Application of Calculus to Business and Economics: Math 112 - Spring 2007

Lecturer: Dr. Andrew D. Loveless
Email: aloveles@math.washington.edu
Office: Padelford C-528
Office Hours: MW 1:45-3:00 pm, F 9:30-10:30 am, and W 3:30 - 4:30 pm in MSC
Web page: www.math.washington.edu/~aloveles


Other Required Materials:
- a clear plastic ruler
- a scientific calculator
- packet of lecture handouts
  (download from the course website)

Course Objectives: Students will learn the concepts of differential and integral calculus in specific contexts with emphasis on applications to economics. Topics will include: rates of change, tangent lines, derivatives, linear programming, line fitting, accumulation, area, and integrals.

Grading: The weight for each part of the course is given below. An example is also given to show how you can determine your own grade. This made-up student would get a 86.4 out of 100 for the course which is a 3.1 on the grade scale (the grade scale can be found on my website).

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
<th>Your Percentage</th>
<th>Your Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Prep Participation</td>
<td>2</td>
<td>100%</td>
<td>= 2</td>
</tr>
<tr>
<td>Homework (Due Fridays at Lecture)</td>
<td>10</td>
<td>85%</td>
<td>= 8.5</td>
</tr>
<tr>
<td>Activities (Due Thurs at Quiz Section)</td>
<td>10</td>
<td>97%</td>
<td>= 9.7</td>
</tr>
<tr>
<td>Midterm 1 (TUES, APRIL 24)</td>
<td>23</td>
<td>76%</td>
<td>= 17.48</td>
</tr>
<tr>
<td>Midterm 2 (TUES, MAY 15)</td>
<td>23</td>
<td>88%</td>
<td>= 20.24</td>
</tr>
<tr>
<td>Final Exam (SAT, JUNE 2)</td>
<td>32</td>
<td>89%</td>
<td>= 28.48</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td></td>
<td>86.4</td>
</tr>
</tbody>
</table>

Activities: You will participate in group activities during quiz section each Tuesday. You will work on these activities in groups; however, each individual will hand in his/her own solutions. These activities are designed to be finished and turned in at the end of the quiz section; but, if a group demonstrates a reasonable effort and is unable to finish, the members of that group may turn in the activity at the next quiz section (but no later).

Homework: Homework will be assigned weekly in lecture and will be collected during Friday’s lecture. Since the answers to most of the exercises are available to you, it is important that you write out complete solutions to all assigned problems. No credit will be given for simply writing the correct answer.

Participation: During Thursday’s quiz section, you will attempt problems from previous exams in a test-like situation and then discuss these problems as a class. You will receive points for participating in these discussions. After the discussion, your TA will answer questions about the week’s homework assignment.

Exams: You will be allowed to use your calculator, your ruler, and one 8.5 x 11 sheet of handwritten notes for the exams. Other electronic devices will not be allowed (e.g. no cell phones, no laptops, no Palm Pilots). You may not share a calculator or a note sheet with another student on an exam.

Make-Ups: Late activities and homework assignments will not be accepted for any reason. You will be allowed to miss one activity AND one homework assignment without penalty to your grade. In case of observance of religious holidays or participation in university sponsored activities, arrangements must be made at least 2 days in advance for activities and 1 week in advance for exams. You will be required to provide documentation for your absence. Make-up exams will not be given. If you miss
an exam due to **unavoidable, compelling, and well-documented** circumstances, your final exam will be weighted more heavily.

**Respect Issues:** Disrespect will not be tolerated. As with all your life, you should treat others better than you yourself would like to be treated. Come to class on time (better never than late) and do not leave class early. If you have special circumstances where you need to arrive late or leave early, please contact me ahead of time and sit close to the door so that you do not distract your classmates when you enter or exit. Do not use electronic devices during class. If you want to listen to your iPod, text message your friends, or play around on your computer, then don’t come to class. This is completely disrespectful to me and your classmates, so please put away and turn off your electronic devices. Finally, please show me respect when you have a question for me or when you send me an e-mail. You are well within your right to ask about homework and exam grading, but you should never try to argue, intimidate, or criticize me. I will do everything I can to help you all succeed in this course. I put in a lot of extra time and effort to help each of you in any way that I can. And this effort along with the effort of your TAs deserves and demands your respect!

**Class Philosophy:** There are two vital rules for success in my classroom.

1. **THE HOMEWORK IS THE KEY:** In mathematics, breakthroughs in learning rarely occur while reading the text or attending lecture. Mathematics is truly learned when you completely solve a problem AND understand the underlying concepts and tools so as to be able to apply them to related problems. The lecture, tutorial sessions, and office hours are valuable tools in guiding you towards learning and discovery, but ultimately the concepts and solutions must be absorbed, understood, and applied by you alone. Treat each problem as an exam question and ask yourself, “Can I answer this question without any help, and do I understand the underlying principles that this problem conveys?” If your answer is no to either of these question, then you need more studying and practice.

2. **ASK FOR HELP:** Most students will hit a wall at some point during the course. Some can’t handle the large workload, while others find difficulty with specific concepts in the course. When these times arrive remember to ask for help. Come to your T.A., come to me, ask your classmates for help, visit the math study center and/or visit the student counseling center. These are just a few of your options. Please, please, please find help earlier rather than later. You are all smart enough to do well in this course, the question is whether or not you are determined enough.

**Resources:**

- A link to the class website can be found at: [http://www.math.washington.edu/~aloveles/](http://www.math.washington.edu/~aloveles/) You will find lecture handouts, homework assignments, and a schedule for the term, and various bits of other useful information there, including review sheets, past exams and quizzes, TA information, etc.

- The Math Study Center (Communications B-006) is open to students in Math 112. The Center provides a comfortable place and a supportive atmosphere for students to come together and study, in groups or individually. The center is staffed by TAs and instructors. See [http://www.math.washington.edu/~taggart/m112/MSCsched.html](http://www.math.washington.edu/~taggart/m112/MSCsched.html) for more information.

- The Center for Learning and Undergraduate Enrichment (CLUE) holds drop-in tutoring sessions every weekday evening in Mary Gates Hall Commons. See [http://depts.washington.edu/clue/](http://depts.washington.edu/clue/) for more details.

- The University of Washington is committed to providing access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation contact the Disability Services Office at least ten days in advance at: 206-543-6450/V, 206-543-6452/TTY, 206-685-7264 (FAX), or dso@u.washington.edu.

- The Student Counseling Center provides academic skills workshop on a variety of topics including stress management test anxiety and time management to help you succeed at the University of Washington. If any of these is an issue for you, check out the schedule of workshops at [http://depts.washington.edu/scc/studyskills.html](http://depts.washington.edu/scc/studyskills.html).