800:180g History of Mathematics – To the Calculus
Section 01, 1:00-1:50, MWF, WRT 105

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Office Hours: Mondays, Wednesdays and Fridays from 2-3, Tuesdays from 10-11 and other times by appointment.


Course Description: We will focus on certain mathematical topics that appear, in history and in our curriculum, before calculus. In particular, we will consider enumeration and computation, algebra, and another topic (probably trigonometry). Ideally, we’ll follow a topic from its beginning through modern time, looking at contributions from around the world. Of course, too much time (4000 years), too many societies, and too many interrelated topics exist – our survey won’t be exhaustive! Course objectives include:

- To create an overview of the development of mathematics, including contributions of key people and societies.
- To examine how selected topics developed, how the information was and is transmitted, and how it is used and learned today.
- To appreciate that mathematics is a human endeavor. It is a living field to which diverse cultures have contributed, diverse topics are interrelated, and to which diverse methods lead to enriched understanding.
- To teach you to use the library and internet and to improve your reading and writing skills in a technical setting.
- To enhance your ability to “do” mathematics.

Grades: Your course grade will be based on exams (50%), class work and home work (20%), and library assignments, including a research paper and poster (30%). The weightings of each category may change slightly; together we may make other agreements as the semester progresses. There is no extra credit available. A score of 93% guarantees an A, 90% an A-, 88% / 83% / 80% for B+/B/B-, etc.

I expect at least two exams during the semester. We will use the final exam time (Dec 11, 1-2:50 pm) for either a third exam or for presentations.

You are invited to work with others on homework, but the work you turn in should reflect your understanding of what the group did. In other words, it is fine to discuss problems, but each person should individually recreate the solution for submission. It is also OK (but not great) if someone shows you how to do a problem. But you should question the person tutoring you until you understand – then write your solution. It is not acceptable to copy.
Class work refers to work done in class – activities, quizzes, sometimes attendance. Hence, you must be present to earn credit.

The major library assignment is a research paper on a topic (in the history of mathematics) of your choosing. This will give you the opportunity to delve more deeply into what interests you. You will get more information on possible topics in class and as you complete the other library assignments.

**Library Orientation:** On Friday, Aug 31, we will have class in the Library Lab 286 (turn right as soon as you enter the building and 286 will be the last door on your right).

**WebCT:** We’ll employ WebCT for submission of some assignments, discussions, and possibly some quizzes. Resources will also be available there – for example, you can find a link to a website of maps. Your first writing assignment is there now – you are asked to write your “automathography” which is due Aug 28 by 1 pm.

To access WebCT, go to [http://webct.uni.edu](http://webct.uni.edu). Your username is the same as your UNI username (the first part of your UNI email address) and your initial password is your UNI identification number. Note that if you’ve ever used WebCT at UNI in the past, your password is what you previously used.

**ADA:** Instructional accommodations due to disabilities must be arranged through the Office of Disability Services. The ODS can be contacted at 273-2676 or via [http://www.uni.edu/disability/](http://www.uni.edu/disability/)