Math 1210-010, Calculus I
Spring 2019. TR 3:40-5:40. JTB 140

Instructor: Hannah Hoganson
Email: hoganson@math.utah.edu
Office: JWB 307
Office Hours: Tuesdays 9:30-10:30 and Fridays 10:30-11:30 (Tentative), Other times by appointment.
Learning Assistant: Alec Olsen
LA Office Hours: TBA

Text: Calculus, with Differential Equations, by Varberg, Purcell and Rigdon, 9th edition. (Any 9th edition book is fine.)   ISBN-10: 0132306336   ISBN-13: 9780132306331

Website: We will be using the Canvas page for this course to post homework, grades, and announcements. Students should check their current Canvas notification settings to ensure they stay up to date.

Course Information and Description: Math 1210 Calculus I is a 4 credit course. Functions and their graphs, differentiation of polynomial, rational and trigonometric functions. Velocity and acceleration. Geometric applications of the derivative, minimization and maximization problems, the indefinite integral, and an introduction to differential equations. The definite integral and the Fundamental Theorem of Calculus.

Prerequisites: Prerequisites: "C" or better in (((MATH 1050 AND 1060) OR MATH 1080 OR (MATH 1060 AND Accuplacer CLM score of 80+)) OR AP Calc AB score of 3+ OR Accuplacer CLM score of 90+ OR ACT Math score of 28+ OR SAT Math score of 650+.

Expectations: It is expected that students not only attend but engage in lecture and lab. This includes, but is not limited to, paying attention, asking questions, and participating in activities and group work. Laptops and cell phones are strictly prohibited during class time as they distract from a learning environment; students who refuse to comply may be asked to leave the classroom. Calculators may be used on homework and lab assignments but will not be allowed during exams.

About Grading and Assessments:

Grade Breakdown:

	Percentage of Final Grade
Homework	20%
Labs	10%
Exams	45% (15% each)
Final Exam	25%

Grade Scale: The base grade scale is below. These thresholds may be lowered but will not be raised.

	+		-
A	98-100	92-98	90-92
B	88-90	82-88	80-82
C	78-80	72-78	70-72
D	68-70	62-68	58-62
E		0-58	

Homework: One homework problem will be assigned per topic; approximately one per section of the text book, due each Tuesday at the beginning of class. These problems will be posted on Canvas in a pdf. Your solution and write up of the problem are just as important as your answer. Homework can be handwritten or typed but is expected to be neatly written and organized, easy to read and understand, with complete sentences. "Warm up" homework problems from the text book will also be assigned but not collected and are highly recommended. The purpose of warm up homework is for students to practice computational skills and to familiarize themselves with various concept applications. Homework assignments are designed to improve students' technical writing and ability to communicate mathematics, and to assess a students current understanding of course content.

Labs: The associated labs for this lecture are section 11 which meets Mondays 3:05-3:55 and section 12 which meets Mondays 4:10-5:00. Both lab sections are led by your Learning Assistant, Alec Olsen, and meet in LCB 225. Lab is not an optional component of the course, and as such it is worth 10% of the grade. During lab students will work in randomly assigned groups of 3 on worksheets which will be due at the end of the lab period. Lab problems are chosen to reinforce mathematical concepts and computations previously discussed in lecture. Lab is intended to facilitate problem solving, group discussion and ability to communicate mathematics verbally.

Exams: There will be three exams given during the semester on the following Tuesdays during the scheduled class period: February 5, March 5, and April 9. The final exam is scheduled by the University for Tuesday, April 30, 3:30-5:30 pm. All exams will take place in the regular classroom, JTB 140. Exams are written to assess current knowledge and understanding of course content. The final is a comprehensive exam, students who chose to "skip" a subject should not expect to receive a grade of A or B in the course.

Make-Up Policy: Students with university excused absences should make alternative arrangements with me as soon as possible if the absences interfere with any course components. If a student expects to miss assignment due dates or an exam, they are required to notify the instructor (and LA if appropriate) in advance, in person or by e-mail. The validity of excuses, whether given in advanced or not, will be handled on a case-by-case basis. As per university policy the final exam may not be taken early. The instructor reserves the right to alter the questions and format of any make-up assignment given. To accommodate for busy weeks and bad days, one lowest homework score and one lowest lab score will be dropped from the grade.

Academic Dishonesty: Cheating in any form will not be tolerated and may result in a failing grade for the relevant assignment or exam and/or a failing grade in the course. The guidelines in University of Utah Policy 6-400: Code of Student Rights and Responsibilities will be followed.

About the Mathematics:

Tutoring and Resources: Free tutoring offered at the T. Benny Rushing Mathematics Center, which is located in the basement between the JWB and LCB buildings. The hours are 8 am to 8 pm Monday through Thursday and 8 am to 4 pm on Fridays. The tutoring center also contains a computer lab where students can print materials for math and physics for free. The math department has a full set of lecture videos which you are welcome to use to supplement our course material. These can be found at http://www.math.utah.edu/lectures/

Expected Learning Outcomes: Upon successful completion of this course, a student should be able to:
- Take limits of algebraic and trigonometric expressions of the form $0/0$ (that simplify), non-zero number over 0, including limits that go to (positive or negative) infinity, limits that don't exist and limits that are finite.
- Use and understand the limit definitions of derivative for polynomial, rational and some trigonometric functions; understand the definition of continuity and consequences.

- Differentiate all polynomial, rational, radical, and trigonometric functions and compositions of those functions; perform implicit differentiation and compute higher order derivatives.
- Use differentiation to find critical points and inflection points, the signs of the first and second derivatives, and domain and limit information to determine vertical and horizontal asymptotes. Then, use that information to sketch the graph of $y = f(x)$.
- Apply differentiation to optimization, related rates, linear approximation, and problems involving differentials.
- Compute indefinite integrals and find antiderivatives, including finding constants of integration given initial conditions.
- Compute definite integrals using the definition for simple polynomial functions. Compute definite integrals using the power rule, basic u-substitution, and the Fundamental Theorems of Calculus.
- Apply the definite integral to compute area between two curves, volumes of solids of revolutions, arc length, surface area for surfaces of revolution, and work problems.

About the Classroom:

Accommodations: The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic learning, and psychiatric disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the instructor and to the Center for Disability & Access (162 UNION , 801-581-5020). All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

Student Names and Personal Pronouns: Class rosters are provided to the instructor with the student's legal name as well as Preferred first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your UIDcard, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are M-F 8am-5pm, and 8am-6pm on Tuesdays.

Student Responsibilities: All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, and I will do so, beginning with verbal warnings and progressing to dismissal from and class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.
http://regulations.utah.edu/academics/6-400.php

Addressing Sexual Misconduct: Title IX makes it clear that violence and harassment based on sex and gender (which Includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

Student Wellness: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

Important Dates:
First Day of Class- Monday, January 7
Last day to add or drop – Friday, January 18
Exam 1- Tuesday, February 5
Exam 2- Tuesday, March 5
Last day to withdraw- Friday, March 8
Spring Break- March 10-17
Exam 3- Tuesday, April 9
Last Day of Class- Tuesday, April 23
Final Exam- Tuesday, April 30, 3:30-5:30 pm