Syllabus & Course Policies

Time & Location:

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

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:

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