Syllabus: Calculus I
MA 125 (Section 106) Fall 2013

Class Time: 10:10 am – 11:00 am MWF and 9:30 – 10:20 on Thursdays
Location: ILB 370
Instructor: Dr. Maria Byrne
Phone: (251) 460-7162
E-mail: abyrne@jaguar1.usouthal.edu (E-mail is the best way to reach me.)
Office: ILB 424
Office Hours: MWF: 12:20–1:10 pm
Tuesdays: 9:30–10:20 am and 11:00–11:50 a.m. Other times by appointment.
Supplemental Instructor: TBA
Supplemental Instruction Sessions: TBA
Course webpage: http://www.southalabama.edu/mathstat/personal_pages/byrne/teaching.htm


Coverage:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Functions</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1</td>
<td>Functions</td>
<td>1.3, 1.5, 1.6</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Limits and Continuity</td>
<td>2.2–2.6</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Differentiation</td>
<td>3.1–3.3, 3.5–3.11</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Applications of Derivatives</td>
<td>4.1–4.6, 4.8</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Integration</td>
<td>5.1–5.4</td>
</tr>
</tbody>
</table>

Calculator: A calculator is not required for this course and calculators are not allowed on class tests and quizzes. A calculator is recommended for homework and independent study and there will be some instruction in class on how you may use software that you already have such as Excel and Google.

The USA Bulletin Course Description: This course provides an introduction to calculus with an emphasis on differential calculus. Topics include the limits of functions, derivatives of elementary functions, application of differentiation to curve sketching and optimization problems, and examples in the natural sciences and economics. The course concludes with an introduction to definite integrals and the fundamental theorem of calculus. Credit for both MA 120 and MA 125 is not allowed. Prerequisites: C or better in MA 113, MA 115, or a sufficient score on the Math Placement Test. Core Course. (Course Format: web-enhanced.)

Learning Objectives: Upon the successful completion of the course a student will be able to

1. compute limits of functions graphically, numerically, and algebraically;
2. verify using the $\varepsilon-\delta$-definition that a given real number is the limit of a function;
3. compute and interpret the derivative as a rate of change, as a slope, as a linear approximation, and as a tool for optimization problems;
4. analyze algebraic and transcendental functions with regard to their critical behavior, regions of increase and decrease, concavity properties and asymptotic behavior, and sketch a graph based on these observations;
5. compute simple anti-derivatives;
6. estimate an area under a curve and a definite integral using Riemann sums;
7. interpret a definite integral as a signed area;
8. state and use the fundamental theorem of calculus;
9. state and prove results about limits, derivatives, and mean values.
Philosophy: The key to success in this class is to attend lectures regularly, complete homework assignments carefully and thoroughly and actively find ways to learn mathematics. You learn mathematics by identifying what you don’t yet understand, finding your own best methods of achieving understanding, and systematically practicing what you have understood.

Course Resources:  
If you do not know how to do a homework problem, do not get behind. Check these sources of help:

1. **Supplemental Instruction:** Your supplemental instructor is TBA and the SI sessions are scheduled TBA.
2. Skim through examples in your class notes or the book section for a similar problem. If the problem is not similar enough, research the answer in other textbooks or on the internet. YouTube and the Kahn Academy (www.kahnacademy.org) are good resources for videos and tutorials.
3. Your book comes with a copy of MyMathlab, which contains many tutorial resources including homework examples and the opportunity to check your work with a computer.
4. Send your instructor an e-mail or plan to visit your instructor in person, either during office hours (no appointment necessary) or make an appointment outside those times.
5. Form study groups and work together! Students have reported that this is very helpful.
6. **FREE TUTORING** – The department offers a tutoring lab in ILB 235 to all students taking mathematics and statistics classes. There is no lab fee. Please check the bulletin board outside ILB 325 for details.

**Course Components**

**Course Webpage:** The course webpage will contain a copy of this syllabus, a list of all assigned homework problems, and any important announcements. It may also contain useful handouts for the coursework and solutions to the homework or tests.

**Attendance:** Regular attendance is important in this course. It is your responsibility to get any assignments or notes missed during an absence. Roll will be taken randomly throughout the semester and attendance will be considered in determining borderline grades. Students may find that lectures are most effective if the relevant book section is read in advance.

**Homework (Not Collected):** Homework problems from the text will be assigned with each book section. Problems will be announced in class and the list of assigned problems can also be found on the course webpage. Work all assignments promptly and carefully: this is essential to learning the material and doing well on quizzes and exams. Quiz and exam questions will be similar to the homework questions. Group work on homework is encouraged and it is recommended that any questions on the homework be promptly addressed with other classmates, at the tutoring lab or during my office hours.

**Quizzes – 15%**
There will be frequent (weekly) quizzes. The quiz topic will often be announced during the proceeding class or will be drawn randomly from a homework problem. There will be no make-up quizzes, for any reason, but your two lowest quiz grades (including missed quizzes) will be dropped.

**Three Exams – 20% × 3 = 60%**
- Exam I: Chapters 1 and 2, Friday, 9/6/2013
- Exam II: Chapter 3, Friday, 10/11/2013
- Exam III: Chapter 4, Friday, 11/8/2013

**Final – 25%**
The final will be comprehensive but will emphasize material from Chapter 5.
- **Monday** 12/9/2013 10:30 - 12:30 p.m.

**Standard grading scale:**
- A(90-100)
- B(80-89)
- C(70-79)
- D(60-69)
- F(0-59)
**Course Policies**

**Communication:** The best way to contact me is in person during my office hours or through e-mail. When sending e-mails, please include your name since it may be difficult to decode a student’s name from their e-mail address. I frequently send announcements, homework and exam solutions and links to other course resources via e-mail to your South Alabama account. Please check this account regularly.

**Make-Up Exams:** If you are unable to attend an exam you should contact me promptly: before the exam if possible, and otherwise, before the next class. Prompt communication and a compelling reason for absence will entitle you to a make-up exam. In special circumstances, for example if scheduling a make-up exam within a few days is precluded; a missed exam score may be replaced by the score on the final exam.

**Rescheduling the Final Exam:** If you have three or more final exams scheduled on the same day, you are entitled to reschedule the first exam. The request is made to the dean of the college in which the course is taught at least two weeks in advance of the date of the final, and the rescheduling is done through that office.

**Distractions:** Turn off cell phones while you are in class. Texting, surfing the internet or working on other course work while in class is not allowed. This erodes the academic spirit of the class. Laptops for taking notes may be used only with prior permission. Leaving briefly or early during class is left at the discretion of the student, as long as such events are occasional and discrete. It is expected that students will be cordial, courteous and respectful of faculty members and fellow students.

**JagAlert:** JagSuccess is a program intended to help students be successful in 100 and 200 level courses. The purpose of the program is to provide early feedback to students having academic difficulties. If you are not doing well in this course, you will get an email in week 6 or 7 of the semester instructing you to see your professor with instructions to access an online survey regarding class habits and study skills. Based on your survey score, you will receive recommendations for improving your performance. You will also be given a link to an online tutorial intended to help with common problems affecting academic performance. (Last year, students who took action following the alert by completing the study skills survey had higher levels of course success than those who did not complete the survey.)

**Dropping the Course:** The last drop day for the course is Friday, October 25th. Note that by this date, you will have received feedback on Exams I and II. If you are considering dropping the course, please speak with me, the department chair (Dr. Mulekar) or the assistant to the chair (Dr. Brick) before dropping to discuss alternatives. Please contact me with your questions and problems with the course. If you do not attend the final exam and have not dropped the course, you will receive an F* as your final grade.

**Disabilities:** If you have a specific disability that qualifies you for academic accommodations, please notify me and provide certification from the Office of Special Student Services located at 5828 Old Shell Road at Jaguar Drive, (251-460-7212). In accordance with the Americans with Disabilities Act, students with bona fide disabilities will be afforded reasonable accommodations. The Office of Special Student Services (OSSS) will certify a disability and advise faculty members of reasonable accommodations.
**Online Writing Support**: The University of South Alabama provides online writing tutoring services through SMARTHINKING, an online tutoring service. SMARTHINKING is available at http://services.smarthinking.com. Students may enter the site by logging on with their Jag number and using the last four digits of the social security number as the password. For log-on problems, technical questions and/or on-campus writing assistance, contact the USA Writing Center at 251-460-6480 or e-mail csaint-paul@usouthal.edu. Information about the University Writing Center and Online Writing Lab can be found online at:

http://www.southalabama.edu/univlib/instruction/antiplagiarism/writinghelp.html

**Academic Disruption**: The University of South Alabama’s policy regarding Academic Disruption is found in The Lowdown, the student handbook. Disruptive academic behavior is defined as individual or group conduct that interrupts or interferes with any educational activity or environment, infringes upon the rights and privileges of others, results in or threatens the destruction of property and/or is otherwise prejudicial to the maintenance of order in an academic environment.

http://www.southalabama.edu/lowdown/academicdisruption.shtml

**Student Academic Conduct Policy**: The University of South Alabama’s policy regarding Student Academic Conduct Policy is found in The Lowdown. The University of South Alabama is a community of scholars in which the ideals of freedom of inquiry, freedom of thought, freedom of expression, and freedom of the individual are sustained. The University is committed to supporting the exercise of any right guaranteed to individuals by the Constitution and the Code of Alabama and to educating students relative to their responsibilities.

http://www.southalabama.edu/lowdown/academicconductpolicy.shtml

The requirements and policies above may be modified as circumstances dictate. Such changes will be provided to the students in class and in writing. You will often first be notified of changes by e-mail, so please check your jaguar1 e-mail accounts regularly.