

Instructor: Sam Payne, DL 414, sam.payne@yale.edu **Office Hours:** TBD.

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, including 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.

Resources: This class will use online videos and exercises to supplement the in-class activities, textbook readings, and weekly problem sets, as explained in the Videos and Prep Problems handout. Additional resources for this class, including problem sets, descriptions of lesson objectives for each section, copies of past exams, an explanation of the exam grading rubric, and information on getting additional help and support, are available through the Yale Classes*v2 Gateway.

Homework and Exams: Problem sets are due at the beginning of class on Friday. Late homeworks must be turned in directly to the grader. You are welcome to work together, use calculators or computers, and consult the library, wikipedia, or 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, you should *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, where calculators are not allowed. Please keep in mind that homework grades count relatively little, whereas the skills you will develop by writing down your solutions without assistance are invaluable.

You should write the solutions to all homework and exam problems clearly and carefully. Use complete sentences. Circle your final conclusions. Include a statement of the problem, an explanation of the overall structure of the argument, and justification for all significant steps. *On the exams, the quality and clarity of reasoning indicated in your explanations will be worth at least as much as the correctness of your final answer.*

Exam Schedule: This course will have two midterm exams and one final exam. The midterm exams are scheduled for **Wednesday, October 1, 7-8:30 pm** and **Wednesday, November 12, 7-8:30 pm**. The final exam date and time are TBD. *Exams may be rescheduled only with a dean's excuse.*

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