MATH 2425: Calculus II
Spring 2016

Instructor: Jeremy Glass

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Office Hours: M/W 11 AM-12:30 PM or by appointment

Section Information: Math 2425-050 (lecture)
Math 2425-051 and 052 (labs)

Time and Place of Class Meetings: M/W 4-5:20 PM, PKH 102 (lecture)
M/W 3-3:50 PM, PKH 311 (lab section 051)
M/W 5:30-6:20 PM, PKH 305 (lab section 052)

Description of Course Content: This course includes applications of integration, techniques of integration, parametric equations, polar coordinates, sequences and series.

Student Learning Outcomes: Upon completion of MATH 2425, the student should be able to:
1. Compute the area between two curves, in both rectangular and polar coordinates; compute volumes and surface areas of solids of revolution, in both rectangular and polar coordinates; compute arc length of both polar and rectangular curves
2. Compute the value of integrals by the methods of integration by parts, trigonometric substitutions and partial fractions
3. Compute the value of improper integrals
4. Compute limits of sequences and series
5. Determine the radius of convergence of power series; differentiate and integrate power series
6. Represent a known function as a Taylor series; approximate a known function with a Taylor polynomial and determine the error involved
7. Justify and explain their steps in problem solving. In particular, students should be able to construct correct and detailed mathematical arguments to justify their claimed solutions to problems.

Textbook*:*
CALCULUS, EARLY TRANSCENDENTALS, (2ND EDITION) BY BRIGGS, COCHRAN, AND GILLETT.

Register for the online homework at uta.mylabsplus.com (follow the link for instructions).
http://tinyurl.com/MLPsteps

Attendance: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have elected to take attendance but will not factor attendance into the grade.

Course Prerequisite: A grade of C or better in Math 1426 (Calculus I) or HONR-SC 1426.

Grading Scale:

90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

Grade Components:

Midterm 1	20%
Friday, February 12, 2016 from 6-8 pm	
Midterm 2	25%
Friday, April 1, 2016 from 6-8 pm	
Final Exam	35%
Saturday, May 7, 2016 from 12:30 - 3 pm	
Homework	5%
Quizzes	5%
Lab Worksheets	10%

Midterms and Finals: These exams are departmental, i.e., all sections of Math 2425 will take the same exam and the grades will have the same weight in each section. All of these exams are comprehensive. Each exam will be a mix of multiple choice problems and show-your-work problems.

Any student who scores below 50 on the final exam cannot receive a grade higher than D in the course.

You can also access the previous midterms and some finals online. Go to:
https://mavspace.uta.edu/xythoswfs/webview/_xy-3749101_1

Make-up Policy: If you have a conflict with either midterm or final, you must contact your instructor no later than Census Date (February 3rd), by using a form provided to you at your request by your instructor & submitting it together with necessary documentation as indicated on the form. If a conflict arises after February 3rd, contact your instructor immediately. **Delays in submitting a make-up request may mean that your request cannot be approved by the course coordinator.**

No make-ups on HW and Labs, except in extreme circumstances (hospitalization, e.g.)

Lab Attendance Policy: Attendance is required. A student will receive no credit for a lab session they do not attend.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering.

Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao/). Any student who drops this course on or before Friday, April 1st at 5 PM will receive a W. *Note that requests must be submitted to an advisor by 4 PM on April 1st.*

Calculators: Calculators allowed for the midterms and final are TI-30XA and TI-30XIIS.

If you wish to use a different calculator, then you must get permission to do so BEFORE an exam. Only nonprogrammable calculators with basic computational features, such as arithmetic and transcendental functions will be allowed. Calculators with the following features are **NOT** allowed: graphing, equation solving, differentiation and integration. Any device that has internet or e-mail capabilities – **this means NO cell phones** - and any device with a QWERTY keyboard are also not permitted.

For labs the same calculators are allowed.

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD).** Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:
The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Student responsibility primarily rests with informing faculty **at the beginning of the semester and in providing authorized documentation through designated administrative channels.**

If you require an accommodation based on disability, I would like to meet with you in the privacy of my office, during the first week of the semester, to make sure you are appropriately accommodated.

Title IX: *The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos. For information regarding Title IX, visit* www.uta.edu/titleIX.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*
>
> *I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

The Math Department operates the **Math Clinic**, a tutoring service staffed by upper level undergraduate students. The Math Clinic is on the 3rd floor of Pickard Hall; the phone number is 817-272-5674; and the hours of operation for fall and spring are

Monday – Thursday	8am to 9pm
Friday	8am to 1pm
Saturday	1pm to 6pm
Sunday	1pm to 9pm

Go to the Math Clinic webpage http://www.uta.edu/math/clinic/ to get more information or to access assignment sheets for the courses for which tutoring is offered.

All previous midterm exams and some previous final exams are available to students in the **Science Education and Career Center (SECC)**, 106 Life Science Building. The fall and spring hours of operation are

Monday-Thursday	8am - 8pm
Friday	8am - 5pm
Saturday	12pm - 5pm
Sunday	Closed

You need a Mav ID Card to check out these exams. A copy machine is available for you to make copies. There are also video tapes of lectures on calculus topics that can be viewed in the SECC. For more information, go to https://www.uta.edu/cos/SECC/login.php.

The Math Department maintains a list of people who have expressed an interest in tutoring. These persons are not necessarily recommended by the Math Department and they set their own fees. You may obtain a copy of the tutor list in the Math Office, 478 PKH.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which are located both left and right when exiting the classroom. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Grade Replacement and Grade Exclusion Policies: These policies are described in detail in the University catalog and can also be founded online at
http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#10
(scroll about half way down the page).

Student Disruption: The University reserves the right to impose disciplinary action for an infraction of University policies. For example, engagement in conduct, alone or with others, intended to obstruct, disrupt, or interfere with, or which in fact obstructs, disrupts, or interferes with, any function or activity sponsored, authorized by or participated in by the University.

Drop for Non-Payment of Tuition: If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.

Important Dates:

February 3	Census Date
	Deadline for makeup requests for <u>all</u> exams
Friday, February 12	Midterm 1, 6 – 8 pm
March 14-19	Spring Break
Friday, April 1	Midterm 2, 6 - 8 pm
	*Last day to drop a class (submit requests to advisors by 4 PM)
Friday, May 6	Last day of classes
Saturday, May 7	Final Exam, 12:30 - 3 pm

Course Schedule.

1/20 7.1: Basic Techniques
7.2: Integration by Parts
1/25 7.3: Trigonometric Integrals
1/27 7.4: Trigonometric Substitution
2/1 7.5: Partial Fractions
7.6: Other Integration Strategies
2/3 7.8: Improper Integrals
2/8 8.1: An Overview
8.2: Sequences
2/10 Concepts and Review

2/12 Midterm 1: 6-8 p.m. (Covers Sections 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.8, 8.1, & 8.2)

2/15 8.3: Infinite Series
2/17 8.4: The Divergence and Integral Tests
2/22 8.5: The Root, Ratio, and Comparison Tests
2/24 8.6: Alternating Series
2/29 Chapter 8 Concepts and Review
3/2 9.1: Approximating Functions with Polynomials
3/7 9.2: Properties of Power Series
3/9 9.3: Taylor Series
3/21 9.3: Continued
3/23 9.4: Working with Taylor Series
3/28 Concepts and Review
3/30 Review

4/1 Midterm 2: 6-8 p.m. (Covers Sections 8.3, 8.4, 8.5, 8.6, 9.1, 9.2, 9.3, 9.4, plus sections from Midterm 1)

4/4 6.3: Volume by Slicing
4/6 6.4: Volume by Shells
4/11 6.5: Length of Curves
4/13 6.6: Surface Area
4/18 6.7: Physical Applications
4/20 10.1: Parametric Equations
4/25 10.2: Polar Coordinates
4/27 10.3: Calculus in Polar Coordinates
5/2 Concepts and Review
5/4 Review

"As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course." – Jeremy Glass.

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381