

MA 137
Calculus 1 with Life Science Applications
Spring 2022, MWF 11-11:50
Chem Phys 139-CP

Instructor: Dave Jensen

Office: POT 733

Office Hours: MW 12:30-2, Zoom Meeting ID 868 0036 1539

<https://uky.zoom.us/j/86800361539>

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Course Description: A first course in one-variable calculus. Derivatives and integrals of elementary functions (including trigonometric functions) with applications to the life sciences. Lecture, three hours; recitation, 2 hours per week. Students may not receive credit for MA 113 and MA 137.

Prerequisites: Math ACT of 27 or above, or math SAT of 620 or above, or a grade of C or better in MA 109 and MA 112, or a grade of C or better in MA 110, or appropriate scores on math placement test, or consent of the department. Students who enroll in MA 137 based on their test scores should have completed a year of pre-calculus study in high-school that includes the study of the trigonometric functions.

Note: Math placement test recommended.

Per Senate Rule 4.3.3, students will not be permitted to register for this course for a third time. To request an exception to this rule, visit <https://math.as.uky.edu/lower-level-math-overrides>.

Required Materials: None. The **recommended** textbook is Calculus for Biology and Medicine (4th edition), by C. Neuhauser and M. Roper, but it is not required.

Attendance: While participation is strongly recommended, attendance in this class is not required. In particular, **if you feel sick, you should stay home. I do not need a doctor's note.** In the case of serious illness or other issues that may lead to prolonged absence, it may be helpful to inform your instructor.

Student Learning Outcomes:

After completing this course, students will be able to:

1. apply the methods of calculus in new contexts to solve unfamiliar problems;
2. compute fluently, and
3. write correct justifications for their solutions to problems.

Grading: Your course score will be based on the following percentages, described in more detail below:

3 Exams, 20% each

Final Exam, 20%

Homework 8%

Quizzes 8%

Final Project 4%

Your letter grade will be determined according to the common 100% scale, rounded to the nearest percent:

90 – 100% A

80 – 89% B

70 – 79% C

60 – 69% D

0 – 59% E

Exams: There will be 3 midterm exams and 1 final. Exams will be **IN CLASS** on the following days:

Exam 1 - Wednesday, February 2

Exam 2 - Wednesday, March 9

Exam 3 - Friday, April 8

Final Exam - TBA

Homework: Homework is due Tuesdays and Fridays at 11 PM. All assignments are online via the Web-Work system, which can be accessed through Canvas.

Quizzes: Quizzes will be administered on Thursdays in recitation.

Final Project:

As part of the Gen Ed requirements, you are required to submit a final project by the end of the semester. See the website for details.

Calculator Policy:

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.

COVID-19: Per university policy, mask mandates remain in place for **all students**. Students who fail to wear a mask – or who do not wear their mask properly, **over the mouth and nose** – will be asked to leave. Please be aware that the university’s policy regarding COVID-19 may change, and we may have to adjust the course structure to accommodate these changes.

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. If you have a family emergency or other situation that requires the use of a mobile phone during lecture, please let the instructor know before class. Mobile phones, laptops, and computers may not be used during exams.

Academic Integrity: Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud> . A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Part II of Student Rights and Responsibilities (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about the question of plagiarism involving their own work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else’s work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work which a student submits as his/her own, whoever that other person may be.

Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources of information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas which are so generally and freely circulated as to be a part of the public domain (Section 6.3.1).

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations Due to Disability: If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Diversity, Equity, and Inclusion: The University of Kentucky is committed to our core values of diversity and inclusion, mutual respect and human dignity, and a sense of community (Governing Regulations XIV). We acknowledge and respect the seen and unseen diverse identities and experiences of all members of the university community (<https://www.uky.edu/regs/gr14>). These identities include but are not limited to those based on race, ethnicity, gender identity and expressions, ideas and perspectives, religious and cultural beliefs, sexual orientation, national origin, age, ability, and socioeconomic status. We are committed to equity and justice and providing a learning and engaging community in which every member is engaged, heard, and valued.

We strive to rectify and change behavior that is inconsistent with our principles and commitment to creating a safe, equitable, and anti-racist environment. If students encounter such behavior in a course, they are encouraged to speak with the instructor of record or the college's diversity officer, who is charged with addressing concerns about diversity, equity, and inclusiveness (uky.edu/inclusiveexcellence/college-diversity-inclusion-officers). Students may also contact a faculty member within the department, program director, the director of undergraduate or graduate studies, the department chair, or the dean. To submit an official report of bias, hatred, racism, or identity-based violence, visit the Bias Incident Support Services website (<https://www.uky.edu/biss/report-bias-incident>).

Suggestions and Other Course Issues: Suggestions for improvement are welcome at any time. Any concern about the course should be brought first to my attention. Further recourse is available through the Mathematics Director of Undergraduate Studies and the Department Chair, both accessible from POT 715.