

MATH 1210-001 Calculus I, Summer 2018

Class meets: 5/14/2018 to 8/1/2018

Time & Place: Lecture: M-F at 07:30 AM-08:30 AM in JFB 102

Holidays: 5/28 M (Memorial Day), 7/4 W (Independence Day), 7/24 T (Pioneer Day)

Other Important Dates:

- 5/18 (F): Last day to add without a permission code, Last day to wait list
- 5/23 (W): Last Day to Add,Drop(Delete),Elect CR/NC,or Audit Classes
- 6/22 (F): Last Day to Withdraw from classes
- See <http://registrar.utah.edu/academic-calendars/summer2018.php>

Instructor & Office: Sung Chan Choi, JWB 121

Email: choi@math.utah.edu

Office Hours: Monday and Thursday 8:45 am - 9:45 am in JWB 121, or by appointment.

Text: *Calculus with Differential Equations*, by Varberg, Purcell, and Rigdon (9th edition)

For information on purchasing the textbook.

See <http://www.math.utah.edu/schedule/bookInfo/CalcBookInfo-3.pdf>

Additional Resources

- **Tutoring Center & Computer Lab-** There is free tutoring in the T. Benny Rushing Mathematics Student Center (LCB 155, the lower level between JWB and LCB), as well as a computer lab (LCB 155C).
See <http://www.math.utah.edu/undergrad/mathcenter.php>
- **Private Tutoring-** University Tutoring Services, 330 SSB. There is also a list of tutors at the tutoring center LCB 155.
- **Departmental Videos-** The math department has a full set of lecture videos which you are welcome to use to supplement our course material.
See <http://www.math.utah.edu/lectures/math1210.html>

Calculators: Calculators will not be allowed on exams and quizzes. They may be used on homework, but you should still write out the details of your computation. It is in your best interest not to become too dependent on your calculator since they will not be allowed on exams and quizzes.

Canvas: Canvas will be used for posting course announcements, homework assignments, grades, files and any relevant supplementary material. You are also welcome to make use of the Canvas discussion board to discuss course problems or topics. You can access the Canvas page through CIS or by logging in at utah.instructure.com. Students should check the Canvas page regularly for course information and resources. Email notifications and correspondence will be sent to the student's UMail address ([\[u-number\]@utah.edu](mailto:[u-number]@utah.edu)); this email account must be checked regularly.

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

Prerequisite Information: “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.

Expected 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 and understand the limit definitions of derivative for polynomial, rational and some trigonometric functions; understand the definition of continuity and consequences.
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 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 all of that information to sketch the graph of $y = f(x)$.
5. Apply differentiation to optimization, related rates, linear approximation, and problems involving differentials.
6. Compute indefinite integrals and find antiderivatives, including finding constants of integration given initial conditions.
7. 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.
8. Apply the definite integral to compute area between two curves, volumes of solids of revolution, arc length, surface area for surfaces of revolution, and work problems.

Grade Distribution:

Weekly Homework	10%
Daily Quiz	20%
Midterm Exam 1	15%
Midterm Exam 2	15%
Midterm Exam 3	15%
Final Exam	25%

Grading Scale:

≥ 93	A	73 - 76.9	C
90 - 92.9	A-	70 - 72.9	C-
87 - 89.9	B+	67 - 69.9	D+
83 - 86.9	B	63 - 66.9	D
80 - 82.9	B-	60 - 62.9	D-
77 - 79.9	C+	≤ 59	E

Grading Policies:

• General

- Books, notes, any reference, and calculator are **not** allowed on exams and quizzes.
- If you cheat on any homework, quiz or exam, I will automatically give you a zero for that grade.
- Makeup exams and quizzes are **not** allowed without a reasonable document like doctor's note.
- You may take an alternate exam if you submit a documented verification about it to me first and explain the extenuating circumstances that make it necessary. Needing to work, babysitting your siblings, oversleeping, or needing more time to study do not pass as acceptable reasons.
- There will be no retakes of exams . . . ever. Your score is what you get.

• Weekly Homework

- I will collect homework in the class on **Tuesday**. Homework assignment will be posted on CANVAS. You need to check CANVAS everyday.
- All homework must be written in a neat and organized form and **stapled** together. If you do **not staple** together or do **not write homework number and your name**, **5 points will be taken off**. A non-stapled or non-organized homework will hinder our grader from grading.
- I will grade all homework problems for **completeness**. It will be worth 1 point a problem. For example, if you have 30 problems of homework assigned for one week and you solve all 30 problems then you can get 30 points regardless of correctness.
- I will choose 5 problems from weekly homework assigned then they will be graded for correctness. Each selected problem will be worth 5 points. To get 5 points for correctness, you **MUST** show all your work! If you turn in just the answers, with no work shown, you will get a 0 point for **correctness**.

- So total score will be worth the sum of completeness and correctness. For example, if you have 24 points for completeness and 23 points for correctness then your total score will be 47.
- **Late homework will NOT be accepted.** But **2 lowest scores** will be dropped at the end of this semester.

- **Daily Quizzes**

- Quiz will be given daily with one or two problems on the topic of the previous class in class.
- 5-7 minutes will be given.
- **4 lowest scores** will be dropped.

- **Midterm Exams**

- There will be 60-minute three in-class midterm exams.
- **6/8(F), 6/29(F), and 7/20(F)** in the regular classroom.
- **No makeup exams will be given** except in the case of a documented emergency. Please contact the instructor ASAP, or at least two classes ahead of time so that the instructor and student can make arrangements to make up the test. I reserve the right to make makeup exams more difficult than the scheduled exam.

- **Final Exam**

- A two-hour comprehensive exam will be given.
- **7:30 am - 9:30 am 8/3(F)** in the regular classroom.
- **No makeup exams will be given. No exception**

Other Policies

- I do **NOT** allow the use of **laptop** computers in my classroom. But tablets are okay if you are taking notes on it.
- I request respectful behavior in the classroom. Please do not read a newspaper or magazine in class, talk with your friends in class, or use a phone for texting or web surfing in class.
- Please do not curse or use disparaging language on any assignment that is turned in; if you do, you will receive a zero on that assignment or test
- You need to have a valid email address registered with Campus Information System.
- You need to check CANVAS everyday.
- **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.
See <http://regulations.utah.edu/academics/6-400.php>
- I reserve the right to change my policies stated in this syllabus at some point in the semester. If I do make a change to a policy, I will announce it in class and send the change in email.

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 & Access, 162 Olpin Union Building, 801-581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

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, cross-cultural 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 or 801-581-7776.

Tentative Course Schedule:

The weekly coverage might change as it depends on the progress of the class. However, you must keep up with the reading assignments.

Week	Content
Week 1	<ul style="list-style-type: none"> • 5/14 Intro, Section 1.1 • 5/15 Section 1.3 , Quiz 1 • 5/16 Section 1.3 , Quiz 2 • 5/17 Section 0.7 , Quiz 3 • 5/18 Section 1.4 , Quiz 4
Week 2	<ul style="list-style-type: none"> • 5/21 Section 1.4 , Quiz 5 • 5/22 Section 1.5 , Quiz 6 • 5/22 Section 1.6 , Quiz 7 • 5/23 Section 1.6 , Quiz 8 • 5/24 Section 2.1 , Quiz 9
Week 3	<ul style="list-style-type: none"> • 5/28 Holiday (Memorial Day) • 5/29 Section 2.2 , Quiz 10 • 5/30 Section 2.2 , Quiz 11 • 5/31 Section 2.3 , Quiz 12 • 6/1 Section 2.4 , Quiz 13
Week 4	<ul style="list-style-type: none"> • 6/4 Section 2.5 , Quiz 14 • 6/5 Section 2.6 , Quiz 15 • 6/6 (Review for Midterm Exam 1) , Quiz 16 • 6/7 Review for Midterm Exam 1 • 6/8 Midterm Exam 1
Week 5	<ul style="list-style-type: none"> • 6/11 Section 2.7 , Quiz 17 • 6/12 Section 2.8 , Quiz 18 • 6/13 Section 2.8 , Quiz 19 • 6/14 Section 2.9 , Quiz 20 • 6/15 Section 3.1 ,
Week 6	<ul style="list-style-type: none"> • 6/18 Section 3.2 , Quiz 21 • 6/19 Section 3.3 , Quiz 22 • 6/20 Section 3.4 , Quiz 23 • 6/21 Section 3.5 , Quiz 24 • 6/22 Section 3.6 , Quiz 25

Week	Content
Week 7	<ul style="list-style-type: none"> • 6/25 Section 3.7 , Quiz 26 • 6/26 Section 3.8 , Quiz 27 • 6/27 (Review for Midterm Exam 2) , Quiz 28 • 6/28 Review for Midterm Exam 2 • 6/29 Midterm Exam 2
Week 8	<ul style="list-style-type: none"> • 7/2 Section 4.1 , • 7/3 Section 4.1 , Quiz 29 • 7/4 Holiday (Independence Day) • 7/5 Section 4.2 , Quiz 30 • 7/6 Section 4.2 , Quiz 31
Week 9	<ul style="list-style-type: none"> • 7/9 Section 4.3 , Quiz 32 • 7/10 Section 4.3 , Quiz 33 • 7/11 Section 4.4 , Quiz 34 • 7/12 Section 4.4 , Quiz 35 • 7/13 Section 4.5 , Quiz 36
Week 10	<ul style="list-style-type: none"> • 7/16 Section 5.1 , Quiz 37 • 7/17 Section 5.1 , Quiz 38 • 7/18 (Review for Midterm Exam 3) , Quiz 39 • 7/19 Review for Midterm Exam 3 • 7/20 Midterm Exam 3
Week 11	<ul style="list-style-type: none"> • 7/23 Section 5.2 , • 7/24 Holiday (Pioneer Day) • 7/25 Section 5.3 , Quiz 40 • 7/26 Section 5.4 , Quiz 41 • 7/27 Section 5.4 , Quiz 42
Week 12	<ul style="list-style-type: none"> • 7/30 Section 5.5 , Quiz 43 • 7/31 (Review for Final Exam) , Quiz 44 • 8/1 Review for Final Exam • 8/3 Final Exam (7:30 am - 9:30 am)