MATH 141 (§§1 & 2) – Calculus I

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

Graduate Assistant Jon Bigler
Office Hours: T 10:45 – 1:45
Office: LeConte College 104B
Phone: 576-5944
E-mail: bigler@math.sc.edu

WWW URL http://www.math.sc.edu/~meade/math141-F04/

Meeting Times

Lecture	MWF	9:05AM– 9:55AM	LC 412
Recitation	T	9:30AM–10:20AM	LC 412
Lab (§1)	Th	8:00AM– 8:50AM	LC 401
Lab (§2)	Th	9:30AM–10:20AM	LC 401

Text Anton, Bivens, Davis, *Calculus, Early Transcendentals*, Seventh Edition, Wiley, 2002.

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 calculus sequence. The general topics and applications are traditional but some of you may find the presentation of the material somewhat nontraditional. While learning calculus does involve a certain amount of formulae and methods, and techniques, it is much more important that you obtain a fundamental understanding of the concepts. These concepts are *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

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.

For additional assistance, do not forget about the Math Lab. The Math Lab provides free assistance for all 100-level mathematics courses. The main location is LC 101, with tutors also available in the ACE Offices located in the Towers and Bates House. 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.

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

Quizzes	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, September 30, 2004.

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 15	Chapter 1 and §2.1–2.4
Wednesday, October 7	§§2.5–2.6 and §§3.1–3.6
Wednesday, October 27	§§3.7–3.8 and Chapter 4
Tuesday, November 23	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 9:00A.M. on Wednesday, December 8, 2004.

Homework Problems will be assigned on a regular basis. You are expected to work all of these problems. We will go over some, but not all, of these problems in class or recitation. Your solutions will not be collected.

Quizzes There will be a quiz in each recitation (on Tuesdays). Each quiz will consist of one or two problems similar in nature to the homework problems. Your quiz grade will be computed by your ten (10) highest quiz scores. *No make-up quizzes will be permitted.*

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. The lab homepage is `http://www.math.sc.edu/~meade/141L-F04/`

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.