SYLLABUS FOR MATH 112/MATH 50/STS 50, HISTORY OF MATHEMATICS

SPRING 2017

Professor: Moon Duchin (Moon.Duchin@tufts.edu)
Office Hours: Thu 1-3, BP 113 (but email to confirm)
Course Assistant: Nariel Monteiro (Nariel.Monteiro@tufts.edu)
Office Hours: Tue 2-3, BP 216
Lectures: MW from 3-4:15 (I+ block) in Eaton 201
Final Exam: Weds May 10, 12:00-2:00pm

The course will cover episodes in the history of math from antiquity to now. It is organized into themed units that cut across the timeline, with no attempt at comprehensive chronological coverage of a certain period.

There are five basic units in the course:

I. Introduction; Proofs and Refutations
II. Reading Artifacts
III. Axioms and Abstraction
IV. Notation, Technology, Media
V. Social Formations

This course can be used to meet Tufts distribution requirements in any one of the following three areas: Mathematical Sciences, Humanities, and Social Sciences.

We will meet the following Learning Objectives: basic understanding of higher mathematics; written communication; research skills; problem solving skills.

Assignment Structure

You can choose either a Problem Set Track (Math 112) or a Reading/Writing Track (Math 50/STS 50). The lectures are the same, but the assignments differ. There will be sporadic low-key smartphone quizzes.

Reading/Writing Track (Math 50/STS 50): average of 40-50 pages of reading per week; one reading response; 2-3 problems per week. Final exam.

RR 40%, PS 30%, Quizzes 10%, Exam 20%

Problem Set Track (Math 112): average of 20-30 pages of reading per week; one reading response; 5-8 problems per week. One midterm and final exam.

RR 20%, PS 30%, Quizzes 10%, Midterm 20%, Final 20%

There is real mathematical content in this course, including but not limited to: numeration and arithmetic algorithms, combinatorics, geometry, topology, number theory, set theory and cardinal arithmetic, group theory, real and complex analysis. The only formal prerequisite is Calc II, but exposure to upper-level math courses and to proof techniques will be helpful.

The reading and writing is a major component for both tracks of the course. The focus will be on **critical reading of primary and secondary sources** and on **developing a succinct written argument**.

General Course Policy

Academic integrity. You are encouraged to work together but your written work must be in your own words, and you must indicate working partners and other sources. Academic integrity is taken very seriously in this course; please refer to the Code of Conduct in the Student Handbook (`https://students.tufts.edu/student-affairs/student-life-policies/student-handbook`) to review University policy with respect to plagiarism and related issues.

Accessibility accommodations. We will gladly work to accommodate any disabilities brought to our attention. If you are requesting an accommodation due to a documented disability, please register with the Student Accessibility Services Office at the beginning of the semester. To do so, call 617-627-4539 to arrange an appointment.

Homework identifiers. Because homework is circulated in class and spends some time in mailboxes, you have the right to use a *unique identifier* instead of your name in order to protect your privacy. Your educational record is privileged information under the federal Family Educational Rights and Privacy Act (FERPA), and using your name as identifier means that you opt out of this guaranteed confidentiality with respect to homework assignments and scores.

Other classroom policies. I will gladly honor your preferred names and pronouns and it is my top priority to make this class a warm and welcoming learning environment for everyone. As the semester progresses, tell me how I'm doing!