NOTE: You cannot receive credit for this course unless you are registered for 1426-004 (81322) and in either 1426-104 (81323), 1426-204 (81324) or 1426-304 (83411).

Please double-check your schedule to make sure that your registration reflects this.

MATHEMATICS 1426, CALCULUS I

Instructor: Dr. J. Epperson
Office: PKH 423
e-mail: epperson@uta.edu
Phones: 817-272-5047 (office);
817-272-3261 (Mathematics Department)
Office Hours: W 1-2; Th 11-11:50 or by appointment
Website: http://www2.uta.edu/math/epperson

Graduate Teaching Assistant: Mr. Justin Ahrens
Office: PKH 436
e-mail: justin.ahrens@mavs.uta.edu
Phones: 817-272-5762 (office);
817-272-3261 (Mathematics Department)
Office Hours: Tuesday 3:30-5:00
Wednesday 3:30-5:00

Class Meetings:
Lecture (1426-004): Tuesdays and Thursdays 9:30-10:50 a.m. in PKH 305
Labs:
(1426-104) Mondays and Wednesdays 11:00-11:50 a.m. in PKH 308
(1426-204) Mondays and Wednesdays 2:00-2:50 p.m. in PKH 308
(1426-304) Mondays and Wednesdays 11:00-11:50 a.m. in PKH 308 &
Tuesdays and Thursdays 2:30-3:50 in PKH 325

Textbook: CALCULUS, EARLY TRANSCENDENTIALS, CUSTOM EDITION FOR UT-ARLINGTON, BY SOO T. TAN
CALCULUS, EARLY TRANSCENDENTALS VOLUME ONE, CUSTOM EDITION FOR UT-ARLINGTON, BY SOO T. TAN
Register** for WebAssign at: http://webassign.net/ Class Key: uta 9649 2961
*The “Volume One” textbook is a cheaper option for those who only take one semester of Calculus.
** If you purchased your book new, you receive an access code for WebAssign. Otherwise, you will need to purchase this.

Course Prerequisite: A grade of C or above in Math 1323 (Precalculus II) or a sufficient score on the Math Aptitude Test or sufficient SAT/ACT math scores.

If at any time you have questions, please do not hesitate to ask.
### Course Goals:
The aim of this course is to develop a conceptually sound understanding of limits, rate, and accumulation.

### Overview:
The course focuses upon the study of functions, graphs, limits, continuity, and differential and integral calculus. Roughly, we will study Chapters 1 through 4 in your textbook.

### Class Format:
The instructor and the GTA will incorporate cooperative learning activities in lecture and lab sections as well as other active learning strategies during the semester. *You are expected to participate fully in these activities.*

You will need to have 8-10 hours available weekly to study outside of class in order to succeed in this course.

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<table>
<thead>
<tr>
<th>UT-Arlington Department of Mathematics Learning Outcomes for M1426</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
<tr>
<td>1. Students will be able to compute the limit of various functions without the aid of a calculator.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Electronic Communication Statement:</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the UT-Arlington undergraduate catalog: E-mail is a prime means for communication. Therefore, the University has the right to send communications to students via e-mail and the right to expect that those communications will be received and read in a timely fashion. The Office of Information Technology (OIT) will assign all students an official University e-mail address. It is to this official address that the University will send e-mail communications. Students are expected to check their official e-mail account on a frequent and consistent basis to stay current with University communications. The University recommends checking e-mail daily in recognition that certain communications may be time-critical.</td>
</tr>
</tbody>
</table>

*If at any time you have questions, please do not hesitate to ask.*
Details About the Course

Grades:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Date</th>
<th>Time</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Exam 1</td>
<td>Friday, September 24, 2010</td>
<td>6:00-8:00 p.m.</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm Exam 2</td>
<td>Friday, October 29, 2008</td>
<td>6:00-8:00 p.m.</td>
<td>25%</td>
</tr>
<tr>
<td>Lab grade</td>
<td>Weekly quizzes</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Lab worksheets</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Final exam</td>
<td>Saturday, December 11, 2010</td>
<td>3:00-5:30 p.m.</td>
<td>35%</td>
</tr>
</tbody>
</table>

Grades will be assigned according to the following scheme (approximately):

- 90–100 A
- 80–89 B
- 70–79 C
- 60–69 D
- 59 or below F

Midterms and Finals:
These exams are departmental. This means that all sections of Math 1426 take the same midterm and final exams and that the grades on these exams have the same weight in each of the sections of calculus regardless of instructor. All of these exams are comprehensive. The format of each exam will be a mix of multiple-choice problems and free-response problems.

The final exam has a grade weight of 35%; however, any student who scores below 50 on the final exam cannot receive a grade higher than a D in the course.

All previous midterm exams and some previous final exams can be accessed online at https://mavspace.uta.edu/xythoswfs/webview/_xy-697804_1. They are also available in the Science Education and Career Center, 106 Life Sciences.

The solutions to the multiple choice questions are available at https://mavspace.uta.edu/xythoswfs/webui/_xy-1083634_1-t_jbpAg0IM

Make-up Policy: If you have a conflict with either midterm or final, you must contact the course coordinator no later than Census Date (September 13), by using a form attached to the coordinator's office door (PKH 448) and submitting it together with necessary documentation as indicated on the form. You may also contact the coordinator by e-mail (krueger@uta.edu) no later than September 13. Do not assume that your e-mail has been received if there is no response from the coordinator. If a conflict arises after September 13, contact the coordinator immediately. Delays in submitting a make-up request may mean that your request cannot be approved.

If at any time you have questions, please do not hesitate to ask.
Drop Policy: The last day this semester to drop a course is November 5th. Any student who drops the course on or before November 5th at 5 p.m. will receive a W. **Students must consult an advisor in their major in order to drop a course.**

Weekly Quizzes:
Suggested homework will be assigned each day. Your homework will not be graded, however you will be given in-class (during lab meetings) and online (via WebAssign) quizzes which assume your having completed and mastered the suggested homework. These quizzes will be graded and cumulatively will count toward your lab section grade (10%). Although attendance is required, on the occasion that you miss a class please see Dr. Epperson’s website http://www2.uta.edu/math/epperson/courses/ for assignments.

Attendance:
Attendance for this course and its associated labs is required. Excellent attendance records as well as positive group evaluations will help your grade in that borderline course-grade decisions will be influenced by these records. It is in your best interest to arrive on time to class (quizzes take place during the first 10 minutes of class and lab homework is due at the beginning of class).

Lab Information:
Again, attendance is required. In the lab, you will:
- have the opportunity to ask for guidance on homework questions;
- take weekly quizzes (except for September 19 and October 22) based upon mastery of the suggested homework assignments—the quizzes are 50% of your lab grade (10% of your total course grade); and
- participate in problem-solving activities from Lab Worksheets and submit group solutions (or individual solutions) to selected problem-solving activities from the Lab Worksheets—this is 50% of your lab grade (10% of your total course grade).

Instructions for solutions submitted:
- Work should be done in pencil and erasures should be clean and complete.
- Problems should be written in order and include the page number and the problem number, i.e. p26 # 5, if appropriate.
- Write on one side of the paper only.
- If you tear the page from a spiral notebook, trim the curly edges.
- Papers must be stapled together (upper left hand corner) and folded in half lengthwise.
- On the outside write your name, date and assigned problems.
- If these guidelines are not followed, your paper will not be graded and you will receive 0 points on that work.

**Calculators:** The only calculators allowed for the midterms and final are TI-30XA and TI-30XIIS.

*If at any time you have questions, please do not hesitate to ask.*
Help Outside of Class Time:
My office hours are given above. These are times when I will be available in my office to discuss the material/homework/tests. No appointment is necessary for those times. If, however, those times are inconvenient for you, then make an appointment with me for another time (e.g., e-mail me stating the times you prefer). *Please use the subject heading “Math 1426 Student Question” when sending Dr. Epperson e-mail and identify yourself (full name) in the communication.*

**Student Support Services Available:** The University of Texas at 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. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit [www.uta.edu/resources](http://www.uta.edu/resources) for more information.

The **Math Clinic**, located in **PKH 314**, is open 7 days a week and is a free service that is funded by your registration fees. You may go there for help, or simply to work and ask for help if the need arises. The phone number for the Math Clinic is 817-272-5674.

Tutoring (at cost) is available at the SOAR Office in Hammond 132 and at the Science Learning Center in Life Science 106. A list of tutors is available from the Math Department Office, but this list is not endorsed by the Math Department.

My web page will list the homework as the term progresses as well as other miscellaneous information pertinent to this course. My web-page address is above.

**Cell Phone, Beeper, & Chiming Watch Etiquette:**
- Cellular phones should be either switched off or set to “silent” mode during all classes.
- Cellular-phone use will not be permitted in class. If you must take an important call, please leave the classroom.
- Cellular phones are prohibited during exams.
- Beepers should be either switched off or set to “silent” mode during all classes and during tests.
- You should assure that watches with alarms and chirps will not sound during class.

Since lecture and lab focus on interpersonal communication, students must request permission to use a laptop during class or lab time.

### Important Dates:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 6</td>
<td>Labor Day Holiday</td>
</tr>
<tr>
<td>September 13</td>
<td>Census Date <strong>Deadline for make-up exam requests for all exams</strong></td>
</tr>
<tr>
<td>September 24</td>
<td>Midterm 1, 6 p.m. to 8 p.m.</td>
</tr>
<tr>
<td>October 29</td>
<td>Midterm 2, 6 p.m. to 8 p.m.</td>
</tr>
<tr>
<td>November 5</td>
<td>Official last day to drop by 5 p.m.</td>
</tr>
<tr>
<td>November 25-26</td>
<td>Thanksgiving Holidays</td>
</tr>
<tr>
<td>December 10</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>December 11</td>
<td>Final Exam, 3 p.m. to 5:30 p.m.</td>
</tr>
<tr>
<td>December 22</td>
<td>Grades expected to be available in MyMav by noon</td>
</tr>
</tbody>
</table>

*If at any time you have questions, please do not hesitate to ask.*
Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 93112 - The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide "reasonable accommodation" to students with disabilities, so as not to discriminate on the basis of that disability. 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.

Academic Dishonesty: 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. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

"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, Part One, Chapter IV, Section 3, Subsection 3.2, Subdivision 3.22)

Grade Replacement and Grade Exclusion Policies: These policies are described in detail in the University catalog and can also be founded online at http://www3.uta.edu/catalog/content/general/academic_regulations.aspx#10 (scroll a little more than 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.