

Math 181 - History of Math
Winter 2019
Lectures: TuTh, 9:50 AM - 11:25 AM, Soc. Sci. 2 075

Dan Cristofaro-Gardiner

Instructor Information:

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Office Hours:
Tu: 1:30 - 3:30 PM, Th: 8 - 9 AM, McHenry 4174

Course Description:

This is a one quarter introduction to the history of mathematics. We will learn about the development of mathematical thought, starting from ancient times; an emphasis will be doing mathematics in the style of various historical periods.

Prerequisites:

To take this course, you should have completed Math 19B, 20B, or the equivalent. Math 100 is strongly recommended, but not, strictly speaking, required.

If you do not have the right prerequisites, and would still like to take the course, I would encourage you to speak with me one on one as soon as possible.

Textbook:

The main textbook for the course is:

The History of Mathematics, an Introduction (Seventh Edition), by David Burton.

I will also provide suggestions of supplementary readings at the appropriate times in the course.

Teaching assistant:

Our teaching assistant is John Pelias. His email is jppelias@ucsc.edu. John will have office hours, and will be announcing a time and place for these office hours soon.

Email and website:

There is a website for this course, at <https://dancg.sites.ucsc.edu/teaching/math-181-history-of-mathematics/>. The homework for the course will be posted there, as will any essential announcements, and some useful online supplements.

You are strongly encouraged to email me, or the TA, with any questions that you might have. I will try to respond to all emails within 48 hours.

Academic accommodations:

To receive academic accommodations for a physical or learning disability, please submit an Accommodation Authorization Letter from the Disability Resource Center (DRC) to me as soon as possible (ideally within the first two weeks of the quarter), and contact PBSci Testing at testing.pbsci@ucsc.edu for arrangements at least two weeks prior to any exam. If you do not currently have accommodations authorized, you will be referred to the Disability Resource Center (DRC). You may contact the DRC by phone at 459-2089, or by email at drc@ucsc.edu.

Grading rubric:

Best of:

- Homework: 60%
- One short project: 15%
- One long project: 25%

- Homework: 40%
- One short project: 25%
- One long project: 35%

Important notes:

I reserve the right to assign up to three in-class quizzes, and alter the grading rubric accordingly, if I am unhappy with the quality of the homework assignments.

Late work:

Please note that except in exceptional circumstances with appropriate documentation, or in line with an academic accommodation, late homework will not be accepted and missed quizzes or midterms can not be retaken.

Homework:

Homework will be posted on the course webpage, with a due date, and will be due at the beginning of the class. The first homework will be shorter than usual, and is due on **Thursday, January 17**. Homeworks will generally be due on Thursdays, schedule permitting. Your teaching assistant will grade and return your homework.

Pedagogy and advice:

For the most part, I will be lecturing during class time. However, I want to emphasize some principles and tips that I think are very important for this course:

- Don't be afraid to ask questions! The more you engage with the material, the better your understanding will be.
- Do lots of examples
- Try to have fun!
- Try not to fall behind.
- Come to office hours!

Approximate lecture schedule (very much subject to change):

- Early mathematics (Textbook, Chapters 1 - 3), Weeks 1 and 2

- Greek mathematics (Textbook, Chapter 4, 5 + Supplements), Weeks 3 and 4
- The Decline and Revival of Learning; the Renaissance, (Textbook, Chapter 6, 7 + Supplements), Weeks 5 and 6
- Decartes, Newton, Pascal, Bernoulli, and Laplace (Textbook, Chapters 8 + 9), Weeks 7 and 8
- Fermat, Euler, and Gauss, (Textbook, Chapter 10), Week 9
- Selected topics from the 19th and 20th century (Textbook, Chapters 11-13), Week 10