Math 137-011 Honors Calculus II 4 credit hours.

Time: MWF 9:10 – 10:05, TTH 9:35 – 10:30 COHH 2117

Instructor: Dr. Spraker

Office: COHH 3110

Office Hours: MWF 10:05 – 11:30, MW 12:25 – 2:00

Others by appointment or capture.

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1-270-745-6220 -- Office

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    Welcome to Calculus II! This is the second course in the fundamental sequence for the math major. It is a continuation of Math 136. Calculus is needed in many scientific and business fields. We will also study a few numerical applications in this course. The best way to succeed here is to keep up! Do the homework every night and make use of my office hours and those of the recitation instructor. I am always glad to see you. If I did not like talking to students, I would not have chosen teaching as a profession. Office hours are your time rather than mine. If my office hours conflict with your classes, we can occasionally make appointments. Also feel free to call or email me.

    Online homework will be assigned daily. We will be using WebAssign. You will also probably have a few computer assignments. There will also be a few special honors problems on the exams and possibly a few special honors assignments. During recitation except on exam days you will have a chance to ask questions and see homework problems worked. This should be helpful to you since there may not be enough time to answer all of your questions during the MWF lecture sessions. Don't hesitate to ask questions at any time, however. If I am notified ahead of time, I can arrange for a student to take an exam early but seldom late. Always call me if you know that you will be absent. Attendance is your responsibility and you cannot succeed in a fast-paced course like this one if you miss class. The last day to withdraw or change to audit is March 18.

The prerequisite for the course is a grade of C or better in math 136. That is a departmental requirement and I cannot waive it. You will also need a graphing calculator. I will be using the TI 84 plus in the classroom. We may also use the computer lab for a few days.

Learning Outcomes:

Upon completion of Math 137 a student will be expected to:

• Perform a number of sophisticated integration techniques.

• Apply integration techniques to certain real world problems.

• Handle improper integrals efficiently.

• Understand concepts involving sequences and series and be able to determine whether sequences and series converge.

• Have a basic knowledge of conics.

There will be four exams and a comprehensive final. The dates are below.

Exam I   Thursday, February 11

Exam II   Thursday, March 3

Exam III Thursday, April 7

Exam IV   Thursday, April 28

Final   Monday, May 9 8:00 – 10:00

Your grade will be determined as follows: Exams 60%, Homework 20%, Final Exam 20%.

Syllabus

Calculus of a Single Variable Early Transcendental Functions, *6th Edition* **with WebAssign by Larson, Edwards. Cengage Learning ©2014.**

Math 137 requires at least 4 assignments that utilize technology such as *Mathematica™*.

Chapter 5: Integration   2 days
            (Sections 5.8–5.9)

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Chapter 7:  Applications of Integration                7 days
              (Sections 7.1-7.7)

Chapter 8:  Integration Techniques,                    8 days
        L'Hopital's Rule, and Improper Integrals
              (Use Mathematica™ for Section 8.6)

Chapter 9:  Infinite Series                           11 days

Chapter 10:  Conics, Parametric Equations,             6 days
              Polar Coordinates

Technology:                                            2 days

Tests:                                                 3-4 days
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