

Mathematics 1220

Summer 2021

Instructor: Jason Hoag
Office Location: Zoom
Email Address: hoag@math.utah.edu (Prefer communication via Canvas Mail)
Class Web Page: Canvas

Accessibility & Support: The main face to face interaction you will have with me will be through office hours/problem sessions. Otherwise, I am available via Canvas mail throughout the week. If you send an email Monday-Friday you can expect a response within 24 hours. On weekends I make no guarantees, however I still try to check my email regularly. This being an online course, I try to be extra diligent in responding to messages. If I am not responding feel free to follow up in case I miss a message.

Course Type: Online

Class Time and Place: This is an exclusively online class, run primarily through the Canvas interface. 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 inbox which should be checked regularly. There are short lectures posted in Canvas discussing the main points of the chapter; however, students will need to supplement these lectures with careful reading of the book sections.

Course Design: Students have many resources available to use in learning the course material in addition to the text, posted videos, and the assigned problem sets. These include

- Interaction with the Instructor- The instructor will be available to meet online for office hours, will respond to emails, and participate in discussion boards.
- Interaction with Other Students- The Canvas interface makes connecting with other students easy. Though it is required that every student do his or her own work, you are encouraged to form study groups and/or ask questions of your peers. Students are encouraged to answer discussion posts too.

- Math-Department Tutoring Lab- Room 155 of the T. Benny Rushing Mathematics Center (in the basement connector between the LCB and JWB math buildings). They will have online tutoring options available. For more information, see <https://utah.instructure.com/courses/613503/>

- Supplementary Notes & Past Exams- There is a departmental webpage for the class that has some additional resources, including exams from past semesters. See <http://www.math.utah.edu/online/1210/>.

- Anything Else...- There are many free resources available on the web that may be helpful. Beware, however, that the quality and accuracy of these resources vary. If you find a helpful website or video, feel free to share it with the other students.

This course is not a learn-at-your-own-pace course. It follows the University's semester-based academic calendar and has hard due dates for homework and exams. Because course learning is guided through an online interface, it does provide greater time flexibility than a traditional lecture course. However, with this time flexibility comes the responsibility to use your time wisely and effectively.

The instructor will try his best to be helpful, responsive, and available. However, it is the student's responsibility to ask questions well in advance of homework due dates. You can expect instructor replies within one day of sending during normal daytime hours, although the instructor will often respond much sooner. It is imperative that you get started on the homework assignments early so that you allow time for responses to any questions you might have. In general, you should not expect an answer to homework question posed past 7:00pm until the next day.

Keys to Success:

To be successful in this online course format, a student must be an active participant in their own learning. This requires motivation, time management, and discipline. Here are some strategies that will be effective:

- Get Started Early- Get started learning the material early in the week. You will retain and understand the material better if you do a small amount of work each day for a few days than if you try to cram the week's material into one day. Plus, starting early gives you plenty of time to get questions answered from discussion or

email. Set aside specific times each week that you will devote to the course work. If you work a job during the day or are more of a night owl, pretend that the homework is due the night before it actually is; that way, you will be sure to get it done in time, and you will have the next day to get any remaining questions answered. Do not wait until the last minute!

- **Work Examples-** A math textbook is not good bedtime reading. You should be actively working while you are reading. Get out paper and pencil and read through the text and examples, working through each step on your paper. If you do not understand a step, go back and work through it again. Progress may be quite slow, but your time will be rewarded by a better understanding of the material.

- **Print Out Homework-** Print out the homework problems and do them first carefully with paper and pencil. Remember that, although homework only requires an answer, exams will be taken with paper and pencil. On exams, it will be important that you show your work and that your work is clear and legible. Your method is as important as your final answer! Practice this on your homework assignments.

- **Use Homework as a Tool-** You should view the homework as a tool for accessing and evaluating your understanding of the course material. Getting a high homework score is desirable, of course. However, that should not be your only goal. Homework questions vary in difficulty and relevance, but they will often follow an example in the book quite closely. All you are required to input is the answer, and it may be possible to get that answer by shortcut methods (following computations in the book, finding a pattern in previous answers, etc). It is not in your best interest to take shortcuts; any additional points you get by these methods will be negated by points you miss on an exam where the problems will be different and you will be expected to show all of your work. There is nobody looking over your shoulder to make sure you are doing the homework problems honestly, so you need to police yourself. If you get a correct answer but are not totally confident of the method, go back and work it again.

- **Seek Help if Needed-** If you are having difficulty with a concept or question, it is up to you to seek help from the instructor, other students, or a tutor. You should attempt to be an honest evaluator of

your own understanding. Constantly ask yourself, ‘How well do I understand this concept?’ One way to evaluate this is to pick a problem from the end of the section in the book. If you can’t get started or keep getting stuck, then you clearly are lacking some necessary component of understanding. So seek out help. There is no shame in getting assistance. Learning mathematics alone is difficult for everyone and often you just need a nudge back in the right direction. Make sure the help you are getting is directed at your conceptual understanding and not just how to get the final answer. Whether or not you get a particular answer correct or not on your homework will have a negligible effect on your course grade, but whether or not you understand the underlying concept will ultimately have an effect on your course grade through higher exam scores.

COVID-19 Considerations: Students must self-report if they test positive for COVID-19 via coronavirus.utah.edu. Even though this class is delivered online I understand the stress related to contracting COVID-19 or having a household member contract COVID-19. If this kind of situation happens to you please reach out to me as soon as possible so that I may work with you to keep you up in the course.

Office Hours: Official office hours are to be determined the first week of class so keep your eye out for the poll. Additionally, I am always willing to set up times for students who cannot meet during regular office hours. Please do not let yourself not receive help, just because you cannot make the standard office hour time.

Text: Calculus with Differential Equations, by Varberg, Purcell, and Rigdon (9th edition); ISBN-13: 9780132306331

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 semester course.

Prerequisite: “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.

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 nonindeterminate 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.

Grading:

The grades will be calculated as follows:

Homework	15%
Writing Assignments	15%
Midterms	60%
Final Exam	10%

Grading Scale:

Although I'm not philosophically opposed to curving grades, I find it's rarely necessary. The grade scale will be the usual:
A (93-100), A- (90-92.99), B+ (87-89.99), B (83-86.99), B- (80-82.99), C+ (77-79.99), C (73-76.99), C- (70-72.99), D+ (67-69.99), D (63-66.99), D- (60-62.99), E (0-59.99).
If I do need to curve the grades, I will simply shift everything down by a few points (whatever is necessary).

Homework:

I will assign homework **every** week and it will be due the following

Friday of each week. All of the homework assigned from the sections covered in the previous week are due at that time (Midnight).

Homework will be graded for both completion and correctness. Homework will be delivered through the WebWork online homework system and will be automatically computer graded.

It is your responsibility to make sure you have submitted all homework by the given due dates. No late homework will be accepted. To allow for illness, oversleeping, hectic schedules, etc. **your two lowest homework assignments will be dropped.** Do not ask for special favors with regard to the homework policy, unless the circumstances are extraordinarily severe. This policy is meant to be flexible enough to cover all reasons.

**Written
Assignments:**

In lieu of quizzes, I will be assigning written assignments approximately weekly. These written assignments will be due **Sundays** at midnight. These will serve as supplementary work to the homework problems and will be similar to a take home quiz every week. They are also designed so that you can receive direct feedback from me about your performance on the class topics outside of the midterms and final. Written assignments will be submitted through Gradescope an online grading software.

You are allowed to use your notes on these assignments and may work with classmates through discussions or meetings, unlike traditional quizlike assignments. You are also allowed to ask me any questions you may have. These assignments are designed to both test your knowledge of material we have recently covered and to help develop your skills with extra practice.

I will not accept late assignments. No exceptions. If you're unable to complete a written assignment for any reason whatsoever, you will have to use that as one of your dropped scores. **Your lowest two written assignment scores will be dropped.**

Midterms:

There will be three midterm exams throughout the semester. We will schedule the exact dates of each exam during the first week of the semester. Exams will be proctored via Zoom on the dates we decide. The first midterm will be between **June 10th-12th**. The second midterm will be between **July 8th-10th**. The third midterm will be between **July 29th-31st**.

Final Exam:

The final exam for this class is comprehensive and will be scheduled during the first week of class along with the midterms. The final is a last

opportunity to show mastery of the course material tested throughout the semester.

Extra Credit: Participating in the Canvas Discussions allows you to earn a small amount of extra credit. Everyone who posts a discussion question or reply with mathematical content will receive one additional point on that week's homework assignment (maximum of one point per week). This does not seem like very much, but a student who participates every week will add about 2% to their final course score. You will also find that the benefits you receive by participating in the discussions go well beyond the extra credit. Keep in mind, though, that to receive the maximum benefit you need to start participating early in the semester. Everyone benefits when there is more class participation in the Discussions. There may be additional extra credit opportunities.

**Official Drop/
Withdraw Dates:** The last day to drop classes is May 26th; the last day to withdraw from this class is June 25th. Please check the academic calendar for more information pertaining to dropping and withdrawing from a course. Withdrawing from a course and other matters of registration are the student's responsibility.

Online Grades: I will put your grades online on Canvas. I do my best to update the grades on a regular basis and keep everything accurate. However, I would advise you to check your grades often to make sure there were no data entry mistakes. I'm always happy to correct any mistakes I've made. You just need to let me know about them. You may also request a regrade of homework and quizzes through Gradescope.

Lecture Videos: The math department has a full set of lecture videos which you will use to learn the 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, 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.

Technical requirements:

1. 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. To keep this course as interactive as possible you should log in to all Zoom meetings with audio and video enabled.
2. Because this class will be proctored live a strong internet connection and adequate bandwidth is required.
3. To participate and take exams in this course you will need to have a reliable

webcam and microphone. You will also need a reliable scanner although many phones have this capability, however, you will need to be able to scan and keep your video on at the same time so make sure they are not the same device.

4. For technical assistance, review the [Canvas Getting Started Guide for Students](#) and/or contact TLT, Knowledge Commons, etc.

Expectations for Online Learning Environment:

Classroom equivalency: Respectful participation in all aspects of the course will make our time together productive and engaging. Zoom lectures, discussion threads, emails and canvas are all considered equivalent to classrooms and student behavior within those environments shall conform to the student code.

Specifically:

- Posting photos or comments that would be off-topic in a classroom are still off-topic in an online posting.
- Disrespectful language and photos are never appropriate.
- Using angry or abusive language is not acceptable, and will be dealt with according to the Student Code. The instructor may remove online postings that are inappropriate.
- Do not use ALL CAPS, except for titles, or overuse certain punctuation marks such as exclamation points and question marks.
- Course e-mails, e-journals, and other online course communications are part of the classroom and as such, are University property and subject to the Student Code. Privacy regarding these communications between correspondents must not be assumed and should be mutually agreed upon in advance, in writing.
- Other expectations for online communication (on Discussion Board, Emails, Zoom chat etc):
 - Emails: When emailing your Instructor and Teaching Team keep a professional tone (e.g. Use a descriptive subject line and sign your message with your name and return e-mail address. Please consult this page for tips on how to write appropriate professional emails: <https://academicpositions.com/career-advice/how-to-email-a-professor>
 - Treat your instructor, teaching team and classmates with respect in email or any other communication.
 - Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
 - Avoid slang terms such as “wassup?” and texting abbreviations such as “u” instead of “you.” Additionally, while emojis can be fun, they are not appropriate in an academic context.
 - Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or be offensive to others.
 - Be careful with personal information (both yours and others).
- Electronic or equipment failure: It is your responsibility to maintain your computer and related equipment in order to participate in the online portion of the

course. Equipment failures will not be an acceptable excuse for late or absent assignments.

- Online submissions: You are responsible for submitting the assignment with the required naming convention, correct file extension, and using the software type and version required for the assignment.
- Canvas allows students to change the name that is displayed AND allows them to add their pronouns to their Canvas name. Additionally, students can indicate their pronouns in Zoom. I will often address individual students based on this information so if they are incorrect, I may need to be corrected.

Incompletes: According to university policy, to be considered for an incomplete, a student must have 20% or less of the course work remaining and be passing the course with a C or better. You must request an incomplete grade and I will consider giving that grade only under exceptional circumstances.

Additional Policies:

- 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 and send the change in email.
- There will be no retakes 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, before the exam occurs, or as soon as possible. In general, I allow exams to be taken early, but not late.
- I will post announcements to the class in Canvas and will hold you accountable for receiving that information. Be sure to turn on your notifications in Canvas so you are alerted to announcements I make in Canvas as well as grade changes, discussion posts, etc.
- If you have questions about any exam/assignment grade, or you want to appeal the grading of the exam/assignment, you must turn it in to me within one week of the exam/assignment being graded. I'm happy to look over your appeal and/or questions and give my feedback in order to benefit your learning. But it must be done in this timeframe of a week from when I grade the exam/assignment.
- If you cheat on any homework, quiz or exam, I will automatically give you a zero for that grade. Depending on the severity of the cheating, I may decide to fail you from the class. Also, if you exhibit any other behaviors that are unethical, like offering me a bribe to give you a better grade (even if you later claim you were joking), I will report your behavior to the Dean of Students. Note academic honesty includes sharing content digitally such as exams, quiz solutions, or other material that would normally not be shared physically.

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. 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 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

University Counseling Center [The University Counseling Center \(UCC\)](http://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.

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. You 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, collusion, fraud, theft, etc. Students should read the Code carefully and know you are responsible for the content. 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. <http://regulations.utah.edu/academics/6-400.php>