MATH 1220 Calculus II, Fall 2020

Class Meetings: MWF 1:25-2:45 on Canvas
Course Type: Interactive Video Conference (IVC)
Instructor: Donald Chacon-Taylor
Email: dct@math.utah.edu
Office Hours: TBD
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 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).

Canvas: Canvas will be used for posting course announcements, homework assignments, grades, files and any relevant supplementary material. You are also welcome to use the Canvas discussion board for discussing 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.

Technology: This course is an Interactive Video Conference (IVC) course. As such, students are expected to have a stable connection fast enough to view the Zoom lectures, a way to upload homework assignments (such as uploading a photo of the paper assignment), and a webcam and microphone for exams.

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 uploaded to Canvas most Fridays at the same time class starts (including the week of exams, but not the week following). The homework will typically cover material covered up to and including the preceding Monday. If you click on a homework assignment in the Assignments tab in Canvas, you will see the list of assigned problems. Four of the problems will be graded out of 5 points. The lowest homework score will be dropped. No late homework will be accepted.

- Quizzes (10%) After most lectures, there will be a quiz on Canvas open for the 24 hours following the lecture which will have a couple quick questions on the preceding lecture. The lowest five scores will be dropped.

- Exams (70%, 20% each except for the lowest which counts for 10%) - Note that since Canvas does not support this weighting it will only be reflected in the final grade, not the grade that appears on Canvas. There will be four exams consisting of three midterms and a non-cumulative final. The midterm exams will be given during class time and proctored via Zoom video and audio. Dates of the midterm exams will be Friday Sep. 13th, Friday Oct. 18th, and Friday Nov. 15th. A practice exam will be posted a week prior to the exams that will cover the same material.

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.

Final course letter grades will be determined as follows: If X is your course percentage weighted according to the above, then \( \{ X \geq 93\% \Rightarrow A, X \geq 90\% \Rightarrow A-, X \geq 87\% \Rightarrow B+, X \geq 83\% \Rightarrow B, X \geq 80\% \Rightarrow B-, X \geq 77\% \Rightarrow C+, X \geq 73\% \Rightarrow C, X \geq 70\% \Rightarrow C-, X \geq 67\% \Rightarrow D+, X \geq 63\% \Rightarrow D, X \geq 60\% \Rightarrow D-, X < 60\% \Rightarrow E \} \).
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 tutoring in the T. Benny Rushing Mathematics Student Center (room 155, the lower level between JWB and LCB), as well as a computer lab. For more information see [http://www.math.utah.edu/undergrad/mathcenter.php](http://www.math.utah.edu/undergrad/mathcenter.php)

- **Private Tutoring** - ASUU Tutoring Center, 330 SSB. 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/](http://www.math.utah.edu/lectures/)

**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’Hospital’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 Note, Friday Sep. 4th is the last day to drop

Week 3 Chapters 6.6, 6.7, 6.8

Week 4 Chapters 6.9, review, Exam 1 (Sep. 18)

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 (Oct. 16) Note, Friday Oct. 16th 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 (Nov. 13)

Week 13 Chapters 9.8, 9.9

Week 14 Chapters 10.5-10.6

Week 15 Chapter 10.7, review

Week 16 Final Exam Time TBA

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

Students must self-report if they test positive for COVID-19 via coronavirus.utah.edu.
Inclusivity Statement: It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that student’s 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. 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 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.

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 U 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).

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’s 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](http://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.