

MATH 1220-002 Calculus II, Spring 2022

Class Meetings: MTWF from 10:45-11:35. LCB 219

Instructor: Kristen Lee

Email: Please contact me through **Canvas Email**. As a secondary email use klee@math.utah.edu

Office Hours: I will hold two office hours per week. These will be determined the first week of class.

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/resources/bookinfo.php>

Notice! Exams are in person. If you miss an exam you will receive a zero and will not be permitted to make it up. The exam dates are listed below. Mark them on your calendar now. If you know now you have a conflict that would prevent you from taking the exam you should not take this course. Student's will not be given exams over Zoom unless the University makes the decision to take classes online.

Exam 1: Friday, February 4, 2022. 10:45-11:35 am

Exam 2: Friday, March 4, 2022. 10:45-11:35 am

Exam 3: Friday, April 8, 2022. 10:45-11:35 am

Final Exam: Thursday, April 28, 2022. 10:30 am-12:30 pm

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 OR IB Higher Level Math score of at least 5.

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 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 canvas email. You should check this regularly.

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

- Home Practice (0%)- I will publish practice problems from the textbook that correspond to each section we cover in class. It is extremely important that students practice problems in order to do well on the quizzes, review assignments, and exams.

- Quizzes (18%)- In the last 15 minutes of every Friday (except exam days) you will be given a quiz in class. I will ask 2-3 questions from the material covered on the Friday, Monday, Tuesday, and Wednesday prior to quiz day. These questions will be similar to the published practice problems. It is important to do the home practice to prepare for the quizzes. I do not allow students to make up quizzes for any reason. However, I will drop your two lowest quizzes at the end of the semester.
- Review Assignment (12%). A week prior to each exam, you will be given a review assignment that will have 1-2 problems of each type of problem from the sections that are covered leading up to the exam. These assignments are due the day of the exam but I will also allow you to submit them on the Wednesday before the exam. They must be submitted in person. Electronic submissions are not permitted. Late submissions are also not permitted.
- Midterm Exams (45%, 15% each)- Three 50-minute midterm exams will be given on select Fridays. You will have the whole class period to complete the exam. Dates of the midterm exams will be Friday, Feb. 4th, Friday, March 4th, and Friday, Apr. 8th. If you miss an exam, you will receive a zero. If you know you cannot take an exam at the scheduled time you should not take this course. Exams are not cumulative.
- Final Exam (25%)- Our final exam is scheduled for Thursday, April 28th from 10:30-12:30 pm. The final exam is cumulative.

Students with university excused absences (band, debate, student government, intercollegiate athletics) must contact me immediately if the absence interferes with any course components.

The grading scale is:

A [93-100),	B- [80-83),	D+ [66-70),
A- [90-93),	C+ [77-80),	D [60-66),
B+ [87-90),	C [73-77),	D- [55-60),
B [83-87),	C- [70-73),	E [0-55).

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) <https://www.math.utah.edu/undergraduate/mathcenter.php>
- Private Tutoring- Learning Center <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 or quizzes. They may be used on homework, 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.

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.

University leadership urges all faculty, students, and staff to model the vaccination, testing, and masking behaviors we want to see in our campus community. These include:

Vaccination: Get a COVID-19 vaccination if you have not already done so. Vaccination is proving highly effective in preventing severe COVID-19 symptoms, hospitalization and death from coronavirus. Vaccination is the single best way to stop this COVID resurgence in its tracks. Visit <http://mychart.med.utah.edu/>, <http://alert.utah.edu/covid/vaccine>, or <http://vaccines.gov/> to schedule your vaccination.

Masking: CDC guidelines now call for everyone to wear face masks indoors.

Testing: If you are not yet vaccinated, get weekly asymptomatic coronavirus tests. This is a helpful way to protect yourself and those around you because asymptomatic individuals can unknowingly spread the coronavirus to others. Saliva based testing is available at alert.utah.edu/covid/testing

Self-Reporting: All of us, including faculty, students, and staff, must self-report if we test positive for COVID-19 via this website: <https://coronavirus.utah.edu/>.

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 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>

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, 162 Olpin Union Building, 801-581-5020, <https://disability.utah.edu/>. 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, office for equal opportunity and affirmative action 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, <https://oeo.utah.edu/contact-us/index.php> or to the Office of the Dean of Students, 270 Union Building, 801-581-7066, <https://deanofstudents.utah.edu/>. 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), <https://police.utah.edu/>.

Student Names and Personal Pronouns: 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). 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 UIDcard, 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 students 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. 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

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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. The UCC staff is committed to supporting the mental health needs of our campus community. Their phone number is 801-581-6826. Their hours are Monday-Friday, 8:00am-5:00pm. For after-hours emergencies, contact the 24/7 Crisis Line: 801-587-3000 .

More information is at <https://counselingcenter.utah.edu/>

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. To contact the Office of the Dean of Students, please email deanofstudents@utah.edu or call 801-581-7066. There is more information at <https://deanofstudents.utah.edu/>

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](https://asuu.utah.edu/displaced_students)).

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

Week 1 Introduction, Chapters 6.1, 6.2

Week 2 Chapters 6.3, 6.4, 6.5 Friday Jan. 21st is the last day to drop

Week 3 Chapters 6.6, 6.7, 6.8

Week 4 Chapters 6.9, review, Exam 1 (Feb. 4)

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. 4) Friday Mar. 4th is the last day to withdraw.

Week 9 Spring Break (Mar. 6- Mar. 13)

Week 10 Chapters 9.1, 9.2 9.3

Week 11 Chapters 9.4, 9.5

Week 12 Chapters 9.5, 9.6

Week 13 Chapters 9.7, review, Exam 3 (Apr. 8)

Week 14 Chapters 9.8, 9.9

Week 15 Chapters 10.5-10.6

Week 16 Chapter 10.7, review, Final Exam Thursday Apr. 28th from 10:30am-12:30pm.