Mathematics 1210: Calculus I  
Fall, 2017

Instructor: Matthew Smith

Class Time and Place: 11:50 AM – 12:40 PM  
MTWF  
in JWB 335

Lab Instructor: Rojin Karimanfard

Lab Time and Place: Section 16: 11:50 AM – 12:40 PM Thursday, in NS 204  
Section 17: 12:55 PM – 1:45 PM Thursday, in JWB 308

Office Hours: Tuesday, 1 PM – 2 PM,  
Thursday, 2 PM – 3 PM,  
or by appointment.

Office Location: JWB 331

E-mail Address: msmith@math.utah.edu  
If you need to contact me for any reason, please send me an E-mail.

Class Web Page: I will use the Canvas page to upload assignments, post grades, make announcements, and post additional course materials. You can get there easily from the main University of Utah website www.utah.edu. To log in, you use the same student ID and password that you use for Campus Information Systems.

Text: Calculus with Differential Equations, by Varberg, Purcell, and Rigdon (9th edition)  
ISBN-10: 0132306336  
For information on purchasing the textbook, go to http://www.math.utah.edu/schedule/bookInfo/

Course Information: Math 1210 Calculus I is a 4 credit course.

Prerequisite: “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 630+.

Course Description: 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.

**Learning Outcomes:**
Upon successful completion of this course, a student should be able to:
1. 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.
2. Use the limit definitions of derivative and definite integral for polynomial, rational and some trigonometric functions; understand definition of continuity.
3. Differentiate all polynomial, rational, radical, and trigonometric functions and compositions of those functions; perform implicit differentiation and compute higher order derivatives.
4. Use differentiation to find stationary, singular and inflection points, as well as domain and limit information to determine vertical and horizontal asymptotes, and then use all of that information to sketch the graph of a curve, $y = f(x)$.
5. Apply differentiation to optimization and related rates problems.
6. Compute indefinite and definite integrals, using the power rule and basic u-substitution and the Fundamental Theorems of Calculus.
7. Apply the definite integral to compute area between two curves, volumes of solids of revolutions, arc length, surface area for surfaces of revolution and center of mass.

**Grading:**
Your grades will be calculated using the following weights:
Homework 15%
Lab Work 15%
Midterm 1 15%
Midterm 2 15%
Midterm 3 15%
Final Exam 25%

**Homework:**
Written homework will be assigned weekly, and will be based on material covered in class recently. Doing homework for practice is essential to your success in the class.

Homework is graded partially on completeness and partially on correctness.

I have the following policies for submitting homework:
- **Homework must be stapled (or otherwise securely bound).** Work that is not securely bound will be subject to the late homework penalty, or more for repeated offenses.
- **Homework can be turned in up to one week after the deadline, with a 50% score penalty.** While it is important to keep track of deadlines, the practice you get from doing homework is still important. This policy allows students to get some points from homework turned in after the deadline.
Lab:
During the Thursday lab sessions, students will be randomly assigned to work in groups on a worksheet under the supervision of a learning assistant. Worksheets are due at the end of the lab session, and will be graded partially on completeness and partially based on correctness.

Due to the nature of the lab, no late labs will be accepted. However, the lowest lab score will be dropped to account for any extenuating circumstances.

Midterm Exams: We will have three midterm exams on the following days:
- **Exam 1**: Friday, September 15th
- **Exam 2**: Friday, October 20th
- **Exam 3**: Friday, November 17th

These exams will be at the usual time and place for the course, and will be 50 minutes long.

Final Exam: The final exam for this class is comprehensive and will occur during the regularly scheduled final exam time, given by the University:

Thursday, December 14, 2017
10:30 am – 12:30 pm

If you are not able to take the final exam, you will receive a score of zero. You should plan for winter break with this date in mind.

If this final exam conflicts with a final for another class, it is your responsibility to inform me as soon as possible so I can try to accommodate you.

Calculators: Calculators are not permitted on exams.

You may find it helpful to use calculators for your own personal use, but you must write details for all calculations on homework. Since calculators are not permitted on exams, I recommend not relying on them for homework.

Grading Scale: The final grade scale will be the following:
A (90-100), A- (87-89), B+ (84-86), B (75-83), B- (72-74), C+ (69-71), C (60-68), C- (57-59), D+ (54-56), D (45-53), D- (42-44), E (0-41).

The instructor retains the right to modify this grading scheme during the course of the semester; students will, of course, be well notified of any adjustments.

If I do need to curve the grades, I will simply shift everything down by a few points (whatever is necessary).

Online Grades: I will put your grades online in Canvas. I would advise you to check your grades often to make sure there were no data entry mistakes: I expect to
make over 1,000 data entries for this class over the course of the semester, so it is very likely I will make a mistake. I am happy to correct any mistakes I have made, you just need to let me know about them.

**Tutoring Center:**
T. Benny Rushing Mathematics Student Center (adjacent to JWB and LCB), Room 155  
M - Th 8 a.m. - 8 p.m.  
F 8 a.m. - 6 p.m.  
(opens Wednesday) (closed Saturdays, Sundays and holidays)  
They are also offering group tutoring sessions. If you're interested, inquire at the Tutoring Lab.  
http://www.math.utah.edu/ugrad/tutoring.html

**Private Tutoring:**
University Tutoring Services, 330 SSB (they offer inexpensive tutoring).  
There is also a list of tutors at the Math Department office in JWB233.

**Computer Lab:**
Also in the T. Benny Rushing Mathematics Student Center, Room 155C.  
M - Th 8 a.m. - 8 p.m.  
F 8 a.m.- 6 p.m.  
Link to computer lab:  
http://www.math.utah.edu/ugrad/lab.html

**Lecture Videos:**
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/

**ADA Statement:**
The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability and Access (CDA), 162 Olpin Union Building, 581-5020 (V/TDD). CDA will work with you and me to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to CDA.

**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. You 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, collusion, fraud, theft, etc. Students should read the Code carefully and know you are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from 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 Names and Personal Pronouns:** Class rosters are provided to the instructor with the students 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.

**Wellness Statement:** Personal concerns such as stress, anxiety, relationship difficulties, depression, crosscultural differences, etc., can interfere with a students ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at [www.wellness.utah.edu](http://www.wellness.utah.edu) or 801-581-7776.

**Additional Policies:** This syllabus is **not** a binding legal contract. It may be modified by the instructor when the student is given reasonable notice of the modification.