MATH 1426-003 (Calculus I)  
Spring 2011 Course Syllabus

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Lecture: M/W 1:00–2:20 p.m. in 309 PKH  
Lab (section 103): T/Th 1:00–1:50 p.m. in 325 PKH  
Lab (section 203): T/Th 2:00–2:50 p.m. in 304 PKH

Office Hours: M/W 12:00–1:00 p.m. & by appt.

Course Prerequisite  
A grade of C or better in MATH 1323, a passing score on the MAT, or a sufficient math score on the ACT/SAT

Required Materials

- Calculus I only: *Calculus: Early Transcendentals, Volume 1 (UTA edition)*, by S. Tan

Suggested Materials

- Approved scientific calculator: TI-30XA or TI-30XIIS

Course Objectives

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

- Students will be able to compute the limit of various functions without the aid of a calculator.
- 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.
- 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 a function. They will be able to estimate the value of a function at a point by using a tangent line near that point.
- 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.
- 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 problems topics will include (but are not limited to) population dynamics, finance, physics, biology, chemistry, and sociology.
- 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.
- Students will be able to compute certain antiderivatives using various antidifferentiation techniques such as integration and substitution. They will be able to apply the Fundamental Theorem of Calculus to compute derivatives, antiderivatives, definite integrals, and area.
- 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.

Grading

Final course grades will be determined by the following breakdown.

- **Midterm #1** (20%) – Friday, February 11, 2011 from 6–8 p.m.
- **Midterm #2** (25%) – Friday, March 25, 2011 from 6–8 p.m.
- **Final Exam** (35%) – Saturday, May 7, 2011 from 3–5:30 p.m.
- **Lab** (20%) – This grade will be composed of a problem-solving component (10%) and a quiz component (10%); both activities will be administered during lab. Quiz problems will be randomly chosen from the course assignment sheet.
As usual, the overall course grade will be determined as follows: $F < 60; 60 \leq D < 70; 70 \leq C < 80; 80 \leq B < 90; 90 \leq A$. However, any student who scores below 50 on the final exam cannot receive a grade higher than a D in the course.

**Midterms & Final Exams**

These exams are departmental; i.e., all sections of MATH 1426 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. Only the approved scientific calculators will be permitted during exams.

**Exam Make-up Policy**

If you have a conflict with either midterm or the final, you must contact the course coordinator no later than Census Date (February 2) by using a form attached to the coordinator’s office door (448 PKH) and submitting it together with necessary documentation as indicated on the form. You may also contact the coordinator by email (krueger@uta.edu) no later than Census Date. Do not assume that your email has been received if there is no response from the coordinator. If a conflict arises after Census Date, contact the coordinator immediately. Delays in submitting a make-up request may mean that your request cannot be approved.

**Lab Attendance Policy**

Lab attendance is mandatory. Problem solving activities will not be accepted for grading from any student who is absent during the respective lab. Furthermore, any student who is more than five minutes late to lab on problem solving days will receive a 10-point deduction from their activity grade. Quizzes will be administered in lab on recitation days. Make-up quizzes will not be allowed. Only the approved scientific calculators will be permitted during quizzes.

**Cell phone policy**

Cell phones and pagers must be off or silent during class. Use of cell phones is not permitted in the classroom.

**E-Culture Policy**

Email is a prime means for communication. Therefore, the University has the right to send communications to students via email 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 email address. It is to this official address that the University will send email communications. Students are expected to check their official email account on a frequent and consistent basis to stay current with University communications. The University recommends checking email daily in recognition that certain communications may be time-critical.

**Drop Policy**

Any student who drops the course on or before Friday, April 1, 2011 at 5 p.m. will receive a grade of W. Students must consult with their major advisor to drop a course.

**Student Support Services**

The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at (817)272-6101 for more information and appropriate referrals.

- The Math Department operates the Math Clinic, located in 314 PKH, which is a tutoring service staffed by upper level undergraduate students. When you registered for this course, you were assessed a fee which allows you unlimited access to the Math Clinic. You will need to show your Mav ID to use the Math Clinic. There are tables where you may study on your own or quietly with other students. Each table has a flag which you can raise to indicate that you need help from a tutor. The Math Clinic webpage is located at http://www.uta.edu/math/clinic, and has more information and available hours.
- The SOAR program is an academic support program that provides tutoring, counseling, seminars, graduate school preparation, course reviews, study groups, and other support services by trained staff dedicated to helping UT Arlington students reach their full academic potential. Go to http://www.uta.edu/soar for more details.
- All previous midterm exams and some previous final exams are available to students in the Science Education and Career Center (SECC), located in 106 LS. You need a Mav ID to check out these items. 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.

- You may access recent previous midterm exams and some of the final exams online. Go to
  https://mavspace.uta.edu/xythoswfs/webview/_xy-697804_1. Solutions to the multiple choice problems are available at
  https://mavspace.uta.edu/xythowfs/webui/_xy-1083634_t_jbpAg0IM.
- The Math Department maintains a list of people who have expressed 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 from the Math
  Department, located in 478 PKH.
- Your instructor will have regular office hours when you can stop by and ask questions. A graduate teaching assistant will be
  assigned to the course; he/she will also have regular office hours. Those hours will be listed on the class syllabus or you can
  contact the Math Department at (817)272-3261 to find out your instructor and/or GTA’s office hours.

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 92-112 – The Rehabilitation Act of 1973 as amended. With the passage of 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 accommodations” to students with disabilities, so as not to discriminate on the basis of that disability. Student
responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation
through designated administrative channels. Information regarding specific diagnostic criteria and policies for obtaining academic
accommodations can be found at www.uta.edu/disability. Also, you may visit the Office for Students with Disabilities in room 102 of
University Hall or call them at (817)272-3364. 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, Series 50101, Section 2.2)

Grade Replacement & Grade Exclusion Policies
These policies are described in detail in the University catalog and can also be found online at
http://www3.uta.edu/catalog/content/general/academic_regulations.aspx#10.

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.