MATH1132Q –Calculus II

Section 20 (1326) meets online asynchronously

Instructor: Ben Lantz

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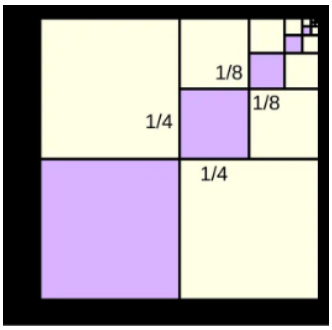
Office: Online via Webex

Office Hours

By Appointment (contact me via email)



Description

Transcendental functions, formal integration, polar coordinates, infinite sequences and series, parametric equations, with applications to the physical sciences and engineering.

Prerequisites

MATH 1131 or advanced placement credit for calculus (a score of 4 or 5 on the Calculus AB exam or a score of 3 on the Calculus BC exam). Recommended preparation: A grade of C- or better in MATH 1131.

Textbook Information

****There are no required course materials.** Lecture notes and videos are provided by the instructor.

Textbook: The optional course textbook is

Calculus: Early Transcendentals, 8th Edition, by James Stewart

OR

Single Variable Calculus: Early Transcendentals, 8th Edition, by James Stewart.

Calculators & Resources

No calculators, websites, books/notes are allowed on quizzes or exams. Use of prohibited materials will result in a zero on the assessment. Some homework will require calculators.

Technology

To participate in this course, you must have reliable internet access (to access all course material) and you must have access to a webcam (for web-based proctoring).

Communication with Students

Announcements and important course information may be sent out via official University (UConn) email or through HuskyCT. It is the student's responsibility to check for messages and announcements regularly. If you are taking this course over the summer from a different university, please be sure to check your UConn email regularly or check the announcements on HuskyCT daily.

Inclusion Statement

I aim to create an inclusive learning environment in which all students are given the appropriate tools to succeed and grow intellectually. To support students with diverse ways of thinking and learning, I have incorporated pedagogical innovations that support various learning styles, means of engagement, and forms of assessment. Together we will form a cohesive community of learners where we will each showcase our strengths, support one another, and discover the beauty and utility of mathematics.

Outline and Course Topics

Unit 1: Integration Techniques

Dates: July 13th → July 22nd

Sections covered:

– 7.0: Integration by U-Substitution & Review

– 7.1: Integration by Parts

– 7.2: Trigonometric Integrals

– 7.3: Trigonometric Substitution

– 7.4: Integration by Partial Fraction Decomposition

– 7.7: Approximate Integration

– 7.8: Improper Integrals

– 6.4: Work

– 8.1: Arc Length

Quiz and HW DUE: Weekly on Sundays at 11:59PM

Exam 1: Wednesday, July 22nd

Unit 2: Sequences and Series

Dates: July 23rd → August 5th

Sections covered:

– 11.1: Sequences

– 11.2: Series

– 11.3: The Integral Test

– 11.4: The Comparison Tests

– 11.5: The Alternating Series Test

– 11.6: The Ratio Test

– 11.7: Choosing a Test

– 11.8: Power Series

– 11.9: Representations of Functions as Power Series

– 11.10: Taylor Series and Maclaurin Series

– 11.11: Applications of Taylor Polynomials

Quiz and HW DUE: Weekly on Sundays at 11:59PM

Exam 2: Wednesday, August 5th

Unit 3: DE's, Polar, and Parametric

Dates: August 6th → August 13th

Sections covered:

– 9.1: Modeling with Differential Equations

– 9.3: Separable Equations

– 10.1: Curves Defined by Parametric Equations

– 10.2: Calculus with Parametric Curves

– 10.3: Polar Coordinates

– 10.4: Area and Length in Polar

Quiz and HW DUE: Weekly on Sundays at 11:59PM, with final batch due on Fri 8/14

Final Exam: Friday, August 14th. **CUMULATIVE

Daily Schedule

I have provided a suggested daily schedule (below) and I highly recommend that you stick to this schedule to avoid falling behind. Due dates for quizzes, HW, and exams are fixed

Week	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1	12-Jul	13-Jul Sec 7.0, 7.1 First Day of Class	14-Jul Sec 7.2	15-Jul Sec 7.3	16-Jul Sec 7.4, Sec 7.7	17-Jul Sec 7.8
2	19-Jul Sec 7.0-7.4 HW/Quizzes Due	20-Jul Sec 6.4, 8.1	21-Jul Unit 1 Review	22-Jul Exam 1	23-Jul Sec 11.1, 11.2	24-Jul Sec 11.3
3	26-Jul Sec 7.7, 7.8, 6.4, 8.1, 11.1, 11.2 HW/Quizzes Due	27-Jul Sec 11.4	28-Jul Sec 11.5	29-Jul Sec 11.6	30-Jul Sec 11.8	31-Jul Sec 11.9
4	2-Aug Sec 11.3-11.6 HW/Quizzes Due	3-Aug Sec 11.10, 11.11	4-Aug Unit 2 Review	5-Aug Exam 2	6-Aug Sec 9.1, 9.3	7-Aug Sec 10.1
5	9-Aug Sec 11.8-11.11, 9.1, 9.3 HW/Quizzes Due	10-Aug Sec 10.2	11-Aug Sec 10.3	12-Aug Sec 10.4	13-Aug Final Exam Review	14-Aug Final Exam Sec 10.1-10.4 HW/Quizzes Due

Grading

Final grades in the course will be computed via one of the following grading breakdowns (whichever yields a higher grade):

Option 1		Option 2	
Exam 1	20%	**Exam 1**	25%
Exam 2	20%	**Exam 2**	25%
Final Exam	20%	**Final Exam**	25%
Quizzes	15%	**Quizzes**	25%
Homework	15%		
Participation	10%		

I will make every effort to provide feedback and grades within 72 hours. To keep track of your performance in the course, refer to My Grades in HuskyCT. Grading Disputes: Any grading disputes must be addressed within one week after an exam or homework has been returned.

Exams

There are 2 unit exams and a cumulative final exam. The tentative dates of these assessments can be seen below:

- EXAM 1: Wednesday, July 22nd. Covers Unit 1.
- EXAM 2: Wednesday, August 5th. Covers Unit 2.
- FINAL EXAM: Friday, August 14th. Cumulative. Covers Units 1, 2, and 3.

Exams consist of multiple choice, fill-in and true/false style questions and are administered using lockdown browser/respondus on HuskyCT. This is a proctoring application that must be downloaded ahead of time and requires use of a webcam and microphone (a requirement for the course). Then your work must be submitted after the exam in order to earn credit (as well as partial credit). Exams will be available to take at your convenience during a 12-hour window on the specified exam day (From 10a-10p EST).

Any academic integrity violation related to an exam will result in a grade of 0 on that exam and a referral to the disciplinary board.

Quizzes

After watching a lecture video, you will be required to complete a “lecture quiz”. The lecture quiz will involve answering questions related to the lecture content. These assignments are due Sunday evening of the week that the lecture video was scheduled, unless otherwise indicated on the schedule. It is important to keep pace with the course content! Quizzes are MC/ TF quizzes that are auto-graded on HuskyCT and proctored using lockdown browser. You are also required to submit your work for the quiz in order to earn credit (and partial credit).

Homework

***Only for Option 1 of Grading.** For each section of the course there will be a set of assigned homework problems (posted on HuskyCT). These problems should be completed and submitted on HuskyCT (through a link to Gradescope) by Sunday night at 11:59pm the week the content was scheduled.

Homework will be graded on a good-faith completion basis. We ask that you fully complete all problems. You can ask for assistance from instructors and peers. You can ask questions in office hours or attend work groups to engage collaboratively with others. We just ask that you do not use online resources.

Participation

***Only for Option 1 of Grading.** Students must interact with their peers and instructors in this course in order to earn points towards their participation grade.

- Students must earn 15 participation points throughout the course of the semester in order to receive full credit for participation. Students can earn at most 1 point per day.
- Ways to Earn Points:

  Students can earn points by actively participating (asking and answering questions) in online drop-in sessions (see the “Calculus Corner” below). Each active participant will earn 1 point per day.

  You can also earn participation points by asking and answering questions on our discussion board hosted on HuskyCT. There will be a daily discussion post from one of our instructors related to the course content for that day. Replying/answering that post will earn you your daily point.

How to Approach the Course

All of the course materials are available on or linked from HuskyCT. This course moves at a very fast pace! You are expected to cover three weeks of material every week of the course. You need to be very careful about keeping up with the material and keep me informed about your progress! Here are some tips on how to succeed.

Course Schedule

I have provided a layout of the course schedule on HuskyCT (main page). This schedule shows which sections are to be covered each day, when optional live sessions are scheduled, when due dates are, and when exams are. Course sections can be covered on different days (since you can access lecture content at anytime), so if you need to adjust that is fine. However, keep in mind that due dates and exam dates are fixed for everyone.

Lecture Notes/ Videos

Each section of the textbook has a set of lecture notes and a video that go with it. These include “shell” notes as well as “completed” notes. You can imagine that the shell notes are essentially a blank framework of what will be covered in the lecture and the completed notes are the final project. To go along with the lecture notes, there is a lecture video that I have prerecorded that goes through all of the concepts from the notes. The lecture video is me completing the notes with you! These videos go through examples of how to solve various problems and they cover the main concepts. You can access notes and videos at your own convenience.

Note: These were prepared by another instructor (Dave McArdle) in the department that I worked with in creating this summer course.

The Calculus Corner

Throughout the week Monday-Friday and on weekends, we will offer virtual Q&A sessions for you to drop in and receive assistance on any questions that you might have related to course content. We would love to help! The schedule is available on HuskyCT.

Discussion Board

You should take advantage of the fact that you are in a class with many other students also working on the same material. You can post questions on our Discussion board (link on HuskytCT) and help one another with the course material.

Additional Information:

Make-up Policy: There will be no make-ups and no extensions for any form of assessment (exams, homework, etc.). Only extreme situations with an officially documented excuse will allow you to make up an assignment. Communication is important, please reach out if there is a situation that emerges.

Academic Integrity: It is in your best interest to maintain your academic integrity. Any form of academic dishonesty undermines the goals of our course and devalues the learning process. Academic dishonesty is a serious offense at UConn and can result in a zero grade on an assessment and/or failure in the course.

Accommodations for Students with Disabilities: The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or http://csd.uconn.edu/.

Change to Syllabus: The information contained in the course syllabus, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Online Learning: UConn has several resources available to help you navigate online learning. You can check out the following links: https://achieve.uconn.edu/online-course/ https://onlinestudent.uconn.edu/keeplearning/