NOTE: You cannot receive credit for this course unless you are registered for 1426-027 (86144) and in either 1426-028 (86145) or 1426-029 (86146).

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

MATHEMATICS 1426, CALCULUS I

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>Dr. J. Epperson</th>
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<tbody>
<tr>
<td>Office:</td>
<td>PKH 424</td>
</tr>
<tr>
<td>e-mail:</td>
<td><a href="mailto:epperson@uta.edu">epperson@uta.edu</a></td>
</tr>
<tr>
<td>Phones:</td>
<td>817-272-5047 (office); 817-272-3261 (Mathematics Department)</td>
</tr>
<tr>
<td>Office Hours:</td>
<td>W 1-2; Th 11-11:50 or by appointment</td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www2.uta.edu/math/epperson">http://www2.uta.edu/math/epperson</a></td>
</tr>
</tbody>
</table>

| Graduate Teaching Assistant: | Mr. Steven Teng |
| Office: | PKH 432 |
| e-mail: | steven.teng@uta.edu |
| Phones: | 817-272-0613 (office); 817-272-3261 (Mathematics Department) |
| Office Hours: | T & Th 4-5 or by appointment |

Class Meetings: Lecture (1426-027): Tuesdays and Thursdays 9:30-10:50 a.m. in PKH 321

Labs:
(1426-028) Mondays and Wednesdays 11:00-11:50 a.m. in PKH 308 (Alternate Room: PKH 327)
(1426-029) Mondays and Wednesdays 2:00-2:50 p.m. in PKH 308 (Alternate Room PKH 327)

Textbook: THOMAS' CALCULUS, EARLY TRANSCENDENTALS 11TH EDITION
Register for MyMathLab at: www.coursecompass.com Course ID: epperson05003

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. In particular, we will study Chapters 1 through 5 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.

If at any time you have questions, please do not hesitate to ask.
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.

Details About the Course

Grades:

<table>
<thead>
<tr>
<th>Midterm Exam 1</th>
<th>Friday, September 28, 2007 6:00-8:00 p.m.</th>
<th>20%</th>
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<tbody>
<tr>
<td>Midterm Exam 2</td>
<td>Friday, November 2, 2007 6:00-8:00 p.m.</td>
<td>25%</td>
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<tr>
<td>Lab grade</td>
<td>Weekly quizzes</td>
<td>10%</td>
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<td></td>
<td>Lab worksheets</td>
<td>10%</td>
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<tr>
<td>Final examination</td>
<td>Saturday, December 8, 2007 3:00-5:30 p.m.</td>
<td>35%</td>
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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

If at any time you have questions, please do not hesitate to ask.
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 approximately half multiple-choice problems and half 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.**

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 12), 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 12. Do not assume that you e-mail has been received if there is no response from the coordinator. If a conflict arises after September 12, contact the coordinator immediately. **Delays in submitting a make-up request may mean that your request cannot be approved.**

Drop Policy: The last day this semester to drop a course is November 2. Any student who drops the course on or before November 2 will receive a W. **Students must contact 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) or online 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 (50% or 10% of your total course grade). 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/](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 26 and October 31) 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:
On the midterms and final, you will be allowed to use nonprogrammable calculators with basic computational features, such as arithmetic and transcendental functions. Calculators with the following features are NOT allowed: graphing, equation solving, differentiation and integration. Any device that has internet or e-mail capabilities – this includes cell phones - and any device with a QWERTY keyboard are also not permitted. There are many such inexpensive (less than $20) calculators available, both at the UTA bookstore and at local retail outlets. Two that are recommended are TI-30XA and TI-30XIIS; the latter is on the current list of calculators allowed for the professional engineering exams.

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).

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.

If at any time you have questions, please do not hesitate to ask.
The University reserves the right to impose disciplinary action for any kind of infraction of University policies. Engagement in conduct which disrupts, obstructs or interferes with activities authorized by the University will result in disciplinary action against the perpetrator(s). Such action includes leaving and returning to the room frequently.

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<th>Important Dates:</th>
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<tr>
<td>September 12</td>
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<td>September 28</td>
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<td>November 2</td>
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<td>November 22-25</td>
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<td>December 7</td>
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<td>December 8 (Saturday)</td>
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**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.

**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://www.uta.edu/catalog/general/academicreg

The deadline for filing a grade replacement request is Census Date, September 12.

**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.

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