MATH 141 University of South Carolina
D. Meade Spring 1997

MATH 141 (Sections 4 & 5) – Calculus I

Instructor Professor Doug Meade

Office Hours:	MWF 11:00–12:00 and by *prior* appointment
Office:	LeConte College 300E
Phone:	777-6183
E-mail:	`meade@math.sc.edu`

Teaching Assistant Ed Johnson

Office Hours:	TTh 12:30 – 2:00 and by *prior* appointment
Office:	LeConte College B010
Phone:	777-6599
E-mail:	`johnson@math.sc.edu`

WWW URL `http://www.math.sc.edu/~meade/math141-S97/`

Meeting Times

Lecture:	MWF 10:10AM–11:00AM, LC 412
Recitation (§4):	TTh 9:30AM– 10:20AM, CLS 416
Recitation (§5):	TTh 11:00AM– 11:50AM, CLS 416

Text Varberg and Purcell, *Calculus with Analytic Geometry*, Sixth Edition, 1992.

Prerequisite Completion of MATH 112 or 115 with a grade of C or better, or qualification by placement.

Course Content This is the first course in the traditional calculus sequence. *Limits* are the fundamental concept from which all of calculus is developed. Calculus is often divided into two parts: *differential calculus* and *integral calculus*. All three topics will be introduced and applied in this course.

This course will cover most of the topics in Chapters 2 – 6 of the text. You should already be comfortable with all of the material in the first chapter: inequalities, absolute values, roots, lines, and graphs. A survey of the key concepts contained in each chapter is provided below.

Chapter 2 Functions and Limits

- functions and their graphs
- limits and their properties
- continuity of functions

Chapter 3 The Derivative

- definition and properties of the derivative
- the Chain Rule
- implicit differentiation
- related rates and differentials

Chapter 4 Applications of the Derivative

- optimization
- limits
- graphing
- Mean Value Theorem

Chapter 5 The Integral

- anti-derivatives and Riemann sums
- Fundamental Theorem of Calculus
- properties of integrals

Chapter 6 Applications of the Integral

- area and volume
- length of a curve
- work

Study Hints Reading the material **in advance** of each class is highly recommended. Benefits of this preparation include obtaining a familiarity with the terminology and concepts that will 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 theory and techniques that will be the foundation for the new material.

Math Lab The Math Lab, located in LeConte 101, is a free tutoring service available for students in any 100-level math course. Students in need of additional help with this course are encouraged to take advantage of this service. The hours of operation for the Math Lab are:

Monday	1:00PM – 8:00PM
Tuesday	1:00PM – 8:00PM
Wednesday	1:00PM – 8:00PM
Thursday	1:00PM – 8:00PM
Friday	1:00PM – 3:00PM

Grading Your grade in this course will be based on your performance on quizzes, three (3) mid-term exams, and a final exam. The weights assigned to each of these components will be:

Quizzes	10%
Mid-term exams (3)	60%
Final exam	30%

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

Note that the deadline to drop this course with a grade of W is Friday, February 21, 1997.

Exams There will be four (4) exams during the semester. Your lowest exam score will be dropped when computing your exam average. *Tentative* dates and topics for these exams are:

Friday, January 31	Sections 2.1–7 and 3.1–2
Friday, February 21	Sections 3.3–10
Friday, March 28	Sections 4.1–4, 4.6–8, and 5.1–2
Friday, April 18	Sections 5.3–8 and 6.1

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 Monday, May 5, 1997.
(Do not trust exam schedules published by unofficial sources, e.g.*, the Mortar Board.)*

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 and/or recitation. No homework will be collected.

Quizzes A short quiz will be given in almost every recitation. The questions will be similar to the assigned homework problems. Your quiz average will be determined after the five (5) lowest quiz scores are dropped. No make-up quizzes will be given.

Attendance Regular class attendance is important. Consistent with the USC Undergraduate Bulletin, a grade penalty may be applied to any student missing more than four classes (10%) during the semester.

Academic Honesty Cheating and plagiarism will not be tolerated in this course. You may discuss homework problems with others, but do not copy solutions from another student or from a book. Violations of this policy will be dealt with in a matter consistent with University guidelines.