Syllabus & Course Policies

Time & Location:

Lectures: MWF 1:00-1:50 pm, EH 203 (Erikson Hall)
TR 09:30-10:20 am, CB 217 (section 001)
TR 12:30-01:20 pm, CB 235 (section 002)

Recitations:
TR 02:00-02:50 pm, CP 287 (section 003)
TR 03:30-04:20 pm, CP 297 (section 004)

Instructors:

Lecturer: Alberto Corso, POT 701, (859) 257-3167, alberto.corso@uky.edu
Office hours: TR 10:00am-11:30am and by appointment

Teaching Assistants: Ray Kremer, POT 702, (859) 257-6804, ray.kremer@uky.edu
Sections: 001 and 002
Office hours: TBA and by appointment
Kristina Pepe, POT 902, (859) 257-7216, kristinanpepe@uky.edu
Sections: 003 and 004
Office hours: TBA and by appointment

Course Overview:
In Calculus II for the life sciences, we will learn about methods for evaluating integrals, differential equations and the first elements of calculus in several dimensions. Differential equations serve to model quantities which change over time such as biological populations. The computational techniques for integrals are needed to be able to find exact solutions to these equations. Calculus in several dimensions is useful for understanding quantities which vary with respect to position and time. Examples that will illustrate these mathematical techniques include systems of differential equations which model two species interacting in nature.

Course Outline:

1. Chapter 7: Integration techniques and computational methods
   The substitution rule
   Definite integrals
   Integration by parts

http://www.ms.uky.edu/~ma138/Spring12/policies.html
Partial fractions
Improper integrals

2. **Chapter 8: Differential equations**
   Solving differential equations
   Equilibria and their stability

3. **Chapter 9: Linear algebra and analytic geometry**
   Linear systems
   Matrices
   Linear maps, eigenvectors and eigenvalues

4. **Chapter 10: Multivariable calculus**
   Functions of two or more variables
   Limits and continuity
   Partial derivatives
   Tangent planes, differentiability and linearization

5. **Chapter 11: Systems of differential equations**
   Linear systems: theory
   Nonlinear autonomous systems: theory
   Nonlinear systems: applications

**Student Learning Outcomes:**
Students will compute fluently. Students will write correct justifications for their solutions to problems. Students will apply the methods of calculus in new contexts to solve unfamiliar problems.

**Grading:**
You will be able to obtain a maximum of 500 points in this class, divided as follows:
- Three 2-hour exams, 100 points each
- Final exam, 100 points
- Homework (50%) and Quizzes (50%), 100 points

Your final grade for the course will be based on the total points you have earned as follows:

http://www.ms.uky.edu/~ma138/Spring12/policies.html
A: 450-500
B: 400-449
C: 350-399
D: 300-349
E: 0-299

The grading scale might be adjusted at the end of the semester. You will be guaranteed the above letter grade if your score falls within the given range, but the minimum score for each letter grade might be lowered.

Attendance:
Attendance in MA138 is mandatory. Students who have university-excused absences or who have university-scheduled class conflicts with uniform examinations may arrange with their instructor to take the exam at an alternate time. Generally these make-up exams will be scheduled on the day after the regularly scheduled exam. The time and room will be announced later. Work-related conflicts are neither university-excused absences nor university-scheduled absences.

Academic Honesty:
Cheating or plagiarism is a serious offense and will not be tolerated. It will be thoroughly investigated, and might lead to failure in the course or even to expulsion from the university. See http://www.uky.edu/StudentAffairs/Code/part2.html (Sections 6.3.1 and 6.3.2) for information on cheating, plagiarism, and penalties. A summary of recent changes to rules on cheating can be found at the Academic Ombud website: http://www.uky.edu/Ombud

http://www.ms.uky.edu/~ma138/Spring12/policies.html