incompetent: The Intersections of Race and Class for Women in Academia*. Edited by Gabriella Gutierrez y Muhs et al. (Salt Lake: Utah State University Press, 2012): selection.

\*\*\* PROGRESS REPORT FROM GROUPS ABOUT THEIR PROJECTS \*\*\*

### III. Women in Science

*We will analyze selective biographies, contributions, and women's struggle to gain a foothold in professional science.*

#### **Week 10: Early Modern Europe**

Assigned Readings:

Paula Findlen, "Science as a Career in Enlightenment Italy: The Strategies of Laura Bassi."

Elaine Leong, "Collecting knowledge for the family: recipes, gender and practical knowledge in the early modern English household", *Centaurus*, 55:2 (2013), 81-103.

#### **Week 11: 19th Century Europe, Women's Struggle to gain a foothold in Professional Science, and their Contribution to Science**

Assigned Readings:

Darwin's Correspondence with Women:

<https://www.darwinproject.ac.uk/letters/correspondence-women>

Joy Harvey, "Darwin's Angels: The Women Correspondents of Charles Darwin," *Intellectual History Review* 19, no. 2 (2009), 197-210.

Ann Hibner Koblitz, "Science, Women, and the Russian Intelligentsia: The Generation of the 1860s," *Isis*, 1988, 79: 208-226.

#### **Week 12: Pioneers**

Assigned Readings & Film:

*Madame Curie* (Film, 1943)

Christine von Oertzen, *Science, Gender, and Internationalism: Women's Academic Networks, 1917-1955* (Basingstoke: Palgrave/Macmillan, 2014): selections.

#### **Week 13: The Case of Primatology**

Assigned Readings:

Donna Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (Routledge, 1989): selection.

*Miss Goodall and the Wild Chimpanzees* (National Geographic Specials, 1965)

Frederick Wiseman's *Primate* (Zipporah Films, 1974).

Jane Goodall, "Life and Death at Gombe," *National Geographic Magazine* (May 1979): 592-621.

#### **Week 14: Women of NASA**

Assigned Readings & Film:

*Hidden Figures* (Film, 2016)

NASA Oral History Project “Herstory”:

[https://historycollection.jsc.nasa.gov/JSCHistoryPortal/history/oral\\_histories/herstory.htm](https://historycollection.jsc.nasa.gov/JSCHistoryPortal/history/oral_histories/herstory.htm)

**Week 15: Concluding Discussion: Science, Women & UMBC**

*Oral History exercise: Invite Dr. Phyllis Robinson or another member of the UMBC Women in Science and Engineering Group to join the discussion. If a member of WISE will be able to join, one assignment for students will be to prepare interview questions in advance of the conversation.*

Assigned Readings:

Suzi Gage, “Why Ada Lovelace Day Matters,” *The Guardian*, October 13, 2015.

Vivian Gornick, *Women in Science: Then and Now* (The Feminist Press, 2009): Selections

Ask Dr. Phyllis Robinson whether she could join the discussion (UMBC Women in Science and Engineering Group)

\*\*\* FINAL EXAM \*\*\*