

HISTORIES OF COMPUTING AND GENDER

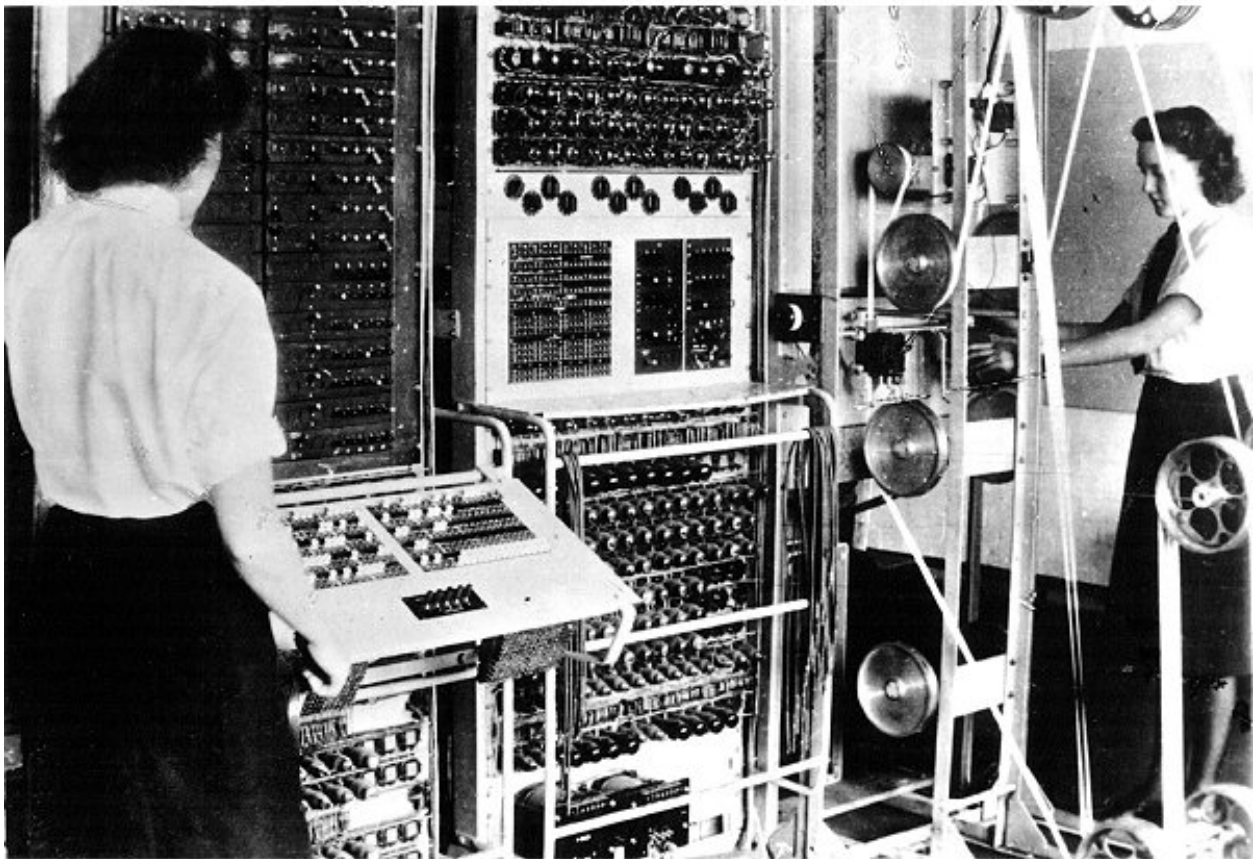
VERSION 2016 09 14 – SUBJECT TO CHANGE

LB 492 .4
FALL 2016
T, TH 10.20-12.10
CLASS LOCATION:
W40 HOLMES

PROFESSOR JOY LISI RANKIN

LYMAN BRIGGS COLLEGE
OFFICE: E191 HOLMES

OFFICE HOURS: TH 12.30-1.30 OR BY APPOINTMENT
PROFJOY@MSU.EDU



Wrens operate a Colossus Mark II, Courtesy of the National Archives UK (via computerhistory.org)

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- I want to give your email full attention when I am reading it, so I only check messages periodically during the week. Please allow up to 24 hours for my response if you send a message between Monday 8AM and Thursday 5PM. If you send a message Thursday evening through Monday morning, I will not respond until Monday.
- If you have an RCPD Visa, please let me know on the first day of class.
- Course ground rule: No devices of any kind (laptops, tablets, smartphones, etc.) during class.

COURSE GOALS

Prior to World War II, a “computer” was a person who performed mathematical calculations, and most computers were women. The person now heralded as an early computer programmer was Ada, Countess of Lovelace, who published her unprecedented work of logic and abstraction in 1843. When the first electronic digital computers were built in the United States and England during World War II, women programmed them.

This course investigates the American, British, and European histories of gender and computing during the 18th, 19th and 20th centuries. The primary and twofold learning outcome of this course is to understand how ideas of gender shaped practices of computing during this time, and to understand how ideas of computing shaped notions of gender. Here, gender as an analytical category encompasses masculinity, femininity, and the spaces in between, recognizing a continuum rather than a binary. Similarly, computing encompasses practices of calculation, computation, and mathematics. Through the course of readings, in-class activities, and assignments over the course of the semester, we will pursue all five of the Michigan State university-wide learning objectives for undergraduates of: analytical thinking, cultural understanding, effective citizenship, effective communication, and integrated reasoning. Those objectives will be demonstrated through the other major learning outcome of this course: the successful completion of an original historical research paper with accompanying presentation, portions of which will be evaluated by your peers.

ACADEMIC INTEGRITY

I value academic integrity and honesty. We will discuss the particulars of what this means for particular assignments over the course of the semester; however, I expect each of you to adhere to the Spartan Code of Honor (written by your peers, for MSU students):

“As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.”

SUCCESS IN THIS COURSE / OVERVIEW

Active class participation	15%
Discussion questions	10%
Student-led in-class learning activity	20%
Midterm essay	25%
Culminating research paper	30% (20% paper, 10% presentation)

SUCCESS IN THIS COURSE / ATTENDANCE

In order to succeed in this course, your attendance, and active participation and engagement, are required at every class. One full point will be deducted from your course-long participation grade for each unexcused absence. If you know in advance that you will miss a class (for example, in the case of religious observance), please contact me as early as possible to make arrangements. If you miss a class for a reason that may be excused but cannot be anticipated, such as illness or grief, please contact me as soon as possible after the class has been missed to make arrangements.

SUCCESS IN THIS COURSE / READINGS

The readings for this course are all posted on the course’s D2L website. You will note that many of the readings are chapters excerpted from longer books (which you may purchase if you prefer). However, because the readings are all available on D2L, I expect that you will print out each week’s readings in advance, and bring those readings to class. Moreover, I expect that you will actively and critically read the works assigned. This means taking notes, writing on your printed copies, and interacting with the assigned reading. We will talk more about this over the course of the semester. Please do the readings and assignments listed on the syllabus for the day they are listed—in other words, **do the readings listed before coming to class that day.**

SUCCESS IN THIS COURSE / PARTICIPATION AND DISCUSSION QUESTIONS

In order to succeed in this course, your attendance, and active participation and engagement, are required at every class. To facilitate your active participation, every week, you are required to **submit two discussion questions based on the week’s readings to Professor Joy by email by Wednesday at 7PM.** During the semester, we will consider the characteristics of good discussion questions. As a group, we will also determine our own class guidelines for productive and considerate classroom discussion. This includes: no devices (laptops, tablets, smartphones, etc.) of any kind during our class meetings.

SUCCESS IN THIS COURSE / ASSIGNMENTS

I do not accept late work. Any late work earns a 0.0. I will give you detailed and specific grading rubrics for the discussion lead assignment, midterm essay, and culminating research paper with presentation.

TENTATIVE SCHEDULE FOR READINGS AND ASSIGNMENTS

I am also planning a class visit to the MSU Museum – date TBA. Any changes will be announced in class and/or by email.

I. INTRODUCTION TO HISTORIES OF COMPUTING AND GENDER

Thursday September 1

Welcome, Introductions, and Overview.

In class: David Rees, “Grandma’s Teenage Diaries,” *The New York Times Magazine* 7.3.16, 20-21.

Tuesday September 6

Sydney Padua, *The Thrilling Adventures of Lovelace and Babbage: *The (Mostly) True Story of the First Computer* (Great Britain: Particular Books, 2015), 7-39 [32pp].

Thursday September 8

Joan W. Scott “Gender: A Useful Category of Historical Analysis,” *The American Historical Review* 91, no. 5 (1986): 1053-075 [22pp].

Joanne Meyerowitz, “A History of “Gender,” *The American Historical Review* 113, no. 5 (2008): 1346-356 [10pp].

Tuesday September 13

Thomas J. Misa, “Gender Codes: Defining the Problem,” in *Gender Codes: Why Women Are Leaving Computing* (Hoboken, NJ: IEEE Computer Society and John Wiley, 2010), 3-23 [20pp].

Thursday September 15

Valerie Schafer and Benjamin Thierry, eds., *Connecting Women: Women, Gender and ICT in Europe in the Nineteenth and Twentieth Century* (Cham, Switzerland: Springer, 2015), v-xii, 1-23 [30pp].

II. MEASURING HEAVENS AND EARTH

Tuesday September 20

Martin Campbell-Kelly et. al., *Computer: A History of the Information Machine* 3rd ed. (Boulder: Westview Press, 2014), xi-xv and 3-4 [5pp].

Emily Winterburn, “Caroline Herschel: Agency and Self-presentation,” *Notes and Records – The Royal Society Journal of the History of Science* 69.1 (2015): 69-83 [14pp].

Thursday September 22

Natasha Geiling, “The Women Who Mapped the Universe and Still Couldn’t Get Any Respect,”

Smithsonian Magazine at smithsonian.com, September 18, 2013,

<http://www.smithsonianmag.com/history/the-women-who-mapped-the-universe-and-still-couldnt-get-any-respect-9287444/>.

Natalie Zarrelli, “How Female Computers Mapped the Universe and Brought America to the Moon,” *Atlas Obscura* March 4, 2016, <http://www.atlasobscura.com/articles/how-female-computers-mapped-the-universe-and-brought-america-to-the-moon>.

III. WRANGLING CAMBRIDGE

Tuesday September 27

Andrew Warwick, *Masters of Theory: Cambridge and the Rise of Mathematical Physics* (Chicago: University of Chicago Press, 2003), 176-226 [50pp].

Thursday September 29

EITHER

Claire G. Jones, "The 'Glamour' of a 'Wrangler': Women and Mathematics at Girton College, Cambridge," in *Femininity, Mathematics, and Science, 1880-1914* (London: Palgrave Macmillan, 2009), 8-35 [27pp].

OR

Claire G. Jones, "The Mathematics of Gender: Women, Participation, and the Mathematical Community," in *Femininity, Mathematics, and Science, 1880-1914* (London: Palgrave Macmillan, 2009), 143-174 [31pp].

AND

Marjorie Senechal, "The Wrangler," in *I Died for Beauty: Dorothy Wrinch and the Cultures of Science* (Oxford: Oxford University Press, 2013), 45-55 [10pp].

IV. ADA'S WORLD

Tuesday October 4

Martin Campbell-Kelly et. al., *Computer: A History of the Information Machine* 3rd ed. (Boulder: Westview Press, 2014), 4-13 [9pp].

Encore: Sydney Padua, *The Thrilling Adventures of Lovelace and Babbage: *The (Mostly) True Story of the First Computer* (Great Britain: Particular Books, 2015), 7-39 [32pp].

Thursday October 6

Sydney Padua, *The Thrilling Adventures of Lovelace and Babbage: *The (Mostly) True Story of the First Computer* (Great Britain: Particular Books, 2015), 40-90 [50pp].

Tuesday October 11 ** MEET @ MSU LIBRARY **

Robyn Arianrhod, *Seduced by Logic: Émilie Du Châtelet, Mary Somerville and the Newtonian Revolution* (New York: Oxford University Press, 2012), 161-174 and 214-227 [26pp].

WEDNESDAY OCTOBER 12 AT 7:00PM: MIDTERM ESSAY DUE

Thursday October 13

Eileen Magnello, "Florence Nightingale: The Compassionate Statistician," +*Plus Magazine: Living Mathematics*, December 8, 2010, <https://plus.maths.org/content/florence-nightingale-compassionate-statistician>.

Tuesday October 18

Thomas C. Jepsen, *My Sisters Telegraphic: Women in the Telegraph Office 1846-1950* (Athens: Ohio University Press, 2000) 79-117 [38pp].

Thursday October 20

Simone M. Müller, "Telegraphy and the 'New Woman' in Late-19th-Century Europe," in Schafer and Thierry, eds., *Connecting Women* (Cham, Switzerland: Springer, 2015), 27-46 [19pp].

V. The Census to WWII (When Computers Were Still Human)

Tuesday October 25

Martin Campbell-Kelly et. al., *Computer: A History of the Information Machine* 3rd ed. (Boulder: Westview Press, 2014), 13-19 [6pp].

Corinna Schlombs, "A Gendered Job Carousel: Employment Effects on Computer Automation," in Thomas Misa, ed., *Gender Codes* (Hoboken, NJ: IEEE Computer Society and Wiley, 2010), 75-94 [19pp].

Thursday October 27

David Alan Grier, "The Math Tables Project of the Work Projects Administration: The Reluctant Start of the Computing Era," *IEEE Annals of the History of Computing* 20.3 (1998), 33-50 [17pp].

Tuesday November 1

Marie Hicks, "Meritocracy and Feminization in Conflict: Computerization in the British Government," in Thomas Misa, ed., *Gender Codes* (Hoboken, NJ: IEEE Computer Society and Wiley, 2010), 95-114 [19pp].

Thursday November 3

NO CLASS. I will be in Atlanta, GA presenting my research at the History of Science Society Annual Conference. My suggestion: use this time to start investigating topics and sources for your culminating research paper.

VI. FROM HUMAN COMPUTERS TO COMPUTING HUMANS (OR, WWII TO NOW)

Tuesday November 8

Janet Abbate, *Recoding Gender: Women's Changing Participation in Computing* (Cambridge, MA: The MIT Press, 2012), 1-38 [37pp].

Thursday November 10

Tessa Dunlop, *The Bletchley Girls: War, Secrecy, Love, and Loss – The Women of Bletchley Park Tell Their Story* (Great Britain: Hodder & Stoughton, 2015), Introduction, Chapters Six and Seven [52pp].

Tuesday November 15

Nathan Ensmenger, "Making Programming Masculine," in Thomas Misa, ed., *Gender Codes* (Hoboken, NJ: IEEE Computer Society and Wiley, 2010), 115-142 [27pp].

Thursday November 17

Janet Abbate, "The Pleasure Paradox: Bridging the Gap Between Popular Images of Computing and Women's Historical Experience," in Thomas Misa, ed., *Gender Codes* (Hoboken, NJ: IEEE Computer Society and Wiley, 2010), 213-228 [15pp].

Tuesday November 22

Nathan Ensmenger, "Beards, Sandals, and Other Signs of Rugged Individualism?: Masculine Culture within the Computing Professions," *Osiris* 30.1 (2015): 38-65 [27pp].

Marie Hicks, "De-Programming the History of Computing," *IEEE Annals of the History of Computing* 35.1 (2013), 88, 86-87 [3pp]

Thursday November 24

NO CLASS / THANKSGIVING

Tuesday November 29

Student Presentations

Thursday December 1
Student Presentations

Tuesday December 6
Student Presentations

Thursday December 8
Student Presentations

Wednesday December 14 7:00PM – Culminating Research Papers Due