



Syllabus for Math 137 Section 2

Spring 09 9:10-10:00 MTWF AMB 223

Office Hours: 1:45-3:00 MWF
10:00-11:00 T Th

PREREQUISITE: A grade of C or better in Math 136

COURSE DESCRIPTION AND OBJECTIVES: MAT 137 is a four credit hour course that meets 200 minutes each week. The course continues the study of calculus with emphasis on techniques of integration, applications of integration (more of them), differential equations, sequences and series, and vectors and an introduction to 3 dimensional space.

STUDENT LEARNING OUTCOMES: Upon completion of the course, students will be able to integrate functions using simple techniques, tables of integrals, hand calculators or tables of integrals, and find the value of definite integrals. She should be able to apply that calculational knowledge to solve problems in geometry and simple physics, for example volumes of revolution or work. He will be able to solve simple first order differential equations either analytically or numerically (with Euler's method) and apply the ideas of differential equations to compartmental analysis, falling bodies and a number of other situations. She will understand what it means for an infinite series to converge and be able to apply a number of tests to determine if the series converges or diverges. He will be able to to arithmetic with vectors and use dot and cross products and apply these products to geometric and simple physics situations.

APPROACH: The class will use a lecture-discussion format; students will apply what they have learned to solve homework problems. Problems will come from WebWorks and other sources.

TEXT AND COVERAGE: A Web based Calculus text at
<http://tutorial.math.lamar.edu/CalcII/CalcII.aspx>

More resources available at [/www.cefns.nau.edu/~schulz/calc.html](http://www.cefns.nau.edu/~schulz/calc.html)

ASSESSMENT AND GRADES:

1. **Homework** will be due approximately once each week. Most assignments will be computer based using the WeBWoRk system (http://webwork2.math.nau.edu/webwork2/WSchulz_137 or follow links from the site above). Problems chosen from other sources may be assigned as well, but often these will not be collected or graded. The problems from other sources have been chosen to provide practice on concepts and methods not completely covered in the WeBWoRk sets, so they should not be considered to be optional. Occasionally, problems constructed by the instructor may be assigned for submission.
2. Three in-class, closed-book, closed-notes **examinations** and a **comprehensive final exam** will be administered during the semester. Some exams may include a take-home portion.
3. The above requirements will be distributed as follows:

Homework	50 pts
Three exams	300 pts
Final exam (Wed 10 Dec, 7:30 – 9:30 am):	150 pts

Grades will be based on percentage of points earned according to the scale below:

A: 90-100% B: 80-89% C: 70-79% D: 50-69% F: 0 – 49%

The instructor reserves the right to lower grade cutoffs.

COURSE OUTLINE: We will cover the following topics (in order)

Applications of Integration

Techniques of Integration

More applications of integration

Differential Equations

Sequences and Series

Vectors and coordinates in 3 dimensional space; equations of lines and planes

OTHER:

1. You will find it essential to have a graphing calculator.
2. Regular attendance is expected. Normally no provisions will be made to accommodate students who miss class.
3. Tests are graded according to work displayed. Correct answers without supporting work will be given no credit.
4. The WeBWorK system will not give credit for answers entered after the deadline, although it will indicate whether late answers are correct. Pencil and paper homework will not be accepted after the deadline.
5. Missed exams and quizzes may not normally be made up without an institutional excuse or an absence authorized by University Policy. Any predictable absence must be discussed with the instructor in advance.
6. Students will take the final on the scheduled day regardless of when their plane leaves, or get 0.
7. Drop deadline is March 13 2009