

Mathematics 104  
Fall 2002  
Course Information

Instructor: Jeff Tecosky-Feldman, Office: Hilles 207 (610-896-1199), email:jtecosky@haverford.edu

Office Hours: Mondays and Fridays 3-4 and by appointment.

Texts: *Brief Calculus* by Hughes-Hallett et al. and *A Tour of the Calculus* by Berlinski.

Description: An introduction to the history and the development of the ideas of calculus. Beginning with Archimedes and his predecessors, the course will follow the historical progression of the of function, derivative and integral, including recent developments, such as fractals. In addition to regular problem sets, students will be required to write essays explaining the important concepts of the course. This course is suitable for students interested in a nontechnical survey of the ideas of calculus. It does not cover the same amount of material as Math 113, and cannot substitute for Math 113 in any course requiring Math 113 as a prerequisite. My guess is that homework, reading, labs etc. will take roughly a minimum of 6 hours/week outside of class, and perhaps more.

This course is not ordinarily open to students who have taken calculus.

Lectures: MWF 11:35-12:30 in Dining Center Basement Rm 3.

Weekly assignments and Labs: Assignments will be sent to you by email each Wednesday, and are due at 5pm the following Wednesday; they can be turned in to a tray outside Hilles 207. Students are encouraged to collaborate on problems, but each student *must hand in his/her own writeup of the solution*. Explicitly: you may share information verbally, on a blackboard or on scratch paper, but you may not share written homework papers you plan to submit. If collaboration takes place, it *must be acknowledged by all parties on the homework papers*.

Discussion Sections: Students may attend one discussion section each week, in times and places to be determined. These discussion sessions will allow us to meet in smaller groups, to work on problems and get questions answered.

Math Question Center: Hilles 011 will be open Sundays through Thursdays, 7-9 PM, to provide a gathering place conducive to working on math assignments. Computers with Mathematica will be available. Math department faculty and student assistants will be on hand for answering math questions, dispensing hints, and coaxing output from recalcitrant computers.

Mastery Tests: There will be one “mastery” test during the semester (in addition to the midterm exams), covering simple derivative calculations. You may take the exams as many times as necessary (without penalty) to pass them (a passing score is 7 out of 8 questions – there is no partial credit). The tests will be available on the Web. They are *untimed, open book* tests, whose purpose is to ensure that you have a minimal proficiency in certain symbolic calculations.

Exams and Grading: There will be two in-class exams and a cumulative, self-scheduled final exam. The course grade will be computed out of a total of 400 points using approximately the following weighting system:

- 50 points for each of the in-class exams
- 100 points for the final exam
- 150 points for the written homeworks and labs
- 50 points for the differentiation mastery test

Email. Please learn to use email as soon as possible. I will be sending the weekly homework problems by email. In addition, it is a wonderful way to ask questions, set up appointments and broadcast late-breaking news (like misprints or hints).

Enjoyment: You are expected to enjoy the course!