Syllabus **MA 213 - Calculus 3 (Sections 005 - 006)** **Fall 2009**

1. **Lectures:** MWF CB 349, 12:00 - 12:50 PM, by John Lewis

   - Office: POT 765
   - Email: john@ms.uky.edu
   - Phone: 257-1153
   - Office Hours: MWF 9 - 11 AM or by appointment

2. **Recitation**

   - Section 005 and 006 by T. Kyriopoulos
   - Office: POT 706
   - Email: kyriopou@ms.uky.edu
   - Phone: 257-6805
   - Office Hours: To be announced

   Section 005 meets in CB 349 on TR from 12:30 - 1:20 pm. Section 006 meets in CB 349 on TR from 2:00 to 2:50 pm

3. **Course Book** The book we shall use for this course is entitled *Calculus : Early Transcendentals - sixth edition - by James Stewart.* During the semester we will cover parts of:

   - Chapter 12 Vectors and the Geometry of Space
   - Chapter 13 Vector Functions
   - Chapter 14 Partial Derivatives
   - Chapter 15 Multiple Integrals
   - Chapter 16 Vector Calculus

   Chapters 12 and 13 are primarily concerned with vectors and some of the standard vector operations: vector addition, the dot and cross products. Applications of vectors to physical and geometric problems will be considered. Chapter 14 is an introduction to functions of several variables. Topics in this chapter include partial and directional derivatives, the chain rule, the gradient, max/min problems, all for functions of several variables. In chapter 15 we study double and triple integrals in rectangular, cylindrical, and spherical coordinates. Applications are given to areas, volumes, centers of mass, and surface area. Chapter 16 is concerned with line and surface integrals and some of the classical integration by parts formulas: Green's Theorem, the Divergence Theorem, and Stoke's theorem.

4. **Homework and Recitation:** Homework problems will be assigned in lecture, after each testing period. Homework assigned before test 1 is at the end of this syllabus. Homework will not be collected. Instead each friday a homework quiz (beginning September 4) will be given in class, except on the weeks in which we have a test. The quiz will consist of several problems from your homework for that week. If you have already done the problem, you may copy it from your homework onto the quiz sheet. The quiz will be graded by the recitation instructor and usually returned the following tuesday. It will form part of his recitation grade. He will explain his criteria for getting a good recitation grade (see Grades).

5. **Tests:** There will be three examinations during the semester and a final examination. Test dates are as follows:

(a) First Test: Wednesday September 23, In Class

(b) Second Test: Wednesday October 21, In Class

(c) Third Test: Wednesday November 18, In Class

(d) Final Test: Friday December 18, 10:30 AM - 12:30 PM, In Class

6. **Grades:** Points for your grades will be based on :

   - Hour Tests = 300
   - Final Test = 125
   - Recitation Grade = 75.

   At the end of the semester each student's points will be added and his/her percentage of the total points will be calculated. You are guaranteed that if your percentage is the university standard, then you will get at least that grade:

   - 90 - 100 percent = A
   - 80 - 89 percent = B
   - 70 - 79 percent = C
   - 60 - 69 percent = D
   - 0 - 59 percent = E.

   However there may also be a slight curve given after the percentages are figured.

7. **Calculators:** Graphing calculators such as the TI-82, 86 are not absolutely necessary but are recommended for this course.

8. **Important Dates**

• Monday September 7	Labor Day, no school
• Friday November 6	Last day to drop a course without a grade
• November 25 - 28	Thanksgiving Holiday, no school.
• December 11	Last day of classes

9. **Online Support** A copy of this syllabus along with future review sheets for tests may be found under MA 213 at **http://www.ms.uky.edu/∼john/index.html**

Homework from which quiz problems will usually be chosen.

Section 10.3 (page 647) 1,3,5,9,17,25,33,37,43,59.
Section 10.4 (page 653) 1,7,11,17,27,29,33,47,53.
Section 12.1 (page 769) 7, 11. 15, 17, 25, 29, 35.
Section 12.2 (page 777) 7, 15, 19, 9, 21, 25, 29.
Section 12.3 (page 785) 5, 9, 17, 23, 25, 29, 37, 45
Section 12.4 (page 792) 5, 7, 17, 19, 27, 31, 33, 35
Section 12.5 (page 802) 3, 5, 9, 17, 19, 23, 29, 31, 35, 43, 51.
Section 12.6 (page 811) 3, 5, 11, 15, 17, 19, 23, 25, 29, 41
Section 13.1 (page 813) 1, 17, 19, 25, 33
Section 13.2 (page 828) 13, 19, 23, 25, 33, 37, 39, 45
Section 13.3 (page 836) 3, 5, 13, 17, 21, 25, 43.
Section 13.4 (page 847) 11, 15, 19, 23, 27, 35.