SYLLABUS

UT Arlington, MATH 2326, Cal III, Fall 2014

**Instructor Information**

**Instructor:** Q Mark Adams, MD, MBA, MS, BS ChE

**Email:** [qadams@uta.edu](mailto:qadams@uta.edu)

**Faculty Profile:** <https://www.uta.edu/profiles/quentin-adams>

**Office:** PKH 442

**Office Hours:** M & W, 8:20-9:20 PM (after class). I will stay as long as students are still in the classroom with questions.

**Office phone:** Please leave messages with Math Dept. office or contact my office by phone at 817-849-8490. However, email is the preferred means of communication.

**Course Description**

**Course Name:** MATH 2326, Calculus III

**Section Number:** Section 004

**Course Location:** PKH, Room 319

**Course Meeting Times:** MW 7:00-8:20 PM

**Prerequisites:** C or better in MATH 2425

**Required Text:** Calculus, Early Transcendentals, Custom Edition for the University of Texas at Arlington by Soo T. Tan

**Additional Texts: (not required)** div, grad, curl and all that, an informal text on vector calculus, fourth edition, by h. m. schey and Multivariable CALCULUS, 8th edition, by Larson, Hostetler and Edwards

**Course Content:** Vector functions, motion in the plane and space, functions of two or more variables and their partial derivatives, applications of partial derivatives, Lagrange multipliers, multiple integration, Jacobian (change of variables), vector fields, divergence and curl, line integrals, conservative vector fields, Green’s Theorem, surface integrals, Divergence Theorem and Stokes’ Theorem.

**Learning Objectives**

1. Students will be able to use and understand the concepts of continuity, differentiation and integration of vector-valued functions to determine unit tangent and unit normal vectors in three dimensions. Students will also be able to parameterize piecewise-smooth curves and compute curvature of a space curve.
2. Students will be able to compute and sketch level curves and level surfaces for multivariable functions and sketch the graphs of functions of two variables. Analyzing limits, determining continuity and computation of partial derivatives is also expected. Understanding and use of the Chain Rule for multivariable functions will be required. Students will also be expected to use tangent planes, directional derivatives, gradients, the second partials test and Lagrange multipliers to solve optimization problems.
3. Students must also be able to demonstrate techniques of multiple- integration and compute iterated integrals over rectangular and non-rectangular regions, as well as in other coordinate systems, including cylindrical and spherical. Application of multiple integrals in problems involving area, volume, surface area, center of mass, moments of inertia, etc. will also be expected.
4. Students will also be expected to understand and compute line and surface integrals by application of The Fundamental Theorem for line integrals, Green’s Theorem, Stokes’ Theorem and the Divergence Theorem. It is also hoped that the student will come to understand the physical interpretation of these theorems, and the potential applications in various fields of study.

**Calculator Policy**

Calculators will be allowed on quizzes and exams, but must be either TI-30XA or TI-30XIIS. **No exceptions!**

**Notecard Policy**

One 3”x5” notecard, front and back, will be allowed on midterms and the final examination.

**Attendance/Classroom Policy**

Attendance is highly recommended. Please be on time, as late arrivals are distracting. You are responsible for all announcements made in class and for any material missed during your absence.

**Homework**

Homework assignments will not be taken up or graded. You are responsible for completing all assigned homework in a timely fashion, checking it for correctness and bringing questions to my attention before or after class or by email. A suggested homework assignment sheet will be provided as a separate handout during the first night of class.

**Quizzes**

Quizzes will be given often during the semester, and will be unannounced. The lowest quiz score will be dropped. Missed quizzes will not be made up.

**Exams**

Students are expected to review all quizzes, homework assignments, textbook reading, class lecture notes and prior exams before taking an examination. All exams are cumulative. If you have a documented conflict with either midterm or the final examination, you must contact me no later than the Census Date, **in writing and by email**. You will be asked to present a UTA picture ID at all exams. Bring your UTA picture ID to all exams. No ID, no exam. There will be two, in-class midterm exams and a departmental final exam. The course schedule will include:

Midterm I: sections 11.1, 11.2, 11.3, 10.6, 12.1-12.5

Midterm II: sections 12.6-12.9, 13.1-13.6

Final exam: (cumulative) sections 10.7, 13.7, 13.8, 14.1-14.5, 14.7-14.9

**Grading Components**

* Quiz average is 20% of final grade
* Midterm I is 25% of final grade
* Midterm II is 25% of final grade
* Final exam is 30% of final grade

**Grading Scale**

* Cumulative average >= 90%, A
* Cumulative average >= 80%, at least a B
* Cumulative average >= 70%, at least a C
* Cumulative average >= 60%, at least a D

**Drop Policy**

Any student dropping this course on or before the Drop Date will receive a W. Students must contact an advisor in their major to drop a course. Students will not automatically be dropped for non-attendance.

**Student Information**

**Email:** Each student should have an activated MyMav account and check it regularly during the semester. You are responsible for all the information or announcements that I may send to your MyMav account. The University will send all email communications to this address. Please check your email on a frequent and consistent basis. It is suggested that email be checked daily, as some information may be time-critical.

**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>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:**  Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. 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:** 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 <http://www.uta.edu/resources> for more information. Math Clinic tutoring is available, and is located on the 3rd floor of PKH. You will be asked to show a UTA ID to make use of this resource.

**Americans with Disability 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 my 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). Students enrolled in UT Arlington courses are expected to adhere to the UT Arlington Honor Code: *I pledge, on my honor, to uphold UT Arlington’s 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, Section 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.

**Grade Replacement and Grade Exclusion Policies:** These policies are described in detail in the University catalog and can also be found online at <http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx>. The deadline for filing a grade replacement request is the Census Date.

**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. Please silent cell phones during class time.

**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.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law “Title IX” such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/TitleIX](http://www.uta.edu/TitleIX).

**Advice for Success in MATH 2326**

1. Attend and participate in every class. Regular attendance will help you in learning the concepts and preparing for quizzes and exams.
2. To do well in the course, most students will need to spend a minimum of 12 hours per week studying, reviewing class notes, reading the textbook, and working on homework.
3. Discuss concepts and homework regularly with your classmates and homework teams, and come to office hours to ask questions that come up as you study and complete your homework assignments.
4. Expect to have material covered at two to three times the pace of high school, associated with a greater command of the material. You will be expected to apply what you learn to new situations.
5. Lecture time is at a premium, so it must be used efficiently. Not everything can be taught in the classroom. It is your responsibility to learn the material.
6. The instructor’s job is primarily to provide a framework, with some of the particulars, to guide you in doing your learning of the concepts and methods that comprise the material of the course. It is not to program you with isolated facts and problem types, nor to monitor your progress.
7. You are expected to read the textbook for comprehension. It gives the detailed account of the material of the course. It also contains many examples of problems worked out, and these should be used to supplement those you see in the lecture. The textbook is not a novel, so the reading must often be slow-going and careful. However, there is the clear advantage that you can read it at your own pace. Use pencil and paper to work through the material and to fill in omitted steps.
8. Think about mathematics when you are doing things such as walking or eating. Good thinking can be done while doing something relaxing.
9. If you cannot put in enough hours per week outside of class or if TV, friends, work, etc. are taking away your needed study time, then change something now so that you will be able to do well in the class. Discuss mathematics with other students, as this will help you use your time more efficiently.

**Emergency Phone Numbers:** In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone) or 2-3003 (campus phone). You may also dial 911.

**Important Dates**

Aug. 21, 2014: First Day of Classes

Sep. 8, 2014: Census Date

Sep. 8, 2014: **Deadline for makeup exam requests for all exams and for all Disability Accommodation Requests**

Sep. 22, 2014: (Wed) Midterm I **(tentative)** to cover thru section 12.5

Oct. 22, 2014: (Wed) Midterm 2 (**tentative)** to cover thru section 13.6

Oct. 29, 2014: (Wednesday) Last day to drop-submit requests to advisor prior to 4:00 pm

Nov. 27-28, 2014: Thanksgiving Holidays

Dec. 3, 2014: (Wednesday) Last Day of Classes

Dec. 6, 2014: (Saturday) Final Exam, cumulative

**NOTE: We have 30 lecture nights to work with this semester. There are 30 lecture topics, several not requiring a full night’s lecture. There are two midterms, each is given during class time (unlike Cal I and Cal II), resulting in only 28 actual lecture nights. The Thanksgiving Holiday break does not impact our schedule. There is no TA, nor lab for this course.**

**Special thanks to David Smith for portions of the syllabus content.**