# MATH 141 (§§11 & 12) – Calculus I

**Instructor** Professor Doug Meade
Office Hours: MWF 10:00–11:00, and by *prior* appointment
Office: LeConte College 300E
Phone: 777-6183
E-mail: meade@math.sc.edu

**Graduate Assistant** Daniel Gerbner
Office Hours: M 4:30 – 6:00 and W 1:00 – 2:30
Office: LeConte College 123
Phone: 777-1825
E-mail: gerbnerd@gmail.com

**Supplemental Instructor** Casi Noel
Sessions: MT 5:00 – 6:00 and W 7:00 – 8:00
Location: Student Success Center, Room 1 (Cooper Library, Mezzanine)
E-mail: noel@mailbox.sc.edu

**WWW URL** http://www.math.sc.edu/~meade/math141-F07/

**Meeting Times**

| | | | |
|---|---|---|---|
| Lecture | MWF | 11:15AM–12:05PM | LC 113 |
| Lab (§11) | T | 11:00AM–11:50AM | LC 102 |
| Lab (§12) | T | 12:30PM– 1:20PM | LC 102 |
| Recitation (§11) | Th | 11:00AM–11:50AM | LC 115 |
| Recitation (§12) | Th | 12:30PM– 1:20PM | LC 115 |

**Text** Anton, Bivens, Davis, *Calculus, Early Transcendentals*, Eighth Edition, Wiley, 2005.

**Prerequisite** Qualification through placement or a grade of C or better in MATH 112 or 115.

**Overview** This is the first course in the traditional three-semester calculus sequence. Learning calculus involves a certain amount of formulae, methods, and techniques. It is equally important that you obtain a fundamental understanding of the concepts: *limits*, *differentiation*, and *integration*. The lectures, recitations, and lab sessions are designed to help develop your understanding of these concepts.

**Course Content** This course will cover most of the topics in Chapters 1–6 in the text. Specific topics to be covered include:

**Chapter 1:** Functions
- Graphs
- Linear Equations
- Parametric Equations

**Chapter 2:** Limits and Continuity
- Intuitive Approach
- General Rules for Evaluating Limits
- Continuity

**Chapter 3:** The Derivative
- Intuitive Approach: Slopes and Rates of Change
- Differentiation Techniques
- Approximation and Differentials

**Chapter 4:** Transcendental Functions
- Inverse Functions
- Exponential, Logarithmic and Inverse Trigonometric Functions
- l'Hôpital's Rule

**Chapter 5:** Applications of the Derivative
- Graphing and Optimization
- Mean Value Theorem

**Chapter 6:** Integration
- Indefinite Integrals and Area
- Definite Integrals
- Fundamental Theorem of Calculus

**Grading** Your grade in this course will be based on your performance on homework, four (4) mid-term exams, the computer lab, and a final exam. The weights assigned to each of these components will be:

| | | | |
|---|---|---|---|
| Homework | 10% | Mid-term exams (3) | 50% |
| Computer Lab | 15% | Final exam | 25% |

Course grades will be determined according to the following scale:

| | |
|---|---|
| A | 90 –100 |
| B | 80 – 89 |
| C | 70 – 79 |
| D | 60 – 69 |
| F | 0 – 59 |

The deadline to drop this course with a grade of W is Thursday, October 4, 2007.

**Exams** The lowest of your four (4) mid-semester exam scores will not be used in determining your overall grade. *Tentative* dates and material for these exams are:

| | |
|---|---|
| Wednesday, September 12 | Chapter 1 and §§2.1–2.4 |
| Wednesday, October 3 | §§2.5–2.6 and §§3.1–3.6 |
| Wednesday, October 24 | §§3.7–3.8 and Chapter 4 |
| Tuesday, November 20 | Chapter 5 and §§6.1–6.6 |

Make-up exams will be given only for documented reasons of illness, family emergency or participation in a University sponsored event. Excuses such as oversleeping, forgetting the time or location of the exam, and lack of studying are explicitly noted as unacceptable grounds for the administration of a make-up exam.
A comprehensive final will be given at 5:30P.M. on Wednesday, December 12, 2007.

**Homework** Homework will be assigned, and graded, through WileyPlus (`http://www.wileyplus.com`). You are responsible for completing all assigned work on time. It is a good idea to print copies of your work. Please report any difficulties that you have with this system as soon as possible. We will go over some, but not all, of the assigned problems in class or recitation.

**Computer Labs** The weekly computer labs will complement the material presented in the lectures. Instruction in the use of Maple, a computer algebra system, will be provided. Many of the labs involve visualization, including animations, of applications of limits, derivatives, and integrals. If you want to use the computers in LC 303A and the door is locked, the combination is 4351. The lab homepage is `http://www.math.sc.edu/calclab/141L-F07/` .

**Study Hints** Reading each section **in advance** of the lecture is strongly encouraged. Benefits of this preparation include obtaining a familiarity with the terminology and concepts to be encountered (so you can distinguish major points from side issues), being able to formulate questions about the parts of the presentation that you do not understand, and having a chance to review the skills and techniques that will be needed to apply the new concepts.

Take advantage of the Supplemental Instructor. Many students find this exactly what they need to succeed — or to do better — in this course. Experience shows that improvements increase as the number of times you attend increases.

The Maplets for Calculus (`http://maplenet.math.sc.edu/MapletsForCalculus`) are a collection of applets designed to help you learn and practice specific calculus skills. You will need to use your USC Network username and password to gain access to this site.

For additional assistance, do not forget about the Math Tutoring Center. The Math Lab provides free assistance for all 100-level mathematics courses. The main location is LC 103, with tutors also available in the ACE locations in Bates House, Columbia Hall, and Sims. For updated hours and locations, visit the Math Lab homepage at `http://www.math.sc.edu/mathlab.html`.

Please discuss with me any difficulties that you are having with the course. Early resolution of weaknesses is the best way to prevent them from becoming major deficiencies that affect your performance in the course.

**Attendance** Attendance at every class meeting is important – and expected. Students missing more than 10% of the class meetings (4 days) can have their grade lowered.

**Academic Honesty** Cheating and plagiarism will not be tolerated. You may discuss homework problems with others, but do not copy work from another student or from a book. Violations of this policy will be dealt with according to University guidelines.