

MATH 1320: Engineering Calculus II

Section 006 — Spring 2021

Instructor Information

Name: Ann Dunham

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Class Information

Dates: Spring 2021; January 19 – May 5

Days: Lecture: Mondays, Tuesdays, Wednesdays, Fridays

Lab: Thursdays

Time: Lecture: 10:45 – 11:35AM, Mountain Time

Lab: 9:40 – 10:30AM (section 007) or 10:45 – 11:35AM (section 008), Mountain Time

Location: Canvas and Zoom

Textbook (Required)

Calculus: Concepts and Contexts, 4th Edition, by James Stewart (ISBN- 978-0495557425)

Course Description

Differential and integral calculus II, with a focus on applications for engineers. Topics include: integral expressions for moments, centers of mass, and work; infinite series and sequences; power series and Taylor series; vectors, dot and cross products, and the geometry of space; the calculus of vector functions and particle motion in space; differential calculus for functions of several variables, including linear approximation, partial and directional derivatives, chain rule, and multi-variable optimization; multivariate integration in Cartesian and polar coordinates and applications. This is a 4 credit hour course that satisfies a quantitative reasoning requirement.

Prerequisites

"C" or better in (MATH 1310 OR MATH 1311) OR AP Calc BC score of 3 or better OR Department Consent

Required Course Materials

You will need a computer or smartphone with reliable internet and a working microphone to access the course Canvas page, Gradescope for submitting assignments (including exams), and Zoom for participating in lectures and office hours. Access to a scanning device (smartphones can be used as scanning devices) is also required for submitting assignments.

Course Format

As I am sure you are all aware, this class is only operating in an online format due to the current

pandemic. We are all stepping out of our comfort zones, employing new methods, and learning as we go, so I ask that you be patient with any unforeseen hiccups we may encounter during this course. This course will operate under an “interactive video conferencing” (IVC) format and will be taught in a “flipped classroom” format, detailed below.

- ▷ **Before Class:** I will pre-record “lecture” videos and/or pre-write “lecture” notes and post these to the course Canvas page. You will need to watch and/or read these before class. It is critical that you watch the videos and keep up with the schedule on Canvas, as there will be no other formal lecture. You are also encouraged to look over the corresponding chapters in the textbook.
- ▷ **During Class:** The official scheduled time for our course is Mondays, Tuesdays, Wednesdays, and Fridays, 10:45 – 11:35AM, Mountain Time, with an additional lab on Thursdays, either 9:40 – 10:30AM or 10:45 – 11:35AM depending on your section. During this time we will have “flipped” classes held remotely via Zoom. The Zoom meeting room will be linked on the left side column in Canvas. During class, I will first highlight the most important points from the videos for that day, and then ask for any questions. You are encouraged to bring up any parts of the videos or textbook that were confusing, ask about homework problems, etc. We will then spend the rest of class working through some example problems, both in small groups and all together. The goal is that it will be an interactive hour where we work through any confusion about the video topics and solidify your understanding of the content. For this to work, though, you must show up, ask questions, and participate. *I will not go through the entire lecture videos during these times, so do not ask. I am more than happy to reiterate, clarify, state in a different way, or go through an example of any of the video topics if you have watched the videos. However, if you have not watched the videos, then do not show up to class.*

During the scheduled class times on Thursdays, you will meet with the lab section you registered for with a graduate lab TA. You will work on the weekly lab assignment in small groups via the breakout room feature on Zoom, facilitated by your lab TA.
- ▷ **Canvas:** It is important that you check the course Canvas page each day and set up your account so that you get notifications when I make an announcement. *You need to read all announcements.* All course materials and assignments will be delivered through the course Canvas page. Canvas will be where you go to get updates about the course, check the course schedule, get homework and lab assignments, and take quizzes. You need to check the modules tab and the assignments tab regularly.
- ▷ **Gradescope:** Homework assignments, lab assignments, and exams will all be submitted electronically through the course Gradescope page, which will be accessible through the course Canvas page. You are responsible for submitting all assignments in the correct format, which will be specified upon assignment, by the given due date. Electronic and internet difficulties or failures are not valid excuses for late assignments.

Course Components

You will complete weekly homework assignments, lab assignments, and quizzes, as well as two midterm exams and a comprehensive final exam. You will need to sign up for a lab section on Thursdays where you will work on the weekly lab assignments in groups, facilitated by a TA. Quizzes will typically be released on Canvas on Fridays after class and will be due on Monday

by 11:59PM. Weekly homework and lab assignments will typically be due by 11:59PM on Wednesdays. Details about each component of the course are given below, along with the percentage each contributes to your grade. I reserve the right to adjust due dates, details, and grade weightings as needed.

- ▷ **Attendance (10% of final grade):** For the “flipped” classroom format to work, you must show up to class, including labs. You can miss up to seven classes without it affecting your grade.
- ▷ **Homework (15% of final grade):** A set of problems covering lecture materials from the preceding week will be due on most Wednesdays by 11:59PM on Gradescope. The specific problems for each assignment will be published on the Canvas page for that assignment a week before the due date. The homework assignments will be graded based on completion rather than correctness. If you make an honest attempt at all of the problems and show your work, you will get full credit. Just writing down your final answer without any work is not enough. The three lowest homework scores will be dropped at the end of the term. *No late homework assignments will be accepted, for any reason.* I drop the three lowest scores to cover situations in which you are not able to complete the assignment on time; please reserve and use these opportunities wisely.
- ▷ **Quizzes (15% of final grade):** There will be an approximately 30 minute timed quiz on Canvas that opens on most Fridays within an hour of class ending and closes on the subsequent Monday at 11:59PM. You will need to complete the online quiz on your own time, outside of class hours. The quiz will cover relevant topics from the preceding week’s lectures and lab. If you are keeping up with the work, these quizzes are intended to be reasonably straight forward. Quizzes are open-note and open-book; however, I recommend trying to answer the questions without your notes first to help prepare yourself for exams. Some quiz questions will be multiple choice, and others will be free response and require you to upload a pdf file containing your work. I will give you feedback on your quizzes when I grade them to help prepare you for future quizzes and exams. The lowest three quiz scores will be dropped at the end of the term. *There will be no opportunities to make-up or retake quizzes, for any reason.*
- ▷ **Labs (15% of final grade):** On Thursdays, you will need to attend the lab section you signed up for when you registered for this class. A 1 – 3 problem lab assignment will be released on Canvas the day before. During the lab sessions, you will collaborate with other students in small groups via the breakout room feature in Zoom, with facilitation by a TA. The lab problems will be more challenging than homework problems. They are meant to make you think more deeply about how to apply the tools learned in lecture and practiced in homework assignments to solve more complex problems. In lab assignments, the process of figuring out what the problem is asking, choosing the correct methods/strategies/tools to implement, and understanding each step in that implementation is more important than getting the right answer. The goal of these problems is to give students a deeper understanding of how the mathematics is applied, with the goal of concept learning, improving problem solving fluency, and practicing interpretation of results. Lab assignments will usually be due on the following Wednesday by 11:59PM on Gradescope. The lowest three lab scores will be dropped. *There will be no make-up opportunities, and no late lab assignments will be accepted, for any reason.*
- ▷ **Midterm Exams (25% of final grade, 12.5% each):** Two approximately hour-long midterm exams will be given during/after class on Friday, February 19th and on Friday, March 26th.

Exams will be released through a Canvas announcement just before the official starting time. You will be required to submit your exam on Gradescope within the specified time limit. Details on how to submit your exam will be provided a week ahead of time. Review materials will be posted roughly a week prior to each midterm, and we will have class time dedicated to review.

- ▷ **Final Exam (20% of final grade):** A two-hour comprehensive exam will be given on Wednesday, May 5th from 10:30AM to 12:30PM. (This date and time is set by the University. I will try to announce any changes, but be sure to double-check the official University exam schedule as we near the end of the term.) This exam will be administered in the same way as the midterms. Additionally, as with the midterms, study resources will be posted about a week prior and we will have class time to review.

Course Learning Objectives

After this course, you should. . .

- ▷ be able to utilize methods of integration to compute volumes of objects rotated about an axis and compute lengths of curves. Students should understand the higher-level concept of integration underlying these methods: the summation of small volume segments dV or small length segments ds , which are computed by performing an appropriate parameterization to an integral in terms of dx .
- ▷ know how to apply integration to solve problems important in physics and engineering. Students will be able to compute the average value of a function using the mean value theorem for integrals, the center of mass of objects, and energy as a force integrated over a distance.
- ▷ be able to write down, manipulate, and interpret infinite sequences and series. Students will learn about the concepts of series convergence and divergence and related properties, and will be able to employ various methods to determine convergence and estimate errors of truncated sums. Students will be able to represent functions as a Taylor series and use Taylor's theorem to approximate functions and estimate error from using finitely many terms of the Taylor series.
- ▷ understand how to implement important tools of calculus in higher dimensions. Students will become familiar with 2- and 3-dimensional coordinate systems, vectors and vector operations including the dot and cross product, and equations of lines, planes, and other surfaces.
- ▷ know how to represent motion of objects in 3D using vector functions. Students should be able to represent velocity and acceleration using vector projections into tangential and normal components, as well as characterize curves in space by computing arc length and curvature.
- ▷ be comfortable taking limits of multivariate functions, as well as computing and interpreting partial derivatives.
- ▷ be able to characterize aspects of surfaces and volumes using partial derivatives and the gradient vector. Students will also use partial derivatives to approximate surfaces by tangent planes, and compute derivatives of multi-dimensional function compositions using a multi-dimensional version of the chain rule.
- ▷ know how to use partial derivatives and the method of Lagrange multipliers to optimize multivariate functions on a given domain.

- ▷ understand the elementary procedures and interpretations of multivariate integration on varied 2- and 3D domains using Cartesian and polar coordinates. Students will learn applications of double integrals to problems in physics and engineering.
- ▷ be comfortable working with the mathematical symbols of calculus. Students should have a firm understanding of the meaning of the mathematical symbols used in this course and be able to use them correctly in their own solutions.
- ▷ have improved mathematical thinking, reasoning, and communication skills. Students should be able to formulate their problem solutions as grammatically correct sentences that incorporate all of the necessary mathematical work and computations.
- ▷ have improved problem-solving skills. Students should be able to read and understand problem descriptions and then formulate equations modeling the problem, usually by applying geometric or physical principles. Students will be able to select the appropriate calculus tools to apply to a given problem, execute them accurately, and interpret the results in the context of the problem.

Grading Policies

Final grades will be assigned according to the following scale:

A	93 – 100	C+	77 – 79
A-	90 – 92	C	73 – 76
B+	87 – 89	C-	70 – 72
B	83 – 86	D	60 – 69
B-	80 – 82	E	0 – 59

- ▷ **Collaboration and Outside Resources:** You are highly encouraged to work with others on homework and lab assignments. Mathematics is a social activity! However, all final work must be your own; that is, despite a group deriving a solution, your work and/or explanations are expected to be unique. Quizzes and exams must be entirely your own work. *Plagiarism is unacceptable* and will result in a zero grade for all persons involved, as well as serious academic repercussions. Quizzes and exams are open-note and open-book, but you may not collaborate with other students or use any other external resources, including web resources. Any collaboration on exams is cheating. Calculators are allowed on all assignments, but shouldn't be necessary for quizzes and exams.
- ▷ **Gradescope Submissions:** Homework assignments, lab assignments, and exams will be submitted by students on Gradescope, which is linked on the course Canvas page. You will need to scan your assignments (a smartphone can act as a scanning device) and upload them to the appropriate page on the course Gradescope site as a *single pdf file*. When submitting an assignment, you **MUST** look at the provided outline and match each question to the pages of your submission on which you answer them. If you do not match your submission, you risk getting a score of zero.
- ▷ **Regrade Requests:** Should you feel a homework, lab, or exam question was scored unfairly, you may submit a regrade request in Gradescope, *not in office hours or via email*. For homework, labs, and midterms, regrade requests must be made within a week of grade posting.

Final exams will be posted and three days will be allotted to lodge regrade requests before final scores are posted. You must state in your request *why* you feel you deserve more points, making sure you have carefully reviewed the rubric. A regrade request may result in an increase in score, no change in score, or in rare cases a decrease in score. There will be no regrade requests for quizzes.

- ▷ **Making-up or Re-taking Exams:** There will be no retakes or make-ups of exams, for any reason. If you have an emergent, extenuating circumstance that makes it necessary to take an alternate exam, it is your responsibility to discuss that with me well before the exam occurs, or as soon as possible. I may allow exams to be taken early, but not late. Should an emergency occur during or just before an exam, contact me as soon as possible; with a valid written excuse from a physician or the Dean's Office, we may be able to arrange an alternate option.
- ▷ **Grades Online:** It is your responsibility to ensure the accuracy of all recorded assignment and exam grades. If you see any errors in your grades on Canvas, reach out to me as soon as possible.

Contacting Me Outside of Class

The best way to reach me is either via Canvas message or via email (see above). I typically answer emails/messages once per day during the week, so please send your emails/messages with this in mind. For emails/messages sent over the weekend, I will do my best to respond in a timely manner, but do not expect a response until Monday. Please do reach out if you have any questions or concerns about the course. If you have crisis-level extenuating circumstances which affect your class performance and you need guidance/advice/flexibility, please communicate with me as soon as possible so I can help you in some manner, which I am truly happy to do. The longer you wait to communicate with me, the less I can and am willing to do to help.

Student Resources

If you find yourself struggling with any aspect of the course material, even if it is just one topic or one homework problem, please utilize one of the resources below. It is best to resolve any confusion as early as possible, especially because as we progress in the course, new topics will assume a mastery of material we have already covered.

- ▷ **My office hours:** I will hold regular weekly office hours (see above) via Zoom. This is an excellent resource to utilize to make sure you understand the course content. Please drop by to ask questions about any assignments or the course content in general. If you have any questions, comments, and/or concerns and are either unable to attend office hours or do not feel comfortable speaking in front of others, please email me and we will figure something out.
- ▷ **Lab TAs:** There will be Teaching Assistants (TAs) assigned to help with this course. TAs are graduate students in mathematics working towards their PhD or Masters degree. They will run the weekly labs as well as hold weekly office hours. The names, contacts, and office hours of the TAs will be posted on Canvas.
- ▷ **The math tutoring center:** The [T. Benny Rushing Mathematics Student Center](#) offers **free**

tutoring Mondays-Thursdays, 8:00AM–8:00PM and Fridays, 8:00AM–6:00PM. They have tutors specialized in most areas of undergraduate mathematics. Check their website for the most up-to-date information, but they should currently be operating entirely online.

- ▷ **Private tutoring:** The **Learning Center** offers very inexpensive tutoring at just \$5 per hour. They also currently have funding that allows them to provide your first three tutoring session for free, and there are scholarships available if covering further costs is an issue. Check their website for the most up-to-date information, but they should currently be operating entirely online. I also know many excellent math tutors I can connect you with directly; feel free to email me if you would like a recommendation.

Netiquette

Zoom lectures, Canvas, and emails are all considered equivalent to traditional classrooms and student behavior within these environments shall conform to the student code. Respectful participation in all aspects of the course will make our time together productive and engaging. The TAs, LAs, and I will treat you with respect, and in return we expect that you will treat us and your fellow classmates with respect as well. Specifically:

- ▷ During Zoom classes, you are expected to remain muted unless you are answering or asking a question or you are working together in groups.
- ▷ Disrespectful, angry, or abusive language is not acceptable, whether spoken aloud on Zoom, written in the Zoom chat, written on Canvas, or in email. Posting photos is not allowed. Behavioral misconduct will be dealt with according to the Student Code just as in an in-person classroom. *Any behavioral misconduct will cause you to be removed and banned from all future Zoom meetings.*
- ▷ Do not use ALL CAPS, except for titles, or overuse certain punctuation marks such as exclamation points and question marks. Avoid slang terms and texting abbreviations such as “u” instead of “you.” When emailing, keep a professional tone, *e.g.* use a descriptive subject line, avoid “Hey,” and address your instructors using the name/title they have told you to use. Sign your message with your name. Be cautious when using humor or sarcasm, as tone is sometimes lost in an email, chat, or discussion post, and your message might be taken seriously or be offensive to others.
- ▷ Be careful with personal information (both yours and others).

Classroom Social Equity

I strive to be ethical, kind, fair, inclusive, and respectful in my classroom. I expect my students to behave likewise. It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: age, disability, gender, gender identity, gender expression, sexual orientation, national origin, race, ethnicity, culture, religion, socioeconomic status, political affiliation, veteran status, and other unique identities. In this regard, I have these requests of you, my student:

- ▷ Please do tell me, discreetly, if you have any sort of anxiety disorder, TBI, PTSD, C-PTSD, or any other challenge that would cause psychological harm to you by me calling on you in class. I want students to feel a little uncomfortable and stretched during class, while working on problems as a large group, but I definitely do not want to cause anyone harm. So, please tell me, in a way you feel comfortable, if that is the case for you and I will confidentially accommodate your request.
- ▷ 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). 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 feel respected. If you need assistance getting your preferred name on your U-ID card, please visit the [LGBT Resource Center](#), Room 409 in the Olpin Union Building. If your preferred name is different than your legal first name (the preferred name you chose does show up in CIS on my roll sheet, but not yet in Canvas), please log into Canvas and go to Account (on the far left) → Settings and change your Display Name to be the name you prefer. This will help me greatly in knowing students' names and to address you correctly when responding to Canvas messages/comments/discussions.
- ▷ If you would like, please let me know through writing, or in person, your preferred name and/or pronouns. In return, if someone discloses their personal pronoun to you/the group, I expect you respect their identity and maintain a safe learning environment. You may not understand their personal preferences (and you do not have to), but you must respect them. I will not tolerate disrespectful behavior.
- ▷ If any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.
- ▷ Your suggestions are encouraged and appreciated. If there is ever a time that you feel this course or the curriculum is not equitable, please email me or meet with me to discuss your concerns so I have a chance to address them. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups.

Important Dates

- ▷ First day of class: Tuesday, January 19th
- ▷ Last day to add course without a permission code: Friday, January 22nd
- ▷ Last day to add, drop, elect CR/NC, or audit: Friday, January 29th
- ▷ No class: Monday, February 15th
- ▷ Midterm 1: Friday, February 19th
- ▷ No class: Friday, March 5th
- ▷ Last day to withdraw: Friday, March 12th
- ▷ Midterm 2: Friday, March 26th

- ▷ No class: Monday, April 5th
 - ▷ Last day to reverse CR/NC option: Friday, April 23rd
 - ▷ Last day of class: Tuesday, April 27th
 - ▷ Final exam: Wednesday, May 5th
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COVID-19 Considerations

Students must self-report if they test positive for COVID-19 via coronavirus.utah.edu.

Student Code

Students are encouraged to review the [Student Code](#) for the University of Utah. You should read the Code carefully and know you are responsible for the content.

To ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to refraining from cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating. A student who engages in academic misconduct as defined in Part I.B. may be subject to academic sanctions including but not limited to a grade reduction, failing grade, probation, suspension or dismissal from the program or the University, or revocation of the student's degree or certificate. Sanctions may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing. Incidents of academic misconduct will be subject to penalty per Section V of Policy 6-400, the Student Code. Incidents of academic dishonesty on regular assignments will result in a minimum penalty of a full letter-grade reduction and up to a failing grade (E) for the course. Incidents of academic dishonesty on exams will result in a minimum penalty of a failing grade (E) for the course, and the incident(s) will be referred to the dean of your major-department college for possible further sanction.

Furthermore, All students are expected to maintain professional behavior in the classroom setting. 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.

Office of the Dean of Students

The Office of the Dean of Students is dedicated to being a resource to students through support, advocacy, involvement, and accountability. It serves as a support for students facing challenges to their success as students, and assists with the interpretation of University policy and regulations. Please consider reaching out to the Office of Dean of Students for any questions, issues and concerns. The office is located at 200 South Central Campus Dr., Suite 270, open Monday through Friday, 8:00AM – 5:00PM.

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 \(CDA\)](#), 162 Olpin Union Building, 801-581-5020 (V/TDD). The 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. As I am sure you are aware, if you need accommodations, it is your responsibility to give me the relevant paperwork and take initiative in telling me what you need.

English Language Learners

If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include the [Writing Center](#), the [Writing Program](#), and the [English Language Institute](#). Please let me know if there is any additional support you would like to discuss for this class.

Undocumented Student Support

Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801-213-3697 or visit dream.utah.edu.

Veterans Center

If you are a student veteran, the University of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building, open Monday through Friday, 8:00AM – 5:00PM. Please visit their [website](#) for more information about what support they offer, a list of ongoing events and links to outside resources. Please also let me know if you need any additional support in this class for any reason.

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](#) (801-581-7776) or the [Counseling Center](#) (801-581-6826).

Student Success Advocates

The mission of [Student Success Advocates](#) is to support students in making the most of their University of Utah experience (ssa.utah.edu). They can assist with mentoring, resources, etc. Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact a [Student Success Advocate](#) for support (<https://asuu.utah.edu/displaced->

students).

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).

Discrimination and Harassment

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 Office of the Dean of Students, 270 Union Building, 801-581-7066. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS). Please see the [Student Bill of Rights, section E](#). I will listen and believe you if someone is threatening you.

Campus Safety

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

Lodging Complaints

If you feel that I have disrespected you, not accommodated you, made you feel unsafe, harassed you in any way, etc., *please* let me know. I will be more than happy to change my behavior and work with you to make the class more safe and/or accessible; I strive to create a safe learning environment for all students. Though you can reach out to me, I understand confronting someone who has disrespected/offended/harassed/upset/hurt you can be difficult. If you would like to lodge a formal complaint against me (for my teaching, behavior, class conduct, etc.), you may email my course coordinator, Will Nesse, at nesse@math.utah.edu.

I reserve the right to change my policies stated in this syllabus at any point in the semester. If I do make a change to a policy, I will announce it in class as well as communicate the change via email or an announcement in Canvas.

Tentative Daily Schedule

The daily coverage may change depending on the progress of the class. However, you must keep up with the video/reading assignments.

Date	Material Covered	Assignments Due
M, January 18	No Class	
T, January 19	Introduction and Expectations, 6.4: Arc Length	
W, January 20	6.5: Average Value of a Function	Quiz 0, Quiz 0.5
Th, January 21	Lab 1	
F, January 22	6.6: Applications of Integration to Physics	
M, January 25	8.1: Sequences	Quiz 1
T, January 26	8.1–8.2: Sequences, Introduction to Series	
W, January 27	8.2: Introduction to Series	HW 1, Lab 1
Th, January 28	Lab 2	
F, January 29	8.2: Introduction to Series	
M, February 1	8.3–8.4: Series Convergence Tests	Quiz 2
T, February 2	8.3–8.4: Series Convergence Tests	
W, February 3	8.3–8.4: Series Convergence Tests	HW 2, Lab 2
Th, February 4	Lab 3	
F, February 5	8.3–8.4: Series Convergence Tests	
M, February 8	8.3–8.4: Series Convergence Tests	Quiz 3
T, February 9	8.5–8.6: Power Series	
W, February 10	8.5–8.6: Power Series	HW 3, Lab 3
Th, February 11	Lab 4	
F, February 12	8.7–8.8: Taylor Series	
M, February 15	No Class	
T, February 16	8.7–8.8: Taylor Series	Quiz 4
W, February 17	Review for Midterm 1	
Th, February 18	Lab Review for Midterm 1	
F, February 19	Midterm 1	
M, February 22	9.1 & 9.7: 3D Coordinate Systems	
T, February 23	9.2: Vectors	
W, February 24	9.2: Vector Applications	HW 4, Lab 4
Th, February 25	Lab 5	
F, February 26	9.3: The Dot Product	
M, March 1	9.3: Vector Projections	Quiz 5
T, March 2	9.4: The Cross Product; Working with Vectors Review	
W, March 3	9.5: Equations of Lines and Planes	HW 5, Lab 5
Th, March 4	Lab 6	
F, March 5	No Class	
M, March 8	9.5: Equations of Lines and Planes	Quiz 6
T, March 9	9.5: Equations of Lines and Planes	
W, March 10	9.6 & 11.1: Surfaces and Multivariate Functions	HW 6, Lab 6
Th, March 11	Lab 7	

F, March 12	10.1: Vector Functions	
M, March 15	10.2: Calculus of Vector Functions	Quiz 7
T, March 16	10.3: Arc Length and Curvature	
W, March 17	10.4: Motion in Space	HW 7, Lab 7
Th, March 18	Lab 8	
F, March 19	10.4: Motion in Space	
M, March 22	10.5: Parametric Surfaces	Quiz 8
T, March 23	Review for Midterm 2	
W, March 24	Review for Midterm 2	
Th, March 25	Lab Review for Midterm 2	
F, March 26	Midterm 2	
M, March 29	11.2: Limits and Continuity of Multivariate Functions	
T, March 30	11.3: Partial Derivatives	
W, March 31	11.3: Partial Derivatives	HW 8, Lab 8
Th, April 1	Lab 9	
F, April 2	11.4: Tangent Planes and Linear Approximations	
M, April 5	No Class	
T, April 6	11.5: The Chain Rule	Quiz 9
W, April 7	11.5: The Chain Rule	HW 9, Lab 9
Th, April 8	Lab 10	
F, April 9	11.6: Directional Derivatives and the Gradient Vector	
M, April 12	11.6: Directional Derivatives and the Gradient Vector	Quiz 10
T, April 13	11.7: Multivariate Optimization	
W, April 14	11.7: Multivariate Optimization	HW 10, Lab 10
Th, April 15	Lab 11	
F, April 16	11.8: Lagrange Multipliers	
M, April 19	12.1 - 12.2: Double Integrals over Rectangular Regions	Quiz 11
T, April 20	12.3: Double Integrals over General Regions	
W, April 21	12.3: Double Integrals over General Regions	HW 11, Lab 11
Th, April 22	Lab Review for Final	
F, April 23	12.4 - 12.5: Double Integrals in Polar Coordinates and Applications	
M, April 26	Review for Final	
T, April 27	Review for Final	
W, April 28	No Class	HW 12
Th, April 29	No Class	
F, April 30	No Class	
M, June 3	No Class	
T, June 4	No Class	
W, June 5	Final Exam	Finally done! ☺