MATH 1720.110 CALCULUS II (Summer 2022)

Instructor Contact

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Course Description

Differentiation and integration of exponential, logarithmic and transcendental functions; integration techniques; indeterminate forms; improper integrals; area and arc length in polar coordinates; infinite series; power series; Taylor's theorem.

Required Text/Materials

The textbook is Stewart, James, *Calculus, 8th* Edition. It is available online through WebAssign platform.

Cengage WebAssign: WebAssign is online course delivery platform accessed directly through Canvas. WebAssign access includes all online homework assignments, the e-text of *Calculus 8th Edition*, by James Stewart, and additional learning resources. Use the link in Canvas to register immediately. You must register in WebAssign by the 2nd class day of the semester. See WebAssign Student Information.

WebAssign grants a no-cost temporary 14-day access. You must purchase your access before the temporary access expires. If you do not make the purchase before trial period ends, you may lose credit for all work previously completed. Again, see WebAssign Student Information for purchase information.

Grading

Homework (WebAssign) – 7%
Quizzes (Recitation) – 14%
Midterm Exams – 54%
Final Exam – 25%

- A: 90-100% (Outstanding, excellent work. The student performs well above the minimum criteria.)
- B: 80-89% (Good, impressive work. The student performs above the minimum criteria.)
- C: 70-79% (Solid, college-level work. The student meets the criteria of the assignment.)
- D: 60-69% (Below average work. The student fails to meet the minimum criteria.)
- F: 59 and below (Sub-par work. The student fails to complete the assignment.)

Late work will not be accepted in this course regardless of the reason.

Course Structure

This course will meet in person 4 times per week for lecture and 5 times per week for recitation. There will be regular homework, 3 midterm exams, and quizzes and/or activities during recitation.

Homework

Each week there will be homework on WebAssign for the sections covered that week. The homework will be due by 11:59 PM on Thursdays. Ideally you should be completing the homework as you go through the module during the week. Since we are on an accelerated schedule here in the Summer, this is even more important. To provide an incentive, you will receive a 5% bonus for any work on homework completed more than 48 hours before the deadline. Keep in mind you will have to check WebAssign frequently to keep up with the due dates, there will not be reminders in Canvas. Your lowest four (4) homework scores will be dropped.

On the homework you will generally have 10 attempts on each question with one important exception.

Quizzes

There will also be a quiz or activity each week in recitation covering the material from the prior week (i.e. over the homework you are submitting that week). Your lowest two (2) quiz scores will be dropped.

Exams

There will be 3 midterm exams administered in person during recitation. There are NO remote/online options for exams.

If you miss an exam, you receive a zero for that exam. There are no make-up exams. However, if the student has a university-excused absence (Links to an external site.)and provides documentation with 48 hours of the missed exam, then the zero will be replaced by the final exam grade (this includes missing an exam due to illness/covid-19). You may ask me to go over exam problems with you. However, all decisions on partial credit are final and not open for discussion.

Recitation

You will receive additional instruction by the TA in your recitation section. The TA will work additional examples (with student input) and answer homework questions or other questions related to the material. The TA will also administer short quizzes or activities on the material. The TA will not repeat full lectures on a topic.

Attendance

Attendance is important and required. In this class, this means looking alive in class and working through the examples in lecture and recitation as we go. It is assumed you will do this. The instructor will not repeat whole lectures or offer personal lessons in office hours or email. These venues are for specific questions / problems.

Course Prerequisites or Other Restrictions

- Officially, the prerequisite is a grade of C or higher in MATH 1710.
- A willingness to put in several hours of work each week to absorb each the material in each module. In math courses, especially this one, the content will build upon itself making it very difficult to catch up if you fall behind

Academic Dishonesty

Cheating will not be tolerated. Any student found cheating will receive no credit on the assignment and a report will be filed with the office of academic integrity.

Course Objectives

Upon successful completion of this course, learners will be able to:

- Compute derivatives and antiderivatives of functions built from the basic transcendental functions.
- Understand and apply exponential models to make predictions.
- Resolve limits in an indeterminate form using L'Hopital's rule in concert with other techniques.
- Apply the integration by parts formula to definite and indefinite integrals.
- Compute definite and indefinite integrals of powers and products of trigonometric functions.
- Apply trigonometric substitution to calculate definite and indefinite integrals.
- Develop a rational function in partial fractions and then find an antidervative.
- Recognize the appropriate integration technique.
- Approximate definite integrals.
- Recognize improper integrals and determine if they converge.
- Apply the techniques for finding limits of functions to sequences.
- Evaluate the sums of geometric and telescoping series.
- Understand and apply an appropriate test to determine series convergence.
- Distinguish to between absolute and conditional convergence.
- Represent functions by power series (including determining radius of convergence).
- Use Taylor polynomials in approximation problems.
- Graph parametric curves and determine the slopes of their tangent lines (including horizontal and vertical tangents).
- Express points and curves in polar coordinates.
- Find tangents to polar curves.
- Determine the area of a region bounded by a polar curve.

Technical Requirements& Skills

Minimum Technology Requirements

- Access to a computer, tablet, or laptop that is compatible with all required apps for the course
- Access to reliable internet
- A scientific or basic graphing calculator (TI-84 or equivalent) is recommended

Technical Skills & Digital Literacy

- Navigate Canvas and WebAssign
- Scan documents and create pdf files (there are several free scanning apps for phones / tablets like Adobe Scan or Office Lens)
- Upload documents to Canvas
- Complete assignments on WebAssign

Getting Help

Technical Assistance

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UIT Help Desk:UIT Student Help Desk site(http://www.unt.edu/helpdesk/index.htm)
Email: helpdesk@unt.edu
Phone: 940-565-2324
In Person: Sage Hall, Room 130
Walk-In Availability: 8am-9pm
Telephone Availability:
- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

Laptop Checkout: 8am-7pm

For additional support, visitCanvas Technical Help (https://community.canvaslms.com/docs/DOC-10554-4212710328)

Student Support Services

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- Student Health and Wellness Center (https://studentaffairs.unt.edu/student-health-and-wellness-center)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- UNT Care Team (https://studentaffairs.unt.edu/care)
- UNT Psychiatric Services (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)
- Individual Counseling (https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling)

Other student support services offered by UNT include

- Registrar (https://registrar.unt.edu/registration)
- Financial Aid (https://financialaid.unt.edu/)
- Student Legal Services (https://studentaffairs.unt.edu/student-legal-services)
- Career Center (https://studentaffairs.unt.edu/career-center)
- Multicultural Center (https://edo.unt.edu/multicultural-center)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- Pride Alliance (https://edo.unt.edu/pridealliance)
- UNT Food Pantry (https://deanofstudents.unt.edu/resources/food-pantry)

Academic Support Services

- [Academic Resource Center](https://clear.unt.edu/canvas/student-resources) (https://clear.unt.edu/canvas/student-resources)
- [Academic Success Center](https://success.unt.edu/asc) (https://success.unt.edu/asc)
- [UNT Libraries](https://library.unt.edu/) (https://library.unt.edu/)
- [Writing Lab](http://writingcenter.unt.edu/) (http://writingcenter.unt.edu/)
- [MathLab](https://math.unt.edu/mathlab) (https://math.unt.edu/mathlab)

UNT Policies

Academic Integrity Policy

Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. [Insert specific sanction or academic penalty for specific academic integrity violation.]

ADA Policy

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the [ODA website](https://disability.unt.edu/)(https://disability.unt.edu/).