MA151 Applied Calculus Fall 2012 Syllabus

151.01  09:00 MWF: 005 KH
151.02  10:00 MWF: 005 KH

Instructor: Dr. Lisa Oberbroeckling ("o-burr-breik-ling"), a.k.a. Dr. O
Office: 312 Knott Hall  Phone: 410-617-2516
Email: loberbro@loyola.edu OR loberbroeckling@loyola.edu
Moodle: moodle.loyola.edu (class website/information found on Moodle)
WeBWorK site: http://webwork.cs.loyola.edu/webwork2/MA151f12

Office Hours

<table>
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<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>1-2</td>
<td>11-12</td>
<td>12:30-2</td>
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NOTE: I know that my office hours may conflict with your schedule. I'm around many other times than just my office hours so feel free to stop by or make an appointment (see my schedule)

I reserve the right to make changes to the syllabus at any time during the term by announcing them in class and on the webpage. You are responsible for knowing not only what was discussed/announced in class but also posted on Moodle so check Moodle often!

Prerequisites
MA109 or a score of 48 or better on Part II of the Math Placement Test or one year of high school calculus.

Catalog Description
A one semester introduction to calculus. Definition, interpretation, and applications of the derivative especially in business and social sciences. Closed to students minorining in mathematics or statistics. A graphing calculator and/or computer will be used. Degree credit will not be given for both MA151 and MA251.

Required Text

Calculators
A graphing calculator is not required but may be useful. You need nothing fancier than a TI-83 or its equivalent. It is up to you to learn how to use one. During quizzes and exams calculators may not be shared. Certain types of graphing calculators such as the TI-89 will not be allowed for quizzes and exams.

Grading Based on:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Webwork and Homework</td>
<td>25%</td>
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<tr>
<td>2 Exams (higher exam is worth 25%)</td>
<td>20% and 25%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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Basic Scale:

<table>
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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tr>
<td>A</td>
<td>90-100%</td>
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<tr>
<td>B</td>
<td>80-89%</td>
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<tr>
<td>C</td>
<td>70-79%</td>
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<tr>
<td>D</td>
<td>60-69%</td>
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<tr>
<td>F</td>
<td>0-59%</td>
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I give +/- grades, the cutoffs being at the 7's and 3's, respectively. Thus 80-82.9 = B-, 83-86.9 = B, 87-89.9 = B+.
Homework and WeBWorK
This course will emphasize problem solving and some applications of mathematics, especially in business. Homework problems will be assigned from each section that we cover and posted on Moodle. Also, you will be asked to do homework on the computer through WeBWorK. Even though I will not be collecting ALL of the homework assigned from the book, it is important for you to be able to do all of the problems and understand the concepts behind them.

Late Assignments
Late WeBWorK assignments are not accepted, so plan your time wisely. Late homework is accepted but 5 points (out of 25) will be deducted from your score. No late homework is accepted one week after its due date.

Exams
There will be 2 in-class exams during the term. They are tentatively scheduled on the calendar. Other information about the exams will be announced in class as each exam approaches.

Final Exam
151.01 (9:00 class): Monday, December 17 at 9 AM.
151.02 (10:00 class): Wednesday, December 19 at 9 AM.

Extra Credit
Do not count on extra credit in this course to boost your grade. I make it a policy to not give extra credit on an individual basis so do not ask for it, especially at the end of the semester.

Attendance Policy
I do not take attendance very day, but I do pay attention to who shows up. If you must miss class, I don't need to hear why because it is your responsibility to find out what you missed. It is best to get notes from a classmate; my lecture notes will not be useful to you. If you cannot make it to an exam because of illness or family emergency, let me know in advance by phone or e-mail. Make-ups will be given only under these circumstances. Don’t abuse this. No changes can be made to the date and time of the final exam.

Classroom Etiquette
When you come to class, I expect you to not only be in attendance physically but also mentally. That means no cell phones, no leaving class during lecture, no extraneous chatter, etc. If you know you must leave class, sit by the door to minimize the disruption.

Honor Code
All students of the University are expected to understand the meaning of the Loyola University Honor Code. Ignorance of the Code is not a valid reason for committing an act of academic dishonesty. The following constitute violations of the Code and are defined in the Community Standards Handbook: cheating, stealing, lying, forgery, plagiarism and the failure to report a violation. As it pertains to this course: I expect and encourage you to work with others on homework (by collaborating, not copying!). I will ask you to sign a pledge on exams but not on other turned-in work although I will expect the same honesty on all of them. Any questions or concerns should be directed immediately to me.
Student Athletes
If you are a student athlete, please provide me with your travel and game schedule indicating when you will need to miss class to participate in athletic events. While travel for athletics is an excused absence, you will need to make up any missed work. Absences only on the travel letter will be accommodated.

Disabilities
If you have a disability that is documented with the Disability Support Services Office (DSS) and wish to discuss academic accommodations, please contact me as soon as possible. If you have a learning disability that has not been documented, you may contact the Disability Support Services Office (410-617-2602) for assistance.

Learning Outcomes
At the end of the term, if a student successfully completes the course, s/he will have achieved:

the following Undergraduate Learning Aims of the University:
- Intellectual Excellence
  - appreciation of and passion for intellectual endeavor and the life of the mind
  - appreciation of and grounding in the liberal arts and sciences
  - excellence in a discipline, including understanding of the relationship between one's discipline and other disciplines; understanding the interconnectedness of all knowledge
  - habits of intellectual curiosity, honesty, humility, and persistence
- Critical Understanding: Thinking, Reading, and Analyzing
  - the ability to evaluate a claim based on documentation, plausibility, and logical coherence
  - the ability to analyze and solve problems using appropriate tools
  - the ability to use mathematical concepts and procedures competently, and to evaluate claims made in numeric terms
  - the ability to use information technology in research and problem solving, with an appreciation of its advantages and limitations
- Eloquencia Perfecta: the ability to use speech and writing effectively, logically, gracefully, persuasively, and responsibly
- Diversity: recognition of the inherent value and dignity of each person, and therefore an awareness of, sensitivity toward, and respect for the differences of race, gender, ethnicity, national origin, culture, sexual orientation, religion, age, and disabilities

the following Natural and Mathematical Sciences learning aims:
- develop their innate curiosity about the natural world and take a life-long interest in science news and advancements
- explore one or more of the central ideas that form the foundation for modern science
- understand the process of science - its methodology, how questions are framed, how data are acquired, how arguments are constructed and conclusions reached. In this context, students should learn what science is not and have the ability to recognize and reject pseudoscientific claims. In addition, students should also have the ability to recognize the limits of science. Students also should understand the relationship between science and technology and how the results of scientific discovery can be applied to the needs of society. Students should learn the linkage between experimental methodology and scientific content
• learn to reason mathematically, and to think critically and analytically through statistical or mathematical methods. Because of the close interrelationship between science and math, in each science course in the core, students will achieve a better understanding of the power of quantitative tools used in the particular discipline
• learn how recent technological advances have facilitated and accelerated scientific inquiry. They gain a realistic understanding of the potential and limitations of computation

and the following learning objectives of the course:
• be able to demonstrate an understanding of rates of change and derivatives
• be able to apply concepts of derivatives
• be able to demonstrate an understanding of accumulated change and definite integrals
• be able to apply these skills in business applications.

GENERAL SUGGESTIONS:

• This course will test your study and time management skills. The homework/WeBWorK exercises WILL be time consuming until you get the hang of them, so DO NOT put off the homework until the night before they are due. I will not give extensions on these due dates.
• Don't use the fact that I don't collect the all of the book homework to not do it. You will need to know that material for the exams and later material!
• Participate in class, ASK QUESTIONS, stop by my office. If you get behind or stuck, see me or work with other students RIGHT AWAY.
• Form a study group with others in the class. You may work together on homework but everyone must join in and work.
• READ THE BOOK. Lectures will be much more understandable. It will be important to READ the book, not just look at the highlighted boxes because I will not be able to cover all of the details or show nearly enough examples in class.
• If you think you'll need extra help, get it as soon as possible. Do not wait until right before a test! There are tutoring services available -- some are FREE.