

Classroom: Lecture MW 2:00-3:20 pm in PKH 305
 Lab MW 3:30-4:20 pm in PKH 305/8 or in pc lab = PKH 315.

Office etc: PKH 462, 817-272-3932, vancliff@uta.edu

Web page: <http://www.uta.edu/math/vancliff/T/F08>

My Office Hours: Mon & Wed 4:30-5:20 pm in PKH 462, or by appointment

GTA: Daoying (Helen) Lin, PKH 486 (817-272-0944), daoying.lin@mavs.uta.edu

GTA Office Hours: Mon & Wed 1:00-1:50 pm in PKH 486, or by appointment.

Textbook: Thomas' Calculus, Early Transcendentals, 11th Ed., Media Upgrade, Addison-Wesley (required).

Textbook website: <http://www.coursecompass.com> Course ID: vancliff69416 (you will need access code (with new book) in capital letters or pay for access when registering).

Calculator: on tests/quizzes, 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 & integration; any device that has internet or e-mail capabilities – this includes cell phones – and any devices with a QWERTY keyboard are also not permitted (use of such a calculator on a test/quiz will disqualify that test/quiz). Recommended calculators are TI-30XA or TI-30XIIS; the latter is on the current list of calculators allowed for the professional engineering exams.

Tests:

- a short quiz on most Wednesdays in lab;
- 3 comprehensive tests on Wed Sept 17 (30 minutes), Wed Oct 15 (50 minutes), Wed Nov 19 (30 minutes);
- one 2.5-hour comprehensive **Final** examination on Sat Dec 6, 3:00-5:30 pm (room to be announced).

Bring photo ID to all tests. Make a note of these dates!!

Weighting: graded assignments (including an essay on 4 mathematicians) = 15% total, Quizzes = 15% total, Test 1 = 10%, Test 2 = 20%, Test 3 = 10%, Final = 30%.

Your lowest 3 quiz grades will NOT be used to compute your course grade.

Not passing the Final exam will prevent you from earning a grade of C or higher in the course.

Attendance and participation are also considered in computing your course grade (e.g., if a student's grade is borderline between one grade and another). Attendance will be recorded from approximately Sept 3 onwards. Most of the assignments will be graded by the GTA; the tests & quizzes will be graded by myself and/or the GTA.

Important Dates: Mon Sept 1 = Labor Day (UTA holiday),
 Wed Sept 10 = Census Date,
 Fri Oct 31 = last day to drop course with W (see page 4),
 Nov 27-30 = Thanksgiving holiday,
 Wed Dec 3 = last class,
 test dates given above.

EXPECTED LEARNING OUTCOMES

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

1. compute the limit of various functions without the aid of a calculator;
2. compute derivatives and differentials of various functions without the aid of a calculator, and interpret certain limits as derivatives; compute derivatives and differentials using differentiation techniques such as chain rule, implicit differentiation and logarithmic differentiation;
3. find the equation of the tangent line to the graph of a function at a point by using the derivative of the function, and estimate the value of a function at a point using a tangent line near that point;
4. sketch the graphs of functions by finding, and using, first-order and second-order critical points, extrema, and inflection points;
5. solve word problems involving the rate of change of a quantity or of related quantities, 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, and
7. compute certain antiderivatives using various antidifferentiation techniques such as integration by substitution, and 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.

In addition, students will be able to describe a brief biography of some mathematicians.

COURSE STRUCTURE

The main goal of this course is to teach you about rates of change in many guises and to enable you to develop problem-solving skills (see above). We will cover most of Chapters 2-5. I will assign reading from the book to do at home. There will be a lot of homework assigned, including some essay-style questions. It is highly possible that questions from the homework or from the assignments could appear on the tests/quizzes.

In most Monday labs, you will be given a worksheet or a computer assignment. In most Wednesday labs, you will be given a short quiz and the rest of the time will be available for you to ask questions of the GTA. Conceivably, there could be a few weeks in which the schedule will vary from that described here.

HELP OUTSIDE CLASS TIME

My office hours & the GTA's office hours are given above. These are times when we will be available 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 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. You may go there for help, or simply to work and ask for help if the need arises. You have already paid a fee for the Math Clinic. Please avoid using cellular phones in the Math Clinic, as their use is distracting to the other students present.

The textbook's website (given above) contains some solutions and sample tests and sample exercises. The website is interactive in that you can ask it to help you solve exercises and it will. The website also

contains the textbook and videos and animations that accompany the book. The textbook also has live math help available by phone at 888-777-0463 & at 800-435-4084 Sunday-Thurs 4-11 pm (need course ID and student access code).

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 semester progresses as well as other miscellaneous information pertinent to this course. My web-page address is above.

HOW TO DO WELL IN THIS COURSE

The best way to guarantee a good grade in this course is to take good lecture notes and to read them over after class, and to do ALL the assignments on a regular basis (this is your *brain exercise!*) and to discuss the material with each other. After completing any one assignment, put together a list of the ideas you have learned in doing that assignment; keep your list as help when you study for the tests. Follow the study techniques that will be described to you on the worksheets. Use all the resources available to you: instructor, GTA, textbook, textbook's website, math clinic, etc as described above. **You are expected to spend at least 8 hours/week on this course outside class time.**

DISABILITY ACCOMMODATIONS

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 the Americans with Disabilities Act (ADA), pursuant to Section 504 of the Rehabilitation Act, there is renewed focus on providing this portion of the population with the same opportunities enjoyed by all US citizens. In particular, students in this situation who desire accommodation should notify me informally this week, and notify the Disabilities Office as soon as possible with official authorized documentation; the Disabilities Office will give you documentation that will authorize me to provide accommodation and inform me of the nature of the accommodation.

EXAMINATION PROTOCOL

If you have a conflict with a test or the Final, or if you miss a test (not quiz) or the Final, you should contact me as soon as possible (in person, or by phone (leave a message on the machine if no one answers) or by e-mail). If you miss a test or the Final for an authorized reason which can be verified with official documentation (e.g., hospitalization), then a make-up test will be considered. An alternative to a make-up test is to have the next equivalent test count for itself and the missed test. Students who miss tests due to UNauthorized reasons will NOT be accommodated. Note that up to 3 missed quizzes (even for authorized reasons) will not be accommodated, but will count as one of the 3 lowest grades that are not computed towards your course grade. If you miss more than 3 quizzes, official documentation validating authorized reasons for missing ALL the missed quizzes must be presented for any accommodation to be considered.

DISTRACTION IN THE 21ST CENTURY!!

Cellular phones should be SWITCHED OFF during all classes & all tests. Cellular-phone use is not permitted in class. If you NEED to use your cellular phone for an URGENT reason during class, you may leave the room to talk & return to class when you are done. If you leave class for a nonurgent reason, the class & I prefer that you do not return, & I will subtract your name from the attendance sheet. During tests, your cellular phone should be out of sight. If you need to use your cellular phone for any reason during a test, then you may leave the room to talk, but **you will not be able to continue the test.**

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.

SCHOLARLY 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. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline includes suspension or expulsion from the University and a grade of FAIL in the class given to involved student(s). Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22 of the Regents' Rules and Regulations states the following. "Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or material 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".

Photo-ID is REQUIRED at all tests. The University has informed all its faculty that steps should be taken to discourage cheating on tests. As such I will uphold the following during the tests:

- if you wish to leave the room during a test, you should ask permission first and turn in your test to me — only in exceptional circumstances will I let you continue the test should you return (so it is better to be 3 minutes late to the test, rather than ask to go to the restroom during the test);
- if you finish a test early but prefer to stay in the room, then you should NOT get out any work, book nor item, no matter what the subject matter is.

Remember, in any test, keep your eyes on your own work only.

DROP POLICY

The last day this semester to drop a course is Oct 31. Any student who drops the course on or before Oct 31 will receive a W. **Students must contact an advisor in their major in order to drop a course.**

TUITION NONPAYMENT

If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.

GRADE-REPLACEMENT & GRADE EXCLUSION POLICIES

These policies are described in detail in the University catalog and can also be found online at <http://www.uta.edu/catalog/general/academicreg>. The deadline for filing a grade replacement request is Census Date, Sept 10.

Initial homework:

08/25 Do pg 62/3: 1, 2, 4, 19, 21, 25, 29-32. Do pg 64/5: 4, 16, 21, 27.

Submit above on Aug 27.

Read lecture notes and read Sec 2.1 (textbook's website has videos)

Do Sec 2.1: 30, 32, 36(a) & finish Worksheet 0.

Submit Sec 2.1 (not Worksheet 0) on Sept 3.

08/27 Do Sec 2.1: 1-4, 9, 10, 12, 16-18, 36(b) & finish Worksheet 1.

Submit Sec 2.1 & Worksheet 1 on Sept 3. Read lecture notes.

09/01 Labor Day (UTA Holiday)

Quiz 1 on Wed 9/3: college algebra, functional notation and Sec 2.1.