

# Calculus IV: Ordinary Differential Equations MA 214-003

Fall 2007

Instructor: Prof. Richard Carey

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**Text:** Elementary Differential Equations by Boyce and DiPrima (8th edition)

**Course content:** Chapters 2, 3, 4, part of 5, and part of 6.

During the semester we will cover parts of

- Chapter 2 Inverse functions
- Chapter 3 Techniques of integration
- Chapter 4 Parametric equations and polar coordinates
- Chapter 5/6 Infinite sequences and series

Chapter 7 is concerned with defining and differentiating the inverse trigonometric functions, as well as exponential and logarithmic functions. Chapter 8 deals with integration techniques: integration by parts, partial fractions and trig substitution. In Chapter 11 we study parametric equations and develop formulas for arc length and area of a region bounded by a parametric curve. Chapter 12 is concerned with convergence tests for infinite sums of numbers: integral, comparison, ratio, root, absolute and alternating series tests. In this chapter we also consider special series such as Taylor series and power series.

**Prerequisite:** Math 112 and a grade of C or better in Ma 113 or consent of the department.

**Grading:** Exams. There will be four one-hour exams (including the final). All exams will be in this classroom.

Friday September 21	Exam 1	100 points
Friday October 19	Exam 2	100 points
Friday November 16	Exam 3	100 points

Monday December 10

Final Exam 4

130 points

The grading scale for the first three Exams will be as follows:

90-100	A
80-89	B
70-79	C
60-69	D
Below 60	E

The grading scale for the final exam will be as follows:

117-130	A
104-136	B
91-103	C
78-90	D
below 78	E

Your course score will be the sum of your tests scores and the instructor score.

The grading scale for the course will be as follows:

Cumulative score	Grade
477-530	A
424-476	B
371-423	C
318-370	D
below 318	E

**Exam, Quiz and Attendance Policy:** In order to be fair to all students exams are firm. It is very important to take each exam on schedule. Missed work may be made up only due to illness with medical documentation or for other unusual (documented) circumstances. (See your Student Rights and Responsibilities <http://www.uky.edu/StudentAffairs/Code/>).

If you miss an exam, you receive a zero. You will be eligible for a make-up only if you present a valid excuse to me before the exam. If you cannot find a reasonable arrangement for a make-up, contact the departmental Ombudsman, Ed Enochs.

If you miss 4 sections your cumulative score drops by 10%, i.e., from A to B. If you miss 5 recitation sections your cumulative score drops 15%; if you miss 6 recitation sections you lose 20%, e.g., A to C. If you miss 7 or more recitation sections you get an E.

This policy begins the week of Sept. 10, 2007.

**Cheating:** The University's minimum policy for cheating is failure in the course. (Yes, the chair of the department does spend time each semester prosecuting students who thought they'd never get caught!) Cheating can lead to expulsion from the university. See relevant sections of the Students Rights and Responsibility handbook.

**Important Dates:**

August 23 (Wed.)..... First day of classes  
Sept 4 (Mon.) ..... No classes - Labor Day  
August 29 (Tues.)..... Last day to add a class  
September 19 (Tues.)..... Examination 1 0730-0930 pm  
Sept. 13 (Wed.) ..... Last day to drop a class without a grade  
Oct. 6 (Fri.).....Fall Break- Academic Holiday  
Oct. 17 (Tues.)..... Examination 2, 0730-0930 pm  
Oct. 20 (Fri.) .....Last day to withdraw from a class  
Nov. 14(Tues.).....Examination 3, 0730-0930 pm  
Nov. 23-24 (Thurs.-Fri.).....Academic Holiday -Thanksgiving  
April 15 (Tues.) ..... Examination 3, 1930-2130  
Dec. 8 (Fri.) ..... Last day of classes  
Dec. 15 (Fri.) ..... Final Examination

**Note:** There is an official procedure for dropping a course. You haven't withdrawn if you simply quit attending. A student who drops a class before September 13 will receive no grade. A student who withdraws after September 13 will receive a grade of W. After Oct. 20 no student will be allowed to withdraw unless his/her dean determines that unusual circumstances merit the withdrawal.