

Instructor: Sam Payne, DL 414, sam.payne@yale.edu

Office Hours: Tuesdays, 4-5 pm, starting January 21.

Textbook: Calculus, Early Transcendentals, 7th edition, Math 115, by James Stewart.

Prerequisites: First semester calculus (Math 112), or equivalent.

Course Overview: This is a second semester course in single variable calculus. We will review definite integrals and the Fundamental Theorem of Calculus and then move on to cover techniques and applications of integration, basics of differential equations, parametric equations, calculus in polar coordinates, and infinite sequences and series. This is an introductory course and does not count toward the requirements of the mathematics major.

Technology: This class will use technology more than most introductory math courses at Yale. You will be assigned video lectures to watch at home before each class, through the Yale Coursera website <https://yale.coursera.org/>. Each video lecture is accompanied by a few prep problems, also to be completed online before class, through the Coursera website. Additional online resources are available through the Yale Classes*v2 Gateway. You are welcome to use calculators, applets, Mathematica notebooks, etc. to complete the prep problems and the weekly problem sets. Exams will be technology free, so get used to using your brain, too.

Homework: Problem sets are due at the beginning of class on Thursday. Late homeworks are not accepted. (Be cool. Each homework is worth less than one percent of your grade.) You are welcome to work together, use calculators, the library, wikipedia, and any other resources that you find useful or necessary to figure out and understand solutions to the problems. When you have arrived at a satisfactory understanding, I recommend that you close all books and browsers, turn off your calculators, say goodbye to your friends, and write down your own solution without further assistance. This will be realistic preparation for the exams, which you will complete alone and without technological assistance

Please write the solutions to your homework carefully and beautifully. Use complete sentences, include a statement of the problem, an explanation of the overall plan of the argument, and justification for all significant steps.

Exams: This course will have two midterm exams and one final exam. These exams are scheduled for Wednesday, February 19, 7-8:30 pm; Wednesday, April 9, 7-8:30 pm; and Sunday, May 4, 7-10:30 pm, respectively.

Grading: Grades for the course will be based on the final exam: 35%; two midterm exams: 25% each; homework and prep problems 15%.