Instructor. Hyunjoong “Hune” Kim – canvas message

Teaching Assistant. TBA

Office Hours. TBA no later than week 2


Exam Dates.
- Midterm 1 – in class @ September 20th (Fr)
- Midterm 2 – in class @ October 25th (Fr)
- Final – check official U of Utah final exam schedule

Course Description.
Why science and engineering major students learn calculus? We will discuss why topics in calculus matter to us (listed below on weekly schedule). For each topic, we will learn important mathematical concepts and then solve problems. We then deepen our understanding by challenging story-based problems and getting feedback from lab homework, quizzes, and exams.

Motivation. A great way to learn a topic effectively is making a direct connection to you. It could be searching for how it is applied to your major. Or, we can link you through an indirect path. For example, we can try to understand mathematician’s motivation why they wanted to invent the concepts. Every Monday, we will motivate ourselves to enjoy the topics. You can volunteer to give a short presentation (~10 min) so that we can share your cool thinking. Just let me know one week ahead. Extra points will be given on your midterm exam.

In class. One major difficulty in learning math is to be proficient at solving problems. Thanks to devoted math society, there are lots of videos explaining concepts. However, the videos are limited to how to solve the problems because they (i) cannot break through your specific blockage and (ii) only cover a few examples. In class, we will solve abundant problems together. It requires your voluntary attempts and suggestions!

Homework. There are two kinds of homework for this class: (i) Watching videos, and (ii) solving problems. (i) Every Mondays, I will share the video links about vital math concepts of the topic. You require to watch the videos before classes. But if you don’t watch them, you are probably hard to follow in the class. (ii) Problem lists are also announced, and some of them will appear in the quiz. Both (i) and (ii) will not be graded.

Labs. We go further together! In lab sessions, we are going to solve more challenging problems with your group. Problems include story-based application questions. TA will describe in detail.
**Quizzes.** Getting feedback is a crucial process of learning. Every Friday, we will take a quiz over 25 minutes if we have no exam. I will ask 2-4 questions. You can get scores and feedback usually in a week. There is no make-up quiz. *I will drop 2 lowest quizzes at the end of the semester.*

**Exams.** We have three exams and the date and location is described above. *There is no make-up exam.* Absence from an exam will be excused only if you can provide verifiable and convincing evidence that you have a *significant illness or serious family crisis* that will prevent you from attending. Except under extremely unusual circumstances, you must inform me in advance of the missed test. You are expected to promptly make arrangements with me to make up the test. *Vacation or work schedule are not considered to be excused absences.*

**Grading Policy.** Your grade will be based on:
- Midterms (2) 30% (15% each)
- Final Exam 25%
- Quizzes 25%
- Lab Homework 15%
- Lab Attendance 5%

**Letter Grades.** If $X$ is your percentage grade, then 

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<th>Grade</th>
<th>Percentage</th>
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<tr>
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<td>$X \geq 93%$</td>
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<td>A-</td>
<td>$X \geq 90%$</td>
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<td>$X \geq 60%$</td>
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<td>E</td>
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Letter grade assignments can be changed at the discretion of the instructor.

**Weekly schedule.**
1. Integral expression of physical objects
2. Infinite sequences and series
3. Convergence test and power series
4. Power series representation of functions
5. Review Midterm 1
6. Vectors, dot and cross products
7. Geometry in higher dimension I
8. Fall break
9. Geometry in higher dimension II
10. Review Midterm 2
11. Multivariate functions
12. Partial derivatives
13. Directional derivative and optimization
14. Multivariate integration I
15. Multivariate integration II
16. Review Final Exam
**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 Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

**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, veteran’s 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 statement.** 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 UID card, 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 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.

**Safety Statement.** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.