MATH 2210-004 Calculus III, Spring 2021

Class Meetings: MWF 11:50 am - 12:40 pm over Zoom: Link posted on Canvas
Instructor: Dr. Elizabeth Field (she/her)
Email: field@math.utah.edu
Office Hours: TBA: Link posted on Canvas, or by appointment.
Text: *Calculus with Differential Equations*, by Varberg, Purcell, and Rigdon (9th edition)
For information on purchasing the textbook, go to `http://www.math.utah.edu/schedule/bookInfo/`

Course Information: Math 2210 Calculus III is a 3 credit course.
Prerequisite Information: "C" or better in (MATH 1220 OR MATH 1250 OR MATH 1320) OR AP Calculus BC score of at least 4.
Course Description: Vectors in the plane and in 3-space; differential calculus in several variables; integration and its applications in several variables; vector fields; line, surface, and volume integrals; and Green's and Stokes' theorems.

Class Culture: We will model this class on the following axioms proposed by Federico Ardila:

Axiom 1: Mathematical potential is distributed equally among different groups, irrespective of geographic, demographic, and economic boundaries.

Axiom 2: Everyone can have joyful, meaningful, and empowering mathematical experiences.

Axiom 3: Mathematics is a powerful, malleable tool that can be shaped and used differently by various communities to serve their needs.

Axiom 4: Every student deserves to be treated with dignity and respect.

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); this email account must be checked regularly.

Grading: The following are the grade components and the percentage each contributes to a student's final grade:

- **Homework Assignments (28%):** Roughly three textbook sections are due each Friday at the beginning of class. The homework will typically cover material covered up to and including the preceding Monday. Homework assignments can be found under the Assignments tab in Canvas. Three problems from each homework will be selected for grading by the grader, each graded out of 5 points. There will also be 5 points given for completion. The lowest two homework scores will be dropped. Homework must be uploaded to the appropriate section of Canvas prior to the start of class on the day it is due. No late homework will be accepted.
- **Midterm Exams (54%, 18% each):** Three 50-minute midterm exams will be given on select Fridays during class. The exams will be proctored over Zoom. You will have the whole class period to complete the exam. A practice exam will be posted a week prior to the midterm that will cover the same material. The midterm exams will be on February 19, March 19, and April 23.
- **Final Exam (18%):** A two-hour comprehensive exam will be given. As with the midterms, a practice final will be posted a week prior. Our final exam is scheduled for Tuesday, April 4 from 10:30 - 12:30 pm.

Final course letter grades will be no stricter than the following: If X is your course percentage weighted according to the above, then $\{X \geq 92.5\% \Rightarrow A, X \geq 89.5\% \Rightarrow A-, X \geq 86.5\% \Rightarrow B+, X \geq 82.5\% \Rightarrow B\ , X \geq 79.5\% \Rightarrow B-\ , X \geq 76.5\% \Rightarrow C+\ , X \geq 72.5\% \Rightarrow C, X \geq 69.5\% \Rightarrow C-\ , X \geq 66.5\% \Rightarrow D+\ , X \geq 62.5\% \Rightarrow D\ , X \geq 59.5\% \Rightarrow D-\ , X < 59.5\% \Rightarrow E\}$.

Note: I may set the grade cut-offs more generously in individual components. Students will be notified of any adjustments.

Late and Missed Homework: It is your responsibility to ensure that your homework has been successfully submitted on time, and no late homework will be accepted. Late or missing homework will result in a score of 0 for that assignment, with the lowest two homework scores being dropped. If a situation arises (such as extended illness) which prevents you from completing homework for an extended time frame, please contact me as soon as possible so that we can make an appropriate arrangement.

Missed Exams: There will be no make-up exams. Rather, in the event of a valid illness, accident, or family crisis you can be excused from an exam so that it does not count toward your overall average. Such situations **must** be documented and I reserve final judgment as to whether an exam will be excused. All such requests should be made to me in advance if possible, but in any event **no more than one week** after the exam date. As exams are held over Zoom, it is essential that you arrive on time (i.e. early) as no additional time will be provided.

Technology requirements: This course will be held in a synchronous online format over Zoom. All course materials will be posted to Canvas, and students will need to upload homework and exams to Canvas.

- Students are expected to be computer literate and Canvas and Zoom navigation skills are expected. Knowledge and navigation of Canvas and Zoom is critical to access all features and resources of this course.
- Course lectures, office hours, and exams will be held in the online synchronous format over Zoom. As such, a computer with a strong internet connection and adequate bandwidth is necessary. For assistance with accessing technology equipment and internet off-campus, please see `https://lib.utah.edu/coronavirus/checkout-equipment.php`.
- All exams will be proctored synchronously over Zoom during our regular class time. Students will need access to a computer with a working webcam and are required to have video and audio enabled for these exams. Students will be able to download the exam from Canvas at the start of the exam. Additionally, students will be required to scan and upload their completed exam to Canvas **as a single PDF file** at the end of the exam using a separate device (usually a phone).
- Regular computer and internet access is crucial to success in this course, so it is recommended that all students have access to a personal computer and internet. The Marriott library is loaning laptops and mobile hotspots to students for this purpose: `https://lib.utah.edu/coronavirus/checkout-equipment.php`.
- For technical assistance, please review the Student Canvas Guide and/or contact TLT or Knowledge Commons.

Academic Resources:

- **Tutoring Center & Computer Lab** - The department of mathematics offers free drop-in (currently online) tutoring through the T. Benny Rushing Mathematics Student Center. For more information see `https://www.math.utah.edu/undergraduate/mathcenter.php`. The computer lab is closed while classes are online.
- **Private Tutoring** - The ASUU Tutoring Center is also offering online tutoring. There is also a list of tutors at the math department office JWB 233.

- **Departmental 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/`.
- I also encourage you to visit me during my office hours!

Calculators: Non-graphing calculators may be used on exams. Any calculator is allowed for use on homework, but you should still write out the details of your computation (as no credit will be given without work shown). It is in your best interest to not become too dependent on your graphing calculator, since they will not be allowed on exams.

Academic Integrity: Working with others is an important part of this course. I encourage you to have conversations and collaborate with other students in and outside of class, and to use other online resources to support your learning. I encourage you to collaborate with other students on homework assignments, however all homework must be written up individually. I expect that you agree to, and will uphold, the University of Utah's Student Code.

Attention and Respect: It is important that we all prioritize our course meetings and give this class our undivided attention as much as possible while we are together. I understand that due to the online environment, interruptions and distractions may be unavoidable. Out of respect for our community, please avoid using your cell phone, unrelated browser windows, and other electronic distractions when in class, except in cases of emergency.

Accessibility and Accommodations: I am committed to creating a course that is inclusive in its design. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or to accurate assessment of achievement, please let me know immediately so that we can determine if there is a design adjustment that can be made, or if an accommodation might be needed to overcome the limitations of the design. If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible. If you would like support in beginning this conversation, or to establish documentation and accommodations for this or other courses, please contact 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 pronouns that are 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 pronouns will be respected. Note that Canvas allows students to change the name that is displayed and allows them to add their pronouns to their Canvas name. Students can also indicate their pronouns in Zoom. If you need assistance getting the appropriate name on your UIDcard, please contact the LGBT Resource Center: `https://lgbt.utah.edu/`. The (virtual) LGBT Resource Center hours are M-F 8am-5pm.

Other Resources: Throughout this course, if you experience circumstances (e.g. illness or injury, increased caregiving responsibilities, loss of access to technology or secure housing) that impact your ability to attend class, complete assignments, or otherwise engage with the course, please contact me so that we can work together to establish a plan. As a student of this university, you are entitled to university resources that support students in navigating challenging circumstances. Many of these resources can be found at `https://studentsuccess.utah.edu/resources/student-support/`.

Wellness Statement:. As your professor, I care first and foremost about your health and well-being. In order to be successful in this class, as well as in your other academic and personal pursuits, you will need to balance working hard and making time for resting, recharging, and prioritizing your mental and physical health.

This course will be challenging, and we will meet those challenges together. I will ask you to engage in course activities, spend time thinking outside of class, and build understanding through multiple attempts and reflection. I hope that by the end of the semester you will feel proud of your mathematical and personal accomplishments.

The work we will do here should not come at the expense of your well-being. There may be days when what you need is to take a step back, moments when you need to pause and take a deep breath. That is encouraged. In stepping away from a problem, taking time to process feelings that arise, or addressing external stressors, we can create more space for authentic engagement with mathematics.

Balancing coursework and wellness takes practice and self-awareness in normal contexts. In our current moment, when we are living and learning through disruption, it will take even more flexibility and dedication. I am available to talk with you about how to recalibrate if you are feeling out of balance. For helpful resources, you may contact the Center for Student Wellness at `www.wellness.utah.edu` or 801-581-7776.

The Americans with Disabilities Act: 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, veteran 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.

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 801-585-2677. 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`.

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

Course Roadmap Week-by-Week: Below is an outline and rough schedule of the sections and topic covered in this course.

Week 1 10.4, 11.1, 11.2

Week 2 11.3, 11.4, 11.5, 11.6 **Note: Friday, January 29 is the last day to drop**

Week 3 11.7, 11.8, 11.9

Week 4 12.1, 12.2, 12.3

Week 5 12.3, 12.4, **Exam 1 (Friday, February 19)**

Week 6 12.5, 12.6, 12.7

Week 7 12.8, 12.9

Week 8 13.1, 13.2, 13.3 **Note: Friday, March 12 is the last day to withdraw**

Week 9 13.3, 13.4 **Exam 2 (Friday, March 19)**

Week 10 13.5, 13.6, 13.7

Week 11 13.8, 13.9, 14.1

Week 12 14.2, 14.3

Week 13 14.4, 14.5

Week 14 14.6 **Exam 3 (Friday, April 23)**

Week 15 14.7

Week 16 Final Exam (Tuesday, May 4 from 10:30 am - 12:30 pm)

Important Dates:

- Friday, January 29: Last day to drop classes
- Friday, February 19: Exam 1
- Friday, March 12: Last day to withdraw
- Friday, March 19: Exam 2
- Friday, April 23: Exam 3
- Tuesday, May 4: Final Exam (10:30 am - 12:30 pm)