

**MATH 1426 - 100: CALCULUS I**  
**2018 Summer First Five Week Session**

**Instructor:** Dr. Hristo Kojouharov

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**Faculty Profile:** <https://www.uta.edu/profiles/hristo-kojouharov>

**Office Hours:** MoTuWe 12:30PM - 1:00PM; or by appointment

**Section Information:** MATH 1426-100

**Time and Place of Class Meetings:**      Lecture: MoTuWeTh 10:30AM - 12:30PM in PKH 319  
    Lab 1426-101: MoWeTh 1:00PM - 2:00PM in PKH 309

**Description of Course Content:** 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.

**Required Textbook and Other Course Materials:** MATH 1426 is part of the Affordable Access Campaign.

Students will have automatic access to their required digital course materials on day one via Blackboard and/or MyLabsPlus and be able to access their course materials even if they haven't purchased them yet. There is no access code! Students have two weeks to purchase their materials through the bookstore (they can buy it elsewhere but it is more expensive) before their access is frozen. To unfreeze the course and keep working, students simply need to make the purchase.

Print options are available through the UTA bookstore and through Pearson directly. Loose-leaf books are only \$20-\$25.

Students will also have access to the VitalSource eText, which provides many features including offline and lifetime 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.

[Buying options are listed at the UTA bookstore website under MATH 1426]

Textbook: *Calculus. Early transcendentals.* - Second edition by Briggs, Cochran, and Gillett

Register for MyLabsPlus at: [www.uta.mylabsplus.com](http://www.uta.mylabsplus.com) Questions about MyLabsPlus? 1-855-875-1797

**Grading Policy:** Grades are based on a lab component (lab activities/quizzes 10%; on-line homework 10%), a midterm exam #1 (20%), a midterm exam #2 (25%), and a final exam (35%).

**Grading Scale:** A = 90+; B = 80-89; C = 70-79; D = 60-69; F = 59-

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels.

**Midterms and Finals:** 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 may access recent previous midterms and some of the finals online at:

[https://mavspace.uta.edu/xythoswfs/webview/\\_xy-697804\\_1](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\\_jbpAqOIM](https://mavspace.uta.edu/xythoswfs/webui/_xy-1083634_1-t_jbpAqOIM)

<b>Calculators:</b> The calculators allowed for exams and lab activities are TI-30XA and TI-30XIIS.
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**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 expect you to attend class regularly. I will not take attendance during lectures, but attendance will be taken at all lab sessions and factored into your Lab grade. 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.

**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. 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://wwwweb.uta.edu/aao/fao/>).

Any student who drops this course on or before Monday, June 25<sup>th</sup> 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.

**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](http://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](http://www.uta.edu/disability).

Counseling and Psychological Services (CAPS) [www.uta.edu/caps/](http://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.

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.

**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](http://uta.edu/eos).*

**Title IX Policy:** 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](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](mailto:jmhood@uta.edu).*

**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. 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)*

**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 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>.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and take an immediate right or left, walk down the hallway toward the corner of the building and descend the stairs. 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.

**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](mailto:resources@uta.edu), or view the information at <http://www.uta.edu/universitycollege/resources/index.php>

#### Important Dates:

Monday, June 4 <sup>th</sup>	First day of class
Thursday, June 7 <sup>th</sup>	Census Date
<b>Thursday, June 14<sup>th</sup></b>	<b>Midterm 1, 10:30am - 12:30pm</b>
Monday, June 25 <sup>th</sup>	Last day to drop a class (by 4 pm)
<b>Thursday, June 28<sup>th</sup></b>	<b>Midterm 2, 10:30am - 12:30pm</b>
Thursday, July 5 <sup>th</sup>	Last day of class
Monday, July 9 <sup>th</sup>	Final Exam, 10:30am - 12:30pm

**Schedule of Lecture Topics:** Topics covered during the semester in MATH 1426 include:

6/04	2.1 Idea of Limits & 2.2 Definitions of Limits
6/05	2.3 Techniques for Computing Limits & 2.4 Infinite Limits
6/06	2.5 Limits at Infinity & 2.6 Continuity
6/07	3.1 Introduction to Derivatives & 3.2 Working with Derivatives
6/11	3.3 Rules of Differentiation & 3.4 Product and Quotient Rules
6/12	3.5 Derivatives of Trigonometric Functions & 3.6 Derivatives as Rates of Change
6/13	3.7 Chain Rule & 3.8 Implicit Differentiation
<u>6/14</u>	<u>Midterm Exam 1</u>
6/18	3.9 Derivatives of Logarithmic and Exponential Functions & 3.10 Derivatives of Inverse Trigonometric Functions
6/19	3.11 Related Rates & 4.1 Maxima and Minima
6/20	4.2 What Derivatives Tell Us
6/21	4.3 Graphing Functions & 4.4 Optimization Problems
6/25	4.5 Linear Approximation and Differentials & 4.6 Mean Value Theorem
6/26	4.7 L'Hopital's Rule & 4.9 Antiderivatives
6/27	5.1 Approximating Areas under Curves & 5.2 Definite Integrals
<u>6/28</u>	<u>Midterm Exam 2</u>
7/02	5.3 Fundamental Theorem of Calculus
7/03	5.4 Working with Integrals & 5.5 Substitution Rule
7/05	6.1 Velocity and Net Change & 6.2 Regions between Curves
<u>7/09</u>	<u>Final Exam</u>

*"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." - Hristo V. Kojouharov.*

**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