MATHEMATICS 1300: CALCULUS 1, SECTION 302E, FALL 2017 SYLLABUS

Class Meetings. MW, 6pm-8:30pm, FLMG 102
Instructor. Alexander Nita
Email. alexander.nita@colorado.edu
Office Hours. MATH 140, Mon 9am-10am, Tues 9am-11am

Prerequisites: Minimum ALEKS placement score: 76. Two years of high school algebra, one year of geometry, and one half-year of trigonometry; or MATH 1150: Precalculus.

Textbook: 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, which we will not use in this class) 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 (not including this one!).

Course website: The course website for all sections of MATH 1300 is `http://math.colorado.edu/~nita/Calc1F17.html`. See the website for exam information, homework assignments, the course schedule, 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.

Projects: In addition to lectures and other in-class activities, 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 goal is for you (and your group-mates) to **work through, and complete these projects on your own** as much as possible. I 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 project day, you will receive a zero for that project. However your lowest two project 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.

Quizzes and in-class activities: You will have regular quizzes and other in-class activities that will be evaluated for both correctness and participation. Your instructor will give you details about these activities.

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 25, 7 pm to 8:30 pm.
- Midterm 2: Wednesday, October 25, 7 pm to 8:30 pm.
- Midterm 3: Wednesday, November 15, 7 pm to 8:30 pm.

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

- Final: Wednesday, December 13, 6 pm to 8:30 pm.

You may not reschedule this 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%)
- Written homework (15%)
- Recitation projects (10%)
- Quizzes and other in-class work (10%)

To accommodate students for 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 remain 65% for exams (the three midterms) and the weighting for the remaining 35% of the course will remain as stated above. In the highly unlikely event that a midterm is cancelled, the two remaining midterms will count for 45%.

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 to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see Temporary Injuries guidelines under the Quick Links at the Disability Services website and discuss your needs with your professor.

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, [insert your rules here...].

See the campus policy regarding religious observances for full details.

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 differences of race, color, culture, religion, creed, politics, veterans status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. 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.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation: The University of Colorado Boulder (CU Boulder) is committed to maintaining a positive learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct, discrimination,

harassment or related retaliation against or by any employee or student. CUs Sexual Misconduct Policy prohibits sexual assault, sexual exploitation, sexual harassment, intimate partner abuse (dating or domestic violence), stalking or related retaliation. CU Boulders Discrimination and Harassment Policy prohibits discrimination, harassment or related retaliation based on race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Individuals who believe they have been subject to misconduct under either policy should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127. Information about the OIEC, the above referenced policies, and the campus resources available to assist individuals regarding sexual misconduct, discrimination, harassment or related retaliation can be found at the OIEC website.

Honor Code: All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the academic integrity policy of the institution. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access, clicker fraud, resubmission, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code Council as well as academic sanctions from the faculty member. Additional information regarding the academic integrity policy can be found at honorcode.colorado.edu.

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 25, 7 pm to 8:30 pm.
Midterm 2: Wednesday, October 25, 7 pm to 8:30 pm.
Midterm 3: Wednesday, November 15, 7 pm to 8:30 pm.

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 13 from 6 pm to 8:30 pm.

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: _____