MATHEMATICS 1300: CALCULUS 1 §13, FALL 2019 SYLLABUS

Class Meetings. MTWRF 1:00PM – 1:50PM, MUEN D144.
Instructor. Joel Ornstein.
Office. MATH 302.
Office Hours. Tuesday 3PM – 4PM and by appointment. (Additional hours may be scheduled)
Course Teaching Assistant. Levi Lorenzo
Course Learning Assistant. TBD.

Prerequisites: Two years of high school algebra, one year of geometry, and one half-year of trigonometry; or MATH 1150, Precalculus.

Textbook and WebAssign access: We will use the textbook "Calculus - Concepts and Contexts", 4th Edition, by James Stewart. You can purchase the textbook together with an access code to WebAssign (for on-line homework) directly from the publisher or from the CU bookstore. If you purchase the textbook elsewhere, make sure you also buy access to WebAssign for as many semesters as you intend to continue in the calculus sequence. You can find more information about purchasing the textbook and a WebAssign access code on the course website.

Course website: The course website is https://math.colorado.edu/math1300/ for all sections of MATH 1300. See the website for exam information, homework assignments, a link to WebAssign, the course schedule, lists of instructors and TAs, a copy of this syllabus, and links to additional resources.

Course structure: Research shows that people learn mathematics best when they are actively participating. In other words, you learn by doing, not by watching. Therefore, MATH 1300 does not meet in a large lecture hall, but instead meets in small sections, which allows individual and group work in which you will be actively engaged, solving problems, making discoveries and understanding connections.

This course and the book we are using are designed for a classroom which does not follow a traditional lecture format. Do not be surprised if your instructor often spends only half a class period at the board lecturing or solving problems: the rest of the time, you should expect to be working at your desk, either individually or in groups, or at the board, presenting your work.

In this vein, you will be expected to read a section in the book **before** it is discussed in class. Lectures are intended to highlight aspects of the text, not to replace it.

In this course you will learn a number of useful formulas, though their mastery is not the primary purpose of calculus any more than correct spelling is the primary purpose of literature. Our goal is to have you learn how to understand calculus conceptually so you can build your own approaches to solving practical problems.

About Calculus: Roughly speaking, calculus is the mathematics of change. In particular, calculus is a powerful tool for understanding change in physical quantities and phenomena that depend on, or are related to, each other. The dependence of a given quantity upon another (or others) is often described mathematically by a function. Thus, the heart of calculus is the study of functions, and how they change. Differential calculus studies the instantaneous change of a function as quantities vary, and integral calculus measures the cumulative effect of the change of a function. Calculus has led to profound human achievements: initially created to solve basic geometric problems, it soon led to a nearly complete understanding of the motion of the planets. Nowadays calculus is applied constantly in mathematics, chemistry, economics, biology, psychology, physics, and every type of engineering. However, it need not be viewed only as a tool: it arose from human imagination and is capable of creating great beauty on its own.

Calculators and other technology: You are required to have an electronic device for in-class activities. You are required to bring it to class. The device you use should be capable of graphing functions and doing numerical integration. Acceptable devices include a calculator such as a TI-83 or better, a graphing calculator application for a smartphone, software packages such as Maple or Mathematica, and web sites

such as Wolfram Alpha. **Absolutely no such devices will be allowed on exams or quizzes. Nor will they be needed on exams or quizzes.**

Assignments and assessments: The only effective way to learn Calculus is to do lots and lots of problems. Besides working on problems in class every day, you will have assignments and assessments in this course to enhance your skills and understanding.

Online homework: WebAssign is an on-line system for doing homework. When you log on, you are given problems that you solve on paper and then enter the answers. These problems are generally straightforward or computational, and you can repeat them multiple times until you get the correct answer. The philosophy behind this is that instantaneous feedback is more effective than waiting days for a grade, and that doing a problem over if it's wrong is better than simply seeing the right answer. Because problems are graded by a computer, there are occasional technical issues, but we believe the trade-off is worthwhile. WebAssign can be accessed through the link on the main course webpage.

If you registered for the course by August 23, then you should already have a WebAssign login. In this case, your username is the same as your Identikey username, and your password is your Identikey password. If you registered for the course after August 23, then you will need to email math-help@colorado.edu to get a WebAssign login. Include your full name, your CU email address, your Identikey username and the course and section you are registered in.

WebAssign includes a two week trial period ending September 9, that allows you to complete your assignments even if you have not bought access.

There will be a WebAssign assignment for each topic we cover, assigned when we begin that material. Please check the due dates regularly, as you are responsible for getting the assignments done on time. No late WebAssign will be accepted and no extensions will be granted. However, we will allow you to miss 10% of the WebAssign problems for the semester with no penalty, so you don't need to panic if you miss a problem here and there.

You may email your instructor to ask about a WebAssign problem, but when you do, make sure to include "MATH 1300" in the subject line, give a clear statement of the problem you are trying to solve, say what you have already tried and why you think it should have worked. Ask your instructor for their particular policy regarding emailing questions.

Thursday projects: The recitation is every Thursday and is supervised by a graduate Teaching Assistant (TA) and an undergraduate Learning Assistant (LA). In recitation you will work on projects in small groups with several of your classmates. Expect to be assigned to groups, which will be changed frequently. The TA and LA will be present during recitations to facilitate your work on the projects, but the goal is for you (and your group-mates) to **work through, and complete these projects on your own** as much as possible. Your LA and TA will be making sure that you participate in your group's explorations and discoveries. Your grade is partially based on participation, so *participate.* Missed projects cannot be made up: if you miss a Thursday recitation, you will receive a zero for that project. However your lowest two recitation grades will be dropped.

Written homework: You will be assigned several conceptual problems each week. These problems are a variety of problems from the textbook, along with supplement problems. You are expected to write up complete, legible, and logical solutions to these problems, which will be graded by your Teaching Assistant. Each problem should be written using complete sentences to explain your steps. You may work together on homework to understand the problems and even to solve them (in fact, we recommend it). However, when you write up your solutions, this should be done independently, and in your own words. Thus it is your own language and your own work. If you are wondering if you crossed the line, ask yourself "Could I start over and redo this on my own, and would it basically look like this?" If not, then you are submitting someone else's work (plagiarism). Copying homework solutions from the internet also constitutes plagiarism. All cases of plagiarized homework will be submitted to the Honor Code Board. Homework will be collected in and returned in Thursday recitations. Late homework will not be accepted, but your lowest two homework scores will be dropped. Your homework must be stapled and labeled with your section number to be counted for credit.

Weekly-work grades: Each week you will receive a weekly-work grade of 0 to 10 points based on your performance in your MTWF class. Your instructor will give you details about how this score is determined

for your section. This grade may be based on your performance on occasional quizzes (possibly at least one quiz every week) and possibly on your in-class participation and your attendance (which may be taken everyday or only randomly). Your lowest two weekly-work grades will be dropped.

Midterms: This course has three midterm exams and a final exam. They have already been scheduled. Calculators and cell phones will not be allowed during any portion of any exam. **Use of any electronic device at any time during the exam will be considered cheating.**

Plan your schedule now. There will be **no makeup exams** given under any circumstances. If you cannot attend an exam due to a documented emergency or illness, please see your instructor.

- Midterm 1: Monday, September 16, 5:15 pm to 6:45 pm (room TBA)
- Midterm 2: Monday, October 14, 5:15 pm to 6:45 pm (room TBA)
- Midterm 3: Monday, November 11, 5:15 pm to 6:45 pm (room TBA)

Note that midterms **are at night and not in your regular classroom. Exam locations will be announced by each instructor in class, and will be posted on the course website.**

Final Exam: The final exam for the course is **cumulative**. It is scheduled for:

- Wednesday, December 18, 7:30 am to 10:00 am (room TBA)

You may not reschedule the final exam even if you have three exams on the same day (university policy only allows for the third exam of the day to be rescheduled).

Grades: The grade distribution will be calculated based on the following weighting:

- Midterms (45%)
- Final Exam (20%)
- WebAssign (10%)
- Written homework (10%)
- Recitation projects (5%)
- Quizzes and other in-class work (10%)

To compensate for students having occasional bad days, the weighting of the midterms will be distributed as follows: 10% for your lowest midterm score, 15% for your middle midterm score, and 20% for your highest midterm score. In the highly unlikely event that the university cancels the final exam, the weighting will be 65% for the three midterms combined, and the weighting for the other coursework will remain 35% as stated above. In the unlikely event that a midterm is cancelled, the weighting will be 45% for the two remaining midterms combined.

If you miss exactly one midterm because of a valid and verifiable reason, your missed midterm score will be replaced by the average of the other two midterms and the final exam, and will count for the 10% weighted exam score. If you miss two midterms for any reason, you must withdraw (or petition to withdraw) from the course. If you miss the final exam for any reason, you must petition for an incomplete or withdraw (or petition to withdraw) from the course.

Mathematics Academic Resource Center: You may seek assistance with your math questions in the Mathematics Academic Resource Center in Math 175. This is a great place to meet other students in the course and work together. You may request help from any lab tutor. Show up prepared, with your textbook and class materials. When you ask a question, begin with a clear statement of the problem, what you have already tried, and why you think it should have worked. The Center opens the first week of classes and runs through the last week of classes. The Center is open roughly during business hours and also several evenings a week. Check the schedule posted outside the room.

UNIVERSITY POLICIES AND STANDARDS

Accommodations for Disabilities: If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further

assistance. If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website.

Classroom Behavior: Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the policies on classroom behavior and the Student Code of Conduct.

Honor Code: All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation: The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct intimate partner abuse (including dating or domestic violence), stalking, protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website.

Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

Religious Observances: Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, we have planned drops and/or alternate weighting to accommodate for missed assignments. If you have concerns, please see your instructor.

See the campus policy regarding religious observances for full details.

RECOGNITION of POLICIES AND DATES
Detach, fill out, sign and date and return to your instructor

YOUR NAME: _____

SECTION: _____

I acknowledge that I have been informed that the midterm exams are scheduled for:

Midterm 1: Monday, September 16, 5:15 pm to 6:45 pm (room TBA)
Midterm 2: Monday, October 14, 5:15 pm to 6:45 pm (room TBA)
Midterm 3: Monday, November 11, 5:15 pm to 6:45 pm (room TBA)

and that these exams are at night and not in my regular classroom. I have no schedule conflicts and can attend all of these exams.

Furthermore, I acknowledge that I have been informed that the final exam is scheduled for

Wednesday, December 18, 7:30 am to 10:00 am (room TBA).

I have no schedule conflicts and can attend the final exam.

I have read and I understand the syllabus. I understand the system that will be used to evaluate my work in this course. I have checked my enrollment in WebAssign by logging in.

I have fulfilled the prerequisites for this course in the following way:

_____ in the year 20_____

SIGN: _____

DATE: _____