

Math 770
Topics in Mathematics (Women in Mathematics) - Online
Pittsburg State University – Fall 2018

Course Description. A look at the role of women in the development of mathematics.

Instructor. Dr. Cynthia Huffman, cjhuffman@pittstate.edu, Yates 201, 235-4409 or 235-4400

Optional Textbooks.

1. ***Math Equals: Biographies of Women Mathematicians+Related Activities***, by Teri Perl, Addison Wesley, ISBN 0-201-05709-3 (paperback, hard to find)
2. ***Women in Mathematics***, by Lynn M. Osen, MIT Press, ISBN 0-262-65009-6 (paperback)

The Writing and Reading Component. Writing to learn mathematics and writing to communicate mathematics are important aspects of any math course. You will be expected to express yourself clearly and accurately on assignments in this course. There will also be a lot of reading required for this course.

Aims of the Course.

1. To give life to your knowledge of mathematics.
2. To investigate some key moments and individual contributions of various women to the historical development of mathematics.
3. To indicate how you might use the history of mathematics (in particular, contributions of women) in your future career, especially if teaching.

Grading. Distribution of grades is as follows:

Final exam	20%
Research paper or Book Report	20%
Reading Quizzes	20%
Discussion Posts	20%
Activities	20%

Details of each of these is given below.

Grading Scale. The grading scale will be no higher than

90 - 100% A, 80 - 89% B, 70 - 79% C, 60 - 69% D, 0 - 59% F

Final Exam. The final exam will be open notes and open book. Email Dr. Huffman (cjhuffman@pittstate.edu) when you are ready to take the final. You will have 24 hours to complete the final. You can take the final before you have finished the research paper/book report.

Research Paper or Book Report. (100 points) If you choose the Research Paper option, then you are to write a research paper on a topic of your choice related to women in mathematics. This is meant to be an interesting and enjoyable assignment, not a chore. So choose a topic with care. There is a list of possible topics on a separate page to give you some ideas. You are encouraged to talk to me (via email) about possible topics. As soon as you have an idea, please let me know so that I can suggest possible references or make comments about the reasonableness of your choice of topic.

Each paper must meet the following requirements:

1. Enough expository material should be included so as to make the paper self-contained. If you have doubts, ask a friend to read it. Having someone else read your paper critically is a great way to improve the exposition.
2. You should use a variety of research materials and you must give careful references to your sources. You will want to use books and encyclopedias, but I especially encourage you to use the journals (a necessity for A work). Your paper should include a bibliography listing your sources and they should

be cited in the body of your paper when appropriate. The best sources to use are original sources, but, admittedly, that is hard to do.

3. Issues such as the length, format, etc., are up to you. Papers have a natural length. You are telling a story which needs certain background, exposition, and detail. When that is successfully done, stop; you have finished.

The grading of your paper will be based on a number of factors, including: the historical and mathematical content; the significance, interest, accuracy, and completeness of the material; the accuracy, scope and significance of your references, and the sensitivity with which they are used and cited; and finally, the style in which it is written (poorly written papers will be returned for editing). As in Olympic figure skating, your score will be a combination of technical performance and artistic merit. The grade of A will be given only for truly excellent work; B for good solid work; C for average work; D and F for unsatisfactory work.

Remember, the secret of good writing is rewriting. A nice checklist for writing a paper like this can be found at <http://www.cs.appstate.edu/~sjg/womeninmath/checklist.html>.

If you choose the Book Report option, then read a biography on a female mathematician. It may be either on one of the women from the course or someone else. Write at least 3 pages (double-spaced, 12-point font, 1 inch margins) about the book. Include enough summary material to demonstrate that you read the book, but also include your reaction and/or thoughts you had from reading the book. Some possibilities include:

- *Passionate minds: Emilie Du Chatelet, Voltaire, and the great love affair of the Enlightenment*, available in Axe Library, reads like a novel
- *Hypatia of Alexandria: mathematician and martyr*, available in Axe
- *Julia: a life in mathematics*, about Julia Robinson who died in 1985, written by her sister, available in Axe
- *The World of Maria Gaetana Agnesi: Mathematician of God*
- *Hidden Figures*

Reading Quizzes. There are 11 reading assignments on Canvas. After completing each reading assignment, complete the corresponding quiz on Canvas. (5 points each)

Discussion Posts. After completing each reading assignment, respond to the corresponding writing prompt on Canvas. (10 points each)

Activities. You will be completing one activity for each female mathematician based on her mathematical contributions. The activities can be found under Modules on Canvas. (10 points each)

Assistance Available to Students. There are some links to World Wide Web sites on the Math Department's Home Page (<https://www.pittstate.edu/math/index.html>) which relate to the history of mathematics and women in mathematics. Also, check out the Resources Module on Canvas.

More Information. For drop dates, more information about assistance available, and lots of other information, please consult the PSU Syllabus Supplement at <https://www.pittstate.edu/registrar/syllabus-supplement.html> .

Special Concerns. Any student who, because of a disabling condition, may require some special arrangements in order to meet course requirements should contact me as soon as possible to make necessary accommodations.

Academic honesty and integrity policy. <https://studentlife.pittstate.edu/code-of-student-rights-and-responsibilities.html#undefined30>

The instructor retains the right to change or amend the syllabus, schedule, and/or assignments.