

MATH 1220-002 Calculus II, Spring 2021

Course Type: IVC (Interactive Video Conferencing)

Class Meetings: Monday, Tuesday, Wednesday, Friday 10:45-11:35am via Zoom (link on Canvas)

Instructor: Sam Swain (call me “Sam” or “Mr. Swain”)

Contact: Email swain@math.utah.edu or Canvas message.

Office Hours: Time TBD, via Zoom (link on Canvas)

Text: *Calculus with Differential Equations*, by Varberg, Purcell, and Rigdon (9th edition) **ISBN-13:** 978-0132306331

For information on purchasing the textbook, go to <http://www.math.utah.edu/schedule/bookInfo/>

Course Information: Math 1220 Calculus II is a 4 credit course.

Prerequisite Information: "C" or better in (MATH 1210 OR MATH 1250 OR MATH 1270 OR MATH 1311 OR MATH 1310) OR AP Calculus AB score of at least 4 OR AP Calculus BC score of at least 3.

Course Description: Geometric applications of the integral, logarithmic, and exponential functions, techniques of integration, conic sections, improper integrals, numerical approximation techniques, infinite series and power series expansions, differential equations (continued).

Communication and Technology Expectations:

- It is easiest to reach me via Canvas or my email listed above. I will try to respond within a few hours to messages received 9am-5pm on weekdays and sporadically at other times.
- The course will be delivered as lectures over Zoom.
- **Students must have a functioning web camera (e.g. on a laptop) for exam proctoring and a scanning device (e.g. a smartphone) for uploading assignments.**
- Students should come to class prepared to participate and are encouraged to have their video cameras on if possible.
- Class attendance is not mandatory, but encouraged. The exception is that students must be in attendance with video on during exam times.
- Office hours will be conducted via Zoom.
- Students should be generally familiar with using Canvas. Homework, quizzes, and exams will be delivered via Canvas and will need to be uploaded to Canvas. Canvas is also a great place to start discussions about homework and the course material.
- Exams will be proctored via Zoom during our regular class time. The final exam will be proctored via Zoom during our scheduled final exam time.

Canvas: Canvas will be used for posting course announcements via Canvas message, assignments, grades, files, and any relevant supplementary material. You will submit quizzes, homework, and exams on the course Canvas site. 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.

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

- **Homework Assignments (20%)**- Roughly three textbook sections are due most Tuesdays via Canvas upload by 11:59pm. The homework will typically cover material covered up to and including the preceding Tuesday. If you click on a homework assignment in the Assignments tab in Canvas, you will see the list of assigned problems. Up to four of the problems will be graded for accuracy, the remaining for accuracy. The lowest homework score will be dropped.

- **Quizzes (8%)**- Immediately following each Wednesday class (except for weeks with a midterm exam), a 20-minute, 1-2 problem open-note quiz testing fundamentals will be made available on Canvas, due by Friday night. The quiz will cover relevant topics covered in the previous week's classes. The lowest quiz score will be dropped.
- **Midterm Exams (54%, 18% each)**- Three 50-minute midterm exams will be given on select Fridays. You will take these while on the class Zoom call so that I can proctor while you work. The dates for these exams are fixed and are listed at the end of this syllabus. There will be no retakes of exams and I will not offer the exam at a later date except in extenuating circumstances that are communicated to me as far in advance as possible. If you anticipate being unable to attend an exam, please make plans with me to take it early. Any regrade request must be received within a week of grades being posted. Please plan accordingly. Dates of the midterm exams will be Friday Feb. 12, Friday Mar. 12, and Friday Apr. 9.
- **Final Exam (18%)**- A two-hour comprehensive exam will be given. Our final exam is scheduled for Wednesday, May 5 from 10:30am-12:30pm, which I will proctor over Zoom.

Students with university excused absences (band, debate, student government, intercollegiate athletics) should make alternate arrangements with me as soon as possible if the absence interferes with any course components.

A note on extensions: You may ask for a one-day extension on any homework assignment. You do not need to provide me any details on why you need the extension. If, however, you ask for an extension more than once, we might need to have a discussion before I grant the second extension. I generally will not give extensions on quizzes or exams.

Final course letter grades will be determined as follows: If X is your course percentage weighted according to the above, then $\{X \geq 93\% \Rightarrow A, X \geq 90\% \Rightarrow A-, X \geq 87\% \Rightarrow B+, X \geq 83\% \Rightarrow B, X \geq 80\% \Rightarrow B-, X \geq 77\% \Rightarrow C+, X \geq 73\% \Rightarrow C, X \geq 70\% \Rightarrow C-, X \geq 67\% \Rightarrow D+, X \geq 63\% \Rightarrow D, X \geq 60\% \Rightarrow D-, X < 60\% \Rightarrow E\}$. I do not round grades to the nearest percent, so, for example, a 79.86% will earn a $C+$, not a $B-$.

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.

Additional Resources

- **Tutoring Center & Computer Lab**- There is free online tutoring (the equivalent of the math center tutoring) available through the following link: <https://utah.instructure.com/courses/613503/> . More information can be found at <http://www.math.utah.edu/undergrad/mathcenter.php> .
- **Private Tutoring**- ASUU Tutoring Center, 330 SSB. The center is closed for in-person tutoring, but information about virtual tutoring can be found on their webpage: <https://learningcenter.utah.edu>
- **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/>

Calculators: Calculators will not be allowed on exams. They may be used on homework and quizzes, 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. Questions on exams will be written so that you do not need a calculator.

Expected Learning Outcomes: Upon successful completion of this course, a student should be able to:

1. Compute derivatives and integrals for exponential, logarithmic, hyperbolic functions, and inverse trigonometric functions.

2. Integrate integrable functions using integration by parts, u-substitution, trigonometric substitutions, rationalizing substitutions, partial fraction decomposition, and trigonometric identities. This includes knowing which techniques to apply to a given integral.
3. Use L'Hopital's Rule to calculate indeterminate-type limits and also know what limits are the non-indeterminate forms and how to compute those limits.
4. Compute improper integrals.
5. Understand the difference between an infinite sequence and infinite series and determine if a sequence converges or diverges.
6. Determine whether or not an infinite series of numbers converges or diverges using a variety of tests.
7. Understand what it means for a Power Series to converge or diverge and be able to find the Taylor Series for a given function. Determine how closely a Taylor polynomial approximates a function using Taylor's Remainder Theorem.
8. Differentiate and integrate functions in polar coordinates.

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

Week 1 Introduction, Chapters 6.1, 6.2

Week 2 Chapters 6.3, 6.4, 6.5 **Friday, Jan. 29 is the last day to drop**

Week 3 Chapters 6.6, 6.7, 6.8

Week 4 Chapter 6.9, review, Exam 1 (Feb. 12)

Week 5 Chapters 7.1, 7.2, 7.3

Week 6 Chapter 7.4, 7.5, 7.6

Week 7 Chapters 8.1, 8.2, 8.3

Week 8 Chapters 8.4, review, Exam 2 (Mar. 12) **Friday, Mar. 12 is the last day to withdraw**

Week 9 Chapters 9.1, 9.2, 9.3

Week 10 Chapters 9.4, 9.5

Week 11 Chapters 9.5, 9.6

Week 12 Chapters 9.7, review, Exam 3 (Apr. 9) **Friday, Apr. 9 is the last day to choose CR/NC**

Week 13 Chapters 9.8, 9.9

Week 14 Chapters 10.5, 10.6 **Friday, Apr. 23 is the last day to reverse choice of CR/NC**

Week 15 Chapter 10.7, review

Week 16 Final Exam Wednesday, May 5, 10:30am-12:30pm

Academic Code of Conduct: Students are encouraged to review the Student Code for the University of Utah: <https://regulations.utah.edu/academics/6-400.php>. In order 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. **Specifically, looking up solutions to an assignment online or using sites such as Chegg is forbidden and will result in a grade of zero for the assignment.**

ADDITIONAL POLICIES AND RESOURCES

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. Students 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, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, and I will do so, beginning with verbal warnings and progressing to dismissal from and 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>

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.

Inclusivity Statement: 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, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status, and other unique identities. gender, sexuality, disability, age, socioeconomic status, ethnicity, race, culture, and other unique identities. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

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 Student Bill of Rights, section E <http://regulations.utah.edu/academics/6-400.php>. I will listen and believe you if someone is threatening you.

Names/Pronouns. Canvas allows students to change the name that is displayed AND allows them to add their pronouns to their Canvas name. 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, which managed can be managed at any time). 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 or on assignments. Please advise me of any name or pronoun changes so I can help create a learning environment in which you, your name, and your pronoun are respected. If you need any assistance or support, please reach out to the LGBT Resource Center.

https://lgbt.utah.edu/campus/faculty_resources.php

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 (<http://writingcenter.utah.edu/>); the Writing Program (<http://writing-program.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). 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. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. 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 at www.wellness.utah.edu or 801-581-7776.

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 on the basis of your sex, including sexual orientation or gender identity/expression, you are encouraged to report it to the University's Title IX Coordinator; Director, Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or to 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 police, contact the Department of Public Safety, 801-585-2677(COPS).

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

University Counseling Center The University Counseling Center (UCC) provides developmental, preventive, and therapeutic services and programs that promote the intellectual, emotional, cultural, and social development of University of Utah students. They advocate a philosophy of acceptance, compassion, and support for those they serve, as well as for each other. They aspire to respect cultural,

individual and role differences as they continually work toward creating a safe and affirming climate for individuals of all ages, cultures, ethnicities, genders, gender identities, languages, mental and physical abilities, national origins, races, religions, sexual orientations, sizes and socioeconomic statuses.

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. 200 South Central Campus Dr., Suite 270. Monday-Friday 8 am-5 pm.