Calculus I  
MATH 170-02  
Fall 2007  
Syllabus

Time:  MF 11:30-12:20  
TR 11:30-12:45  
Classroom: ALT 223  
Instructor: Dr. Dena Morton  
Office: Hinkle 108  
Phone: x3674 (Note: I do not check my voice mail very often.)

Office Hours:  
▪ Mondays from 12:30-1:30  
▪ Tuesdays from 1:00-2:00 and 4:00-4:30  
▪ Thursdays from 1:00-2:00 and 4:00-4:30  
and by appointment  
e-mail: morton@xavier.edu  
Note: this is the best way to reach me – I check my e-mail on a regular basis.

Web Page: http://cerebro.xu.edu/~morton/aclasses.html  
Note: I update my webpage every day – all homework assignments and readings are always posted online. Also, check out the beautiful mathematical pictures!

Prerequisite: A good background in algebra and analytic geometry.

Text: Calculus from Graphical, Numerical and Symbolic Points of View, second edition (Volume I), by Ostebee and Zorn

Purpose: Calculus was first discovered by mathematicians searching for the answers to two “basic” questions:  
1. What is the slope of a tangent to a curve?  
2. What is the area under a curve?  
This semester we will begin to explore the answers to these two basic questions. We will also investigate various applications of Calculus to economics and the physical sciences.

It is essential that you be conscientious about completing both the reading and the computation assignments on time, and at least attempt every assigned problem. Questions are welcome at any time during class. I encourage you to participate actively in class by asking questions and by answering questions posed by either myself or by other students.

Content: After a brief introduction, we will delve into the fascinating world of Calculus. In Chapter 1 we will study functions and the ideas behind derivatives of functions. Chapters 2 and 3 will introduce the derivative, limits and continuity. In Chapter 4 we will study some applications of derivatives and the mean value theorem. In Chapter 5 we will concentrate on integrals and antiderivatives.

Class Activities: Classes will consist of small group activities, discussion, individual activities, Maple labs, and lectures.

Homework: Homework will be assigned daily. Doing homework for this course is the best way for you to pinpoint difficulties. It is also a wonderful learning tool. I will take questions about the homework at the beginning of each class session.

Quizzes: Weekly quizzes will be given on Fridays. I will grade these on a 10-point scale. The lowest quiz score will be dropped, so makeup quizzes will not be given. Quizzes will not be given during exam weeks.

Exams: There will be five exams given throughout the semester, each consuming an entire class period. There will also be a comprehensive final exam. If you must miss an exam for religious or academic reasons,
or in cases of illness or emergency, you must submit a written excuse. A makeup may be scheduled -- this will be decided on a case-by-case basis.

**MAPLE Labs:** The mathematics department has adopted the computer algebra system known as MAPLE. Throughout the semester we will take time to acquaint you with this system through the investigation of various calculus topics. There is a worksheet collection.

Early in the semester you will be paired with a lab partner (usually based on how you are sitting). Work with MAPLE is intended to be joint work and both students are expected to participate to the best of their ability. In fact, you are encouraged to do homework together.

**Grading:** Quizzes and MAPLE labs constitute 10% of your final score. Each exam will be worth 14% of your final grade. The final exam is worth 20% of your grade.

Each exam, quiz, etc. will be curved separately and assigned a number grade between 0.0 (the lowest possible F) and 5.0 (the highest possible A). I will announce the cutoffs when returning the exam. If, for example, the cutoff for an A is 87 and the cutoff for a B is 71 and you get an 83, then the number grade corresponding to your 83 would be a 3.75 (B corresponds to 3.0 and you are $12/16=.75$ of the way to the next cutoff). The homework and quizzes will be treated similarly. The total course grade may be curved further (that is, a 3.9 would result in an A or A- in the course), but the resulting curve will never lower your grade (that is, a 4.1 would always result in at least an A- in the course). +/- grades may be assigned in borderline cases. I reserve the right to assign a grade of “F” to any student who earns less than 50% on the final exam.

**Calculator:** (Required) TI-83 or TI-83 plus. Make sure to bring your calculator to class every day (calculators will be used on many quizzes and exams). You may not use a TI-89 or a TI-92. If you have any other type of calculator, please let me know. All programs in your memory will be wiped out before exams, so please let me know if you have anything that needs to be saved.

**Important Dates (Exams are Tentatively Scheduled):**

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<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Monday, Sept. 3</td>
<td>No classes (Labor Day)</td>
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<tr>
<td>Thursday Sept. 13</td>
<td>Exam I</td>
<td>Thursday Nov. 22 -</td>
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<td>Thursday Oct. 4</td>
<td>Exam II</td>
<td>Friday Nov. 23</td>
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<td>Thursday Oct. 11</td>
<td>Fall Holiday (No classes)</td>
<td>Monday, Nov. 26</td>
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<td>Friday Oct. 12</td>
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<td>Last day to withdraw</td>
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<td>Tuesday, Oct. 23</td>
<td>Academic Day (No classes)</td>
<td>Tuesday Dec. 11</td>
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<td>Thursday Nov. 1</td>
<td>Exam III</td>
<td>Friday Dec. 14</td>
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<td>Tuesday Nov. 20</td>
<td>Exam IV</td>
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<td>Tuesday, Dec. 18</td>
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<td>Final Exam 10:30-12:20 pm -OR-</td>
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**Attendance:** Class attendance is crucial. Lectures include the introduction and explanation of new topics, explorations of graphing calculators, and solutions of calculus problems. Class notes are to be used in conjunction with the text, in order to elicit a fuller understanding of Calculus.

*Please be courteous and come to class on time!*

University policies on attendance are stated on p.47 of the undergraduate catalog.

**One Minute “Quiz”:** At the end of some class periods I will ask you to hand in a sheet of paper on which you have filled out the following:

1. What was the most important topic covered today? (That is, what was the main point?)
2. What was the most confusing idea that was covered today? (That is, which concepts did you find complex or hard to understand?)
3. Any questions or comments?

You need not sign your name unless you have a specific question that you want me to address to you. I will frequently respond to one-minute quizzes during the next class period.
**Getting Help:** One of the best resources for additional help is the Mathematics Tutoring Room, Hinkle 126. This room is staffed by mathematics tutors who are just WAITING to help someone! Hours of operation for this room will be posted. Please give our tutors something to do!!

**Group Work:** Working in a group can be beneficial for everyone involved, provided that you do not abuse the privilege. Make sure that everyone in your group is making a contribution. Do not copy answers from one another, as this will only backfire against you come test-time. Instead, let concepts gel after group discussion, and then write up the solutions by yourself.

**Academic Honesty:** You are expected to conduct yourself with integrity in this course. Cheating will be dealt with as harshly as University regulations permit; measures will be taken during exams to prevent cheating. Students are directed to the undergraduate bulletin for further information.

**How to Do Well in this Course:** Come to class! Go to the tutoring room! Come visit me during office hours! Read the text! Try the problems! Smile! Study hard! Read your class notes! Make sure you keep up with the material in class! Review your class notes! Don’t Panic! Enjoy! Most important of all, if you feel that you are falling behind, or that you do not understand a certain topic, or if you would just like to discuss a mathematical idea (or anything else), come to visit me in my office. That’s why I am here! 😊