

Ideas in Mathematics: MATH 170
University of Pennsylvania
11-week Summer Session, 2015

Class meeting time: Tuesdays and Thursdays, 4:30 PM to 6:25 PM

Class meeting place: DRL 4C4

Instructor: Joseph Hoisington

Email: jhois@sas.upenn.edu

Office: DRL 4C11

Office hours: TBA (based on your schedules) and by appointment.

Background: This class provides an introduction to mathematical reasoning and inquiry, and their importance in science, society and life. Our two main goals for the class are:

- i.) To improve our knowledge and understanding of mathematics itself.
- ii.) To learn how mathematics is and may be used in other areas of life.

We will learn some of the basics of several branches of mathematics, such as Algebra, Geometry, Combinatorics and Probability Theory. We will learn about their relationships and connections with one another. We will discuss formal logic and its role in mathematical proof. We will learn about some of questions mathematicians ask, why they are interested in them, and how they try to answer them. And we will learn about the essential role of mathematics in many other fields.

Required class texts:

- i.) "The Heart of Mathematics: An Invitation to Effective Thinking" Fourth Edition. Edward B. Burger and Michael Starbird.
- ii.) "Flatland" Edwin Abbott

Assignments: There will be homework each week, assigned on Thursday and due the following Thursday. Unless otherwise indicated, you are allowed to talk with your classmates about the assignments, but you must write up your own solutions, on your own, in your own words. If you do collaborate with your classmates, please indicate this on your assignment.

We will have one midterm and one final exam. The midterm will be in class on Thursday, June 18. The final exam will be in class on Thursday, August 6, the last day of the class. There won't be homework during the week of the exams.

A book report on "Flatland" is due Thursday, July 16. We will discuss this assignment during the class. There will be in-class quizzes.

Grading: The tentative plan for the class grade is: homework 35%, midterm exam 15%, final exam 30%, book report 10%, in-class quizzes 10%.

MATH 170 has sometimes been graded on a curve in the past. I will decide whether to grade the class on a curve at the end of the term, based on the results of your work. A curve will not be done in such a way that it limits the number of people who can earn As and Bs.

Schedule/important dates:

- First day of class: Tuesday, May 26
- Last day to drop the class with no financial obligation: Monday, June 8
- Midterm exam: Thursday, June 18 (in class)
- Last day to drop the class with a 50% financial obligation *and* last day to change grade status: Monday, June 22
- Friday, July 3: University holiday, no class
- Flatland book report due: Thursday, July 16
- Last day to withdraw from the class: Monday, July 27
- Final exam: Thursday, August 6 (in class)

NB Other classes in the Penn 11-week summer session should have the same drop dates as we do, but classes in summer session I and summer session II will have different deadlines.

Getting help: During summer session I (May 26 to July 1) there will be math help available from graduate students in the math department, Monday through Thursday, 9AM to 1PM in DRL 4C8. There will be similar help available during Summer Session II. I will let you know when and where as soon as it is scheduled.

If you would like to find a private tutor for the class, you may. The math department has a list of tutors here (<http://www.math.upenn.edu/ugrad/tutors.html>)

If you do work with a private tutor, please have them contact me.

Students with disabilities: If you think you might need an accommodation for a disability, please contact Student Disabilities Services (<http://www.vpul.upenn.edu/lrc/sds/index.php>) We are on a slightly faster schedule than classes during the school year, so if you are planning to contact Student Disabilities Services, it would probably be a good idea to do so right away.

Academic integrity: Everyone in the class is expected and required to maintain the highest standards of academic integrity. You are responsible for meeting all of the requirements in the university's Code of Academic Integrity. As mentioned above, you are allowed to talk about your assignments with your classmates unless otherwise indicated, but you must write up your own answers, on your own, and indicate any collaboration on the assignment. **If you are not sure what is okay, ask.**