

Math 10250, Elements of Calculus I — Spring 2012

Textbook: “Calculus: Ideas and Applications” (ISBN 0471654957), by Alex Himonas and Alan Howard is required for Math 10250. It is available as a bundle consisting of the second (corrected) printing and the Students’ Solutions Manual. The textbook and the Activities and Technology manual are available in the Hammes Bookstore.

Instructor	Class Schedule	Office	email@nd.edu
Megan Patnott	MWF 10:40 - 11:30 107 PASQ	253A HAYE	mpatnott

Description: This course serves as an introduction to calculus, the study of change. Central to this course is the concept of the limit. Using the limit we will be able to understand the notion of instantaneous rate of change (the derivative), and the total change (the integral). Math 10250 will take a conceptual as opposed to a mechanical approach to math so as to apply it to the ‘real world’.

Objectives: The main objective of Math 10250 is to help you learn mathematical concepts, techniques, and ideas that are useful in understanding and solving a wide variety of problems arising from economic and environmental issues to social and political situations. An important basic skill you will learn from the course is translating a given real life problem into a mathematical one (modeling). You can then solve the mathematical problem to gain insights for the real life problem.

Electronic Course Information: Most information for this course - **homework assignments, exam dates and venue, reviews, practice exams**, etc. will be posted on the web at

<http://www.nd.edu/~m10250/>

Exam and Homework Schedule:

	Date	Day	Time	Room	Points
Midterm 1	Feb 14	Tuesday	8:00–9:15 AM	123 Nieuwland Science Hall	100
Midterm 2	Mar 6	Tuesday	8:00–9:15 AM	123 Nieuwland Science Hall	100
Midterm 3	Apr 12	Thursday	8:00–9:15 AM	123 Nieuwland Science Hall	100
Final	May 10	Thursday	4:15–6:15 PM	TBA	150
Homework	collected on each class day				80
Participation	participation & activities (10 pts), projects (10 pts)				20
Total points:					550
<i>Bonus points for outstanding projects (which will be posted on course web-page):</i>					10

Cutoffs for major grades (A, B, C, D, F) for each exam will be assigned and announced in class so students have some indication of their level of performance. Your final grade will be based on your total score out of 550.

Missed exams: Math 10250 will have three Midterm Exams and a Final Exam. If you miss an exam without a valid excuse and acquiring written permission from the Dean of the First Year of Studies, you will not receive any points for that exam. If you know that you will miss an exam for a valid reason (e.g. you have approved absence for sports), see your professor as soon as possible and a makeup exam will be scheduled.

Exam conflicts: University policy dictates that students with more than two finals in one day or more than three finals in a 24 hour period may negotiate the rescheduling of one of these finals. If you qualify for negotiation and wish to change the time of your Math 10250 final, ask your instructor by *April 2*.

Homework Policies: Homework problems are assigned daily and are collected the following class. Homework is expected to be written clearly and organized neatly (with pages stapled), showing your work. Homework that does not meet this requirement will not be graded. The three lowest homework scores will be dropped. Late homework will **not** be accepted. If you need to attend a school related event, you may turn in your homework early or arrange to have your peer to turn in your homework on the day it is due. If you are having trouble getting your homework in on time, see your instructor. Though students are encouraged to assist each other and work on problems in groups, the work you turn in must be your own. Homework, after all, is for *your* benefit, as it will help you to learn and assess yourself. Students who take their homework seriously do better in the course because they have a superior understanding of the material.

Project Policies: Students are required to complete a project that connects mathematics to the wider world. Students may complete projects in groups. Extra credit will be given at the discretion of the instructor to students who perform beyond expectations. For an in-depth description of the project course component, see the project handout.

Honor Code: This class is conducted under the Notre Dame Honor Code. Violations of the honor code such as cheating and copying are not tolerated. Exams are closed book and taken alone. With regards to homework, the Student Solutions Manual is intended to assist your understanding of homework, not to complete your homework for you. **Copying from the Manual is thus in violation of the Honor Code.** You may, however, use a graphing calculator in homework and exams.

Classroom Policies: Your instructor may set aside some class time for you to work on Activity Sheets alone or in small groups. Sometimes, these will be collected and graded, contributing to your participation points. If you are having difficulties with a topic, let your professor know. Some questions will be answered in class, whilst others may need to be discussed outside of class time. All students are expected to be attentive and respectful during classes and, when necessary, ask questions and actively participate. A student who accumulates more than 3 unexcused absences may be given an F. You are expected to do your best to arrive on time for classes; excessive tardiness may be penalized. When you do arrive late for classes, however, make sure to minimize your disturbance to the class. In general, you are always expected to be courteous and respectful. Disruptive students will be asked to leave the class.

Study Suggestions: It is often useful to review the content of a lecture soon after class ends. Ask yourself what the main question of the day was, and find the solution. Take notes in your own words as you come to your own understanding of the topic. Remember that your textbook is not just a repository of homework questions, but a useful tool, often going into more depth than your lectures. Check with the explanations and examples in the book and read over the topic before attempting homework. If you can, read the textbook before the lecture as you will learn much faster this way. Read the corresponding section(s) of the book and see if the examples there make sense. Then begin the homework problems. If you get stuck, arrange to discuss your questions with your professor as soon as you can.

Getting Help: You can get help with Math 10250 through the three options listed below. More information can be found on the course website under the 'Math Help' tab.

- **Meeting with your Instructor:** Your instructor's office hours are posted on the course website. Alternatively, you can make an appointment. Try to bring your problems to the attention of your instructor as soon as possible as the earlier you do this, the more we can do to help and advise you.

- **Mathematics Department Help Sessions:** Math help sessions are offered by student tutors. Their schedule will be posted on the class website. Tutors, as the name suggests, are there to *tutor* you, not to complete or grade your homework. Respectfully ask the tutors questions and they will guide you to the answers you need.

- **Learning Resources Center (LRC) Help:** The LRC may also help you with the following programs:

Math 10250 Tutoring Program,
Math 10250 Collaborative Learning Program,
Math 10250 Special Help Sessions.

If you wish to participate in the Tutoring or Collaborative Learning Programs, you must sign up with Ms. Nahid Erfan, Director of LRC. Sign up and regular attendance is required for the Tutoring and Collaborative Learning programs but not for the Special Help Sessions. You may find the LRC on the second floor of the Coleman-Morse Center.

Calculators: You may use a graphing calculator on homework assignments and exams. Any TI calculator is good.