



Math 1426 – Calculus I – Section 450

Course Instructor

Jeremy Glass

jglass@uta.edu

The instructor will respond to email inquiries within 24-48 hours.

Mentis Faculty Profile: <https://mentis.uta.edu/explore/profile/jeremy-glass>

Office: PKH 435

Office Phone: 817-272-5683

Office Hours: Mon/Wed 10-11 AM, 12:30 PM – 1 PM

Tue/Thurs 10-11 AM, 3:30 – 4 PM

Scheduled Meeting Times and Locations

Lecture: 1426-450, Mon/Wed, 1-2:20 PM, PKH 319

Lab: Section 1426-451, Mon/Wed, 3-3:50PM PKH 305

Section 1426-452, Mon/Wed, 4-4:50PM PKH 321

Textbook and Materials

This course is part of the UTA Mathematics Department Affordability Campaign, making state-of-the-art online mathematics resources available to our students at the lowest possible price when compared to purchasing elsewhere. To receive the discounted price, purchase course materials through the UTA Bookstore. Search by course or use this site: <http://bit.ly/2tQ090S>

1. **E-text and Direct Access (Required):** Your course materials include the e-version of the course text as well as MyLab course access which is designed to enrich student success by providing instant feedback on your assignments plus on-demand access to personalized study plans, a multimedia library, practice tests, and more. The e-texts may be downloaded on multiple devices with long-term access for each student. Every student has trial access to MyLab course materials as soon as the course is available in Blackboard, so you can start working on your course even before you purchase the course materials! That said, students will need a verified purchase within the first two weeks of classes, otherwise, the access to your digital materials will freeze and your account will stay deactivated until the purchase is confirmed. **During the purchasing process, please ensure you enter your name as shown on your UTA records along with your MAVS email address for proper processing.**
2. **Loose-leaf Textbook (Optional):** You may choose to enhance your digital purchase and select a loose-leaf textbook for only \$25 from the [bookstore](#). Full details are available in Blackboard. *Calculus - Early Transcendentals*, 3rd Ed., Briggs, Cochran, Gillett & Schulz, Pearson Ed. Inc., 2019. ISBN: 9780134770512

[BUYING OPTIONS ARE LISTED AT THE UTA BOOKSTORE WEBSITE UNDER MATH 1426]

TEXTBOOK: *CALCULUS, EARLY TRANSCENDENTALS, 3RD EDITION* BY BRIGGS, COCHRAN, AND GILLETT

Students will also have access to the VitalSource eText, which provides many features including offline and 3 year access to the eText. They can download the textbook to their computer, tablet, etc. so that they can read it offline and it stays available to them after the course is over.

Course Catalog Description

Concepts of limit, continuity, differentiation and integration; applications of these concepts.

Student Learning Outcomes

Upon completion of Math 1426, the students will be able to perform various tasks including (but not limited to) those outlined below with algebraic, trigonometric and transcendental functions.

1. Students will be able to compute the limit of various functions without the aid of a calculator.
2. Students will be able to compute the derivatives and differentials of various functions without the aid of a calculator, and interpret certain limits as derivatives. In particular, they will be able to compute derivatives and differentials using differentiation techniques such as chain rule, implicit differentiation and logarithmic differentiation.
3. Students will be able to find the equation of the tangent line to the graph of a function at a point by using the derivative of the function. They will be able to estimate the value of a function at a point using a tangent line near that point.
4. Students will be able to sketch the graphs of functions by finding and using first-order and second-order critical points, extrema, and inflection points.
5. Students will be able to solve word problems involving the rate of change of a quantity or of related quantities. Students will be able to solve optimization problems in the context of real-life situations by using differentiation and critical points of functions. The problem topics include (but are not limited to) population dynamics, finance, physics, biology, chemistry and sociology.
6. Students will compute the area below the graph of a function by using a limit of a Riemann sum and/or by using a definite integral.
7. Students will be able to compute certain antiderivatives using various antidifferentiation techniques such as integration by substitution. They will be able to apply the Fundamental Theorems of Calculus to compute derivatives, antiderivatives, definite integrals and area.
8. Students will be able to justify and explain their steps in problem solving. In particular, students will be able to construct correct and detailed mathematical arguments to justify their claimed solutions to problems.

Attendance Policy

At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. 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 will periodically take attendance during lectures, and students will receive no credit for lab period assignments (e.g. recitation quizzes and problem solving activities) if they are absent from them. A student will receive no credit for a lab session they do not attend. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Grade Components

Assignments and Course Requirements	Percent of Grade
Homework	5%
Quizzes	5%
Lab Activities	10%
Midterm 1 Friday, September 21, 6-8PM	20%
Midterm 2 Friday, October 26, 6-8PM	25%
Departmental Final Exam Saturday, December 8, 12:30-3PM	35%

Grading Scale

Grades will be computed based on the following distribution. Grades are rounded up accordingly.

A: 90 — 100%	B: 80 — 89%	C: 70 — 79%	D: 60 — 69%	F: Below 60%
---------------------	--------------------	--------------------	--------------------	---------------------

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

****Any student who does not take the Final Exam cannot receive a grade higher than F in the course.**

Midterms and Finals

These exams are departmental, i.e., all sections of Math 1426 (except for section 271) 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.

You may access recent previous midterms and some of the finals online. Go to

https://mavspace.uta.edu/xythoswfs/webview/_xy-697804_1.

Solutions to the multiple choice questions are available at

https://mavspace.uta.edu/xythoswfs/webui/_xy-1083634_1-t_jbpAg0IM.

Makeup Policy

NO late homework, quizzes or labs will be accepted, except in extreme, well documented circumstances (hospitalization, car accident, death of immediate family member, etc.) or in the case of a university valid excuse. **Work related excuses will not be considered.**

If you have a conflict with either midterm or final, you must contact your instructor no later than Census Date (Friday, September 7th) 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 **September 7th**, contact your instructor immediately. **Delays in submitting a make-up request may mean that your request cannot be approved by the course coordinator (Mark Krasij, PKH 450).**

Expectations for Out-of-Class Study

Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend an additional 12 hours per week of their own time focused on course-related activities, including reading the textbook, completing assignments, and preparing for exams and quizzes.

Calculator Policy

Students may choose to use a scientific, non-graphing calculator on all assignments including tests and the final exam. Only the following models are approved.

Texas Instruments 30X series: TI-30Xa, TI-30XIIS, TI-30XIIB, TI-30XS(Multiview)

NO PRO OR PLUS MODELS WILL BE ACCEPTED

Drop Policy

If you withdraw from the course for any reason, you must follow University procedures. It is your responsibility to execute these procedures correctly and within the deadlines. **Instructors are unable to drop students**, but we strongly recommend that visit with your instructor before you decide to drop the course. 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. 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, November 2nd at 4 PM will receive a W.

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.

Disabilities 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). Only those students who have officially documented a need for an accommodation will have their request honored. 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. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

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.

Counseling and Psychological Services (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy

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.

Title IX

The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

Academic Integrity

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. This course includes a zero tolerance policy for academic dishonesty and students 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 in their courses by 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. Additional information is available at <https://www.uta.edu/conduct/>.

Students found guilty of cheating may receive a grade of "F" for the course.

"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Series 50101, Section 2.2)

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 <http://www.uta.edu/universitycollege/resources/index.php>.

University Tutorial & Supplemental Instruction, Ransom Hall 205 (UTSI): UTSI offers a variety of academic support services for undergraduate students, including: 60 minute one-on-one tutoring sessions, Start Strong Freshman tutoring program, and Supplemental Instruction. Office hours are Monday-Friday 8:00am-5:00pm. For more information visit www.uta.edu/utsi or call 817-272-2617.

Academic Plaza: The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. <http://library.uta.edu/academic-plaza>.

The IDEAS Center (2nd Floor of Central Library): offers free tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

START STRONG Freshman Tutoring Program: All students enrolled in qualifying courses can receive six FREE hours of tutoring for this course and other selected subjects for this semester.

To sign up, visit UTSI in 205 Ransom Hall/University College, or book your appointment directly using [TutorTrac](#).

Flexible tutoring hours are available from 7:00am – 9:00pm, seven days a week in the Central Library.

All tutors receive extensive training. Find out more at www.uta.edu/startstrong

Math Clinic: 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; for hours of operation see the website. <http://www.uta.edu/math/clinic/>

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>.

Private Tutors: 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.

Maverick Resource Hotline: 817-272-6107

<https://www.uta.edu/universitycollege/resources/resource-hotline.php>

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>.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey

At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are 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 via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week

For semester-long courses, 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, go straight toward the center stairwell or right toward the south stairwell, then down and out the nearest exit. 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. (<https://www.uta.edu/policy/procedure/7-6>).

Students are encouraged to subscribe to the MavAlert system that will send information in case of an emergency to their cell phones or email accounts. Anyone can subscribe at <https://mavalert.uta.edu/> or <https://mavalert.uta.edu/register.php>

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. We further recommend that you enter the UTA Police Department's emergency phone number into your own mobile phone. For non-emergencies, contact the UTA PD at 817-272-3381.

Grade Grievances

Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog. For undergraduate courses including this one, see

<http://catalog.uta.edu/academicregulations/grades/#undergraduatetext>. For student complaints, see

<http://www.uta.edu/deanofstudents/student-complaints/index.php>.

Grade Exclusion and Grade Replacement Policies

These policies are described in detail in the University catalog and can also be found online. Further questions should be directed to your academic advisor and not the instructor of this course.

Important Dates

Date	Event
Wednesday, 8/22	First Day of Classes
Monday, 9/3	Labor Day Holiday
Friday, 9/7	Census Date
Friday, 9/21	Midterm I, 6-8PM
Friday, 10/26	Midterm II, 6-8PM
Friday, 11/2	Last Day to Drop by 4PM
Wednesday, 11/21 - Friday, 11/23	Thanksgiving Holiday
Tuesday, 12/4	Last Day of Classes
Saturday, 12/8	Final Exam, 12:30-3PM

Tentative Course Schedule

The goal is to be done with the given sections in the textbook within the week listed below

Date	Section(s)
Week 1	2.1 Idea of Limits 2.2 Definitions of Limits
Week 2	2.3 Techniques for Computing Limits 2.4 Infinite Limits 2.5 Limits at Infinity
Week 3	2.6 Continuity 3.1 Introduction to Derivatives
Week 4	3.2 Working with Derivatives 3.3 Rules of Differentiation 3.4 Product and Quotient Rules
Week 5	3.5 Derivatives of Trigonometric Functions
9/21	<u>Exam #1</u>
Week 6	3.6 Derivatives as Rates of Change 3.7 Chain Rule
Week 7	3.8 Implicit Differentiation 3.9 Derivatives of Logarithmic and Exponential Functions 3.10 Derivatives of Inverse Trigonometric Functions
Week 8	3.11 Related Rates 4.1 Maxima and Minima 4.2 What Derivatives Tell Us
Week 9	4.3 Graphing Functions 4.4 Optimization Problems
10/26	<u>Exam #2</u>
Week 10	4.5 Linear Approximation and Differentials 4.6 Mean Value Theorem 4.7 L'Hopital's Rule
Week 11	4.9 Antiderivatives 5.1 Approximating Areas Under Curves
Week 12	5.2 Definite Integrals 5.3 Fundamental Theorem of Calculus
Week 13	5.4 Working with Integrals 5.5 Substitution Rule
Week 14	6.1 Velocity and Net Change 6.2 Regions Between Curves
Week 15	7.7 Numerical Integration
12/8	<u>Final Exam</u>

As 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. – J. Glass

Math 1426 Departmental Assignment Sheet

All problems from the text. These are for your own practice and are **not graded**. Assigned and graded problems can be found in MyLab in Blackboard.

<u>Section</u>	<u>Problems</u>
2.1	3,4,9,10,13,15,17,25,26,31
2.2	2,4,5,6,7,9,13,17,18,34,46,53
2.3	5,7,8,9,11,12,13,17,18,21,22,23,25,27,29,31,33,35,37,40,41,45,47,53,57,73,74,75,81,83,89
2.4	5,8,9,17,21,23,26,45,47,50
2.5	4,5,9,11,12,13,17,20,22,31,39,41,43,47,51,53,65,68,71,86
2.6	5,7,11,13,17,19,21,28,29,30,35,39,40,43,45,49,51,57,63,65,69,79,81,86,87,97,99
3.1	11,13,15,17,24,27,29,31,36,37,39,41,44,59,60
3.2	7,8,15,17,18,19,20,35,37,39,45,49,53,54,59
3.3	9,11,12,13,14,19,21,22,23,28,31,33,44,47,49,53,55,63,65,68,72,78,79,80,81
3.4	3,4,5,6,9,11,13,20,21,22,25,27,30,39,40,43,48,56,70,73,78,79,81
3.5	1,5,9,10,12,13,16,17,25,29,31,34,43,44,59,61,72,76,77
3.6	1,6,11,15,19,25,28,29,31,37,40,41
3.7	2,15,17,20,23,24,25,31,32,33,35,39,40,41,44,49,50,53,55,59,61,68,70,71,86,93
3.8	5,7,13,18,19,21,25,31,33,37,46,47,53,61,62,63
3.9	15,16,17,19,23,25,29,31,33,37,39,43,63,73,75,77,79,83,86
3.10	13,19,23,30,32,36,39,47,53,55,59,60
3.11	3,11,15,16,18,19,20,23,26,29,36,41,43,50
4.1	11,13,14,15,17,19,21,23,27,33,43,44,49,51,52,56,65,66,78
4.3	5,7,9,11,19,21,33,40,41,46,47,48,50,51,55,59,61,63,67,77,85,87,96,97,99,103,105
4.4	7,8,11,15,17,19,29,39,41,42,47,56,57
4.5	7,9,11,13,15,16,19,20,21,22,23,25,27,28,37,40
4.6	7,10,25,28,29,30,39,40,41,43,57,61,63,65,69
4.2	3,11,13,15,21,25,26,30,31,39,43
4.7	17,18,21,22,25,29,31,35,37,39,45,51,53,57,62,65,75,77,79,80,82,94,95,97,99,100
4.9	11,15,17,18,19,21,22,25,31,34,35,45,47,51,56,59,69,71,73,77,86,97,99,112,113
5.1	9,11,15,17,23,30,40,44,47,48,49,71,72
5.2	11,28,29,35,37,40,41,43,45,47,49,51,53,55,59,61,65,79,82,83,86
5.3	13,16,17,23,24,29,30,33,34,38,39,41,45,46,47,49,50,52,53,56,59,67,71,73,75,77,78,86,87,93
5.4	13,17,18,23,25,27,29,37,39,43
5.5	7,8,10,17,18,19,20,23,24,36,37,41,43,44,45,46,48,51,55,56,57,69,71,78,79,82,83
6.1	7,15,24,29,35,37,43
6.2	5,7,9,10,15,19,23,28,41,42,43,47
8.8	11,13,19,20,21,22,37,41