

# Syllabus & Course Policies

## Time & Location:

Lectures: MWF 10:00-10:50 am, CB 110 (sections 001-004)

Recitations: TR 10:00-10:50 am, CB 339 (section 001)  
TR 11:00-11:50 am, CB 339 (section 002)  
TR 12:00-12:50 pm, CB 341 (section 003)  
TR 01:00-01:50 pm, CB 341 (section 004)

## Instructors:

Lecturer: **Alberto Corso**, POT 701, (859) 257-3167,  
alberto.corso@uky.edu  
(sections 001-004)  
Office hours: MWF 11:00-11:50 am (POT 701) and by  
appointment

Teaching Assistants: **Julianne Vega**, POT 722, (859) 257-6807,  
julianne.vega@uky.edu  
(sections 001 and 002)  
Office hours: TBA, and by appointment

**Rachel Petrik**, POT 806, (859) 257-6817, rachel.petrik@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 6: Integration**

Review

Applications of integration

**2. Chapter 7: Integration techniques and computational methods**

The substitution rule

Definite integrals

Integration by parts

Partial fractions

Improper integrals

**3. Chapter 8: Differential equations**

Solving differential equations

Equilibria and their stability

**4. Chapter 9: Linear algebra and analytic geometry**

Linear systems

Matrices

Linear maps, eigenvectors and eigenvalues

Curve fitting - least squares approximation

**5. Chapter 10: Multivariable calculus**

Functions of two or more variables

Limits and continuity

Partial derivatives

Tangent planes, differentiability and linearization

Systems of difference equations

**6. Chapter 11: Systems of differential equations**

Linear systems: theory

Nonlinear autonomous systems: theory

Nonlinear systems: applications

**Student Learning Outcomes:**

By the end of the semester, successful students will

1. compute fluently;
2. write correct justifications for their solutions to problems;
3. 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:

	<b>Points</b>	<b>Percentage of final grade</b>
<b>Exam 1</b>	100 points	20%
<b>Exam 2</b>	100 points	20%
<b>Exam 3</b>	100 points	20%
<b>Final</b>	100 points	20%
<b>Homework</b>	50 points	10%
<b>Quizzes</b>	50 points	10%

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

	<b>Points</b>	<b>Percentage</b>
<b>A</b>	450 - 500 points	90 - 100 %
<b>B</b>	400 - 449 points	80 - 89.9 %
<b>C</b>	350 - 399 points	70 - 79.9 %
<b>D</b>	300 - 349 points	60 - 69.9 %
<b>E</b>	0 - 299 points	0 - 59.9 %

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.

*Mid-term grades* will be posted in myUK by the deadline established in the [Academic Calendar](#).

**Calculator:**

You may use calculators on the homework and exams. You may not use any machine that has symbolic manipulation capabilities of any sort on any exam. This precludes

the use of TI-89, TI-Nspire CAS, HP 48, TI 92, Voyage 200, Casio Classpad or laptop computer. Also, you may not use your mobile phone, iPhone or Blackberry on any exam even if you forget your regular calculator. If it runs Android, GEOS, iOS, Linux, MacOS, PalmOS, Ubuntu, Unix, Windows, or similar operating systems, you cannot use it on the exams. Bald answers will receive little or no credit. A bald answer is one that is simply the output of a calculator routine or a single numerical or symbolic expression that has no supporting work.

**Policies:**

*Attendance and excused absences.* Attendance in MA138 is mandatory. Be on time and remain until dismissed. Do not leave in the middle of class. Whenever possible, please notify your instructor of absences prior to class.

S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit as reasonable cause for nonattendance by the professor.

You may be asked to verify absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request *appropriate verification* when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

If you anticipate an absence for a major religious holiday please notify your instructor (in writing) of anticipated absences due to your observance of such holidays no later than the last day in the semester to add a class. Two weeks prior to the absence is reasonable, but should not be given any later. Information regarding major religious holidays may be obtained through the Ombud (859) 257-3737, [http://www.uky.edu/Ombud/ForStudents\\_ExcusedAbsences.php](http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php).

You are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

*Classroom behavior.* Electronic devices such as mobile phones, laptops and tablets should be put away or used only as part of class activities during lectures and recitations. Mobile phones, laptops, and computers may not be used during exams.

*Make-up policies.* Per Senate Rule 5.2.4.2, if you are missing any graded work due to an excused absence you are responsible for informing the Instructor about your excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The instructor will give you an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

In particular, if you have university excused absences or have university-scheduled class conflicts with uniform examinations you may arrange with their instructor to take the exam at an alternate time. Generally these make-up exams will be scheduled on the day of or on the day after the regularly scheduled exam. Work-related conflicts are neither university excused absences nor university-scheduled absences.

*Students needing accommodations.* If you have a documented disability that requires academic accommodations, please see your instructor as soon as possible. In order to receive accommodations in this course, you must provide your instructor with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at [drc@uky.edu](mailto:drc@uky.edu). Their web address

is <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>.

*Accommodations for victims of violence:* By federal law, any student who is a victim of dating violence, domestic/intimate partner violence, sexual assault, or stalking (whether on or off campus) is entitled to appropriate accommodations for his or her

coursework. To get help getting accommodations and other support, students who are assaulted can do any of the following:

1. Tell your instructor who can assist you in accessing resources appropriate to your situation;
2. Call the UK VIP Center (Violence Intervention and Prevention Center) at 257-3574 or [vipcenter@uky.edu](mailto:vipcenter@uky.edu) or [http://www.uky.edu/StudentAffairs/VIPCenter/about\\_contact.php](http://www.uky.edu/StudentAffairs/VIPCenter/about_contact.php); or walk in to the Center in Frazee Hall, lower level, between 8:30 and 5:00;
3. Call the University Counseling Center at 257-8701; 2nd floor, Frazee Hall;
4. Call Ms. Patty Bender from the UK Institutional Equity and Equal Opportunity at 257-8927 or [patty.bender@uky.edu](mailto:patty.bender@uky.edu);
5. **In the case of an emergency, contact the UK Police Department at 911.**
6. Students may also contact community resources 24-hours a day, including:
  - a. Bluegrass Rape Crisis Center at 800.656.4673 or <http://bluegrassrapecrisis.org/>
  - b. Greenhouse17 (formerly Bluegrass Domestic Violence Program) at 800.544.2022 or <http://greenhouse17.org/>

### **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>