
Math 195: Demystifying Mathematics

SPRING 2020

Basic Course Information

Instructor: Prof. Jen Paulhus

Time and Location: MWF 3:00- 3:50 PM in 2517 Noyce Science Center

Office Hours: Monday and Friday: 10:30-11:30 AM, Tuesday: 3:30-4:30 PM, Thursday 9:30-10:30 AM

Office: 2519 Noyce Science Center

e-mail: paulhus@math.grinnell.edu

webpage: <http://paulhus.math.grinnell.edu/teaching/ma195s20.html>

Text: *Math with Bad Drawings*, Ben Orlin

Material Covered: We will use the content in the book as a starting point for our conversations. Occasionally material from other sources may be provided.

Why This Course?

Most students leave high school believing that mathematics is just a tool for other STEM disciplines, and that it is a dry subject in which the only way to succeed is to memorize a series of tedious steps. Additionally, there are terrible misconceptions about who can and cannot do mathematics. Many people believe that the only people who can successfully do mathematics are naturally gifted “geniuses” who never have to work hard to solve the problems they encounter in mathematics.

We will spend the semester dispelling these false narratives about mathematics. Armed with just curiosity, some creative thinking, and a bit of persistence, we will explore a wide range of mathematical topics in order to reveal the beauty of math.

Learning Goals

In the spirit of a liberal arts education, the goal of this course is to give you an introduction to the academic subject of mathematics. By the end of the semester, students should be comfortable reading, writing, and discussing mathematics aimed at a general audience. Growth toward these goals will be measured on homework and on group projects, and by the quality of discussions in class.

Grading Policies

Homework: Homework will be assigned weekly on Fridays to be due the next Friday. Homework will consist of a mix of writing and problem solving. Assignments will be listed on the course webpage and are due *at the beginning* of class every Friday. Late homework incurs a letter grade deduction per day late. Homework is 40% of your grade.

Participation: The class structure will be different than other mathematics courses taught at Grinnell. We will spend large parts of class time discussing the book or other supplementary material. Sometimes we will work on problems for a few minutes, alone or in small groups, on paper or at the board. At other times we will talk about mathematical ideas or what mathematics is as a subject. This participation will be 30% of your grade, based on the quality of your comments in class.

Group Projects: There will be three group projects during the semester. Each group will give a 20 minute presentation in class about their topic. The presentations are tentatively scheduled for **February 24 and 26, April 6 and 8, and May 4 and 6**. More information about the projects will be forthcoming. Each project is 10% of your grade.

Attendance: As a core part of the class is the discussions, attendance is mandatory. If you miss more than 4 classes (excused or unexcused) your final letter grade will be deducted by 1/3 of a grade. Each additional missed class after that will be another 1/3 of a letter grade deduction. So if your final score would be a B+ and you miss 5 classes, you will end up with a B in the class. In the same scenario, if you missed 7 classes you would earn a C+ in the class instead.

Other Class Policies

I know that every one of you, regardless of background, will have important points to add to the conversations we have. Mathematics is challenging for everyone at times, and it is important that we create a classroom environment where all students not only feel comfortable contributing to discussions, but also are willing to risk saying something wrong. I expect each of you to help create this environment.

Students come to my classes with very different backgrounds, skills, and experiences. Usually the most successful students in my classes have two things in common: they work hard and effectively, and they are able to self-reflect honestly and make adjustments to their behaviors accordingly.

Cell phone usage is strictly prohibited during class. I typically do not allow laptops or tablets in class, but if you would like to take notes on such a device, send me an email with this request.

Please show up on time and please do not leave in the middle of class unless it is an emergency.

Accommodations

Grinnell College makes reasonable accommodations for students with documented disabilities. Students need to provide documentation to the Coordinator for Student Disability Resources, John Hirschman, located on the 3rd floor of Goodnow Hall (x3089) and discuss your needs. Students should then notify me within the first few days of classes so that we can discuss ways to ensure your full participation in the course and coordinate your accommodations.

Academic Honesty

Make sure you are familiar with the college's guidelines for academic honesty which you can find here: http://catalog.grinnell.edu/content.php?catoid=12&navoid=2537#Honesty_in_Academic_Work My policies and guidelines may be found on the homework or group project rubric. There are very serious consequences if you are found to be in violation of one of these policies. A typical first offense is a zero on the particular assignment, your final grade in the course is dropped a full letter grade, and you are ineligible to receive honors from any department.