

MATH 2425, CALCULUS II, SECTION 400, FALL 2015  
SYLLABUS

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

**Office:** Pickard Hall 321/442

**Office Phone:** 817-272-3261 (math dept.)

**E-mail:** [qadams@uta.edu](mailto:qadams@uta.edu)

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

**Office hours:** Tu and Th, 8:20-9:20 PM (following lecture, in classroom)

**Section Information:** MATH 2425, Calculus II, Section 400 (Lab 2425-401)

**Time and place of class meetings:**

Lecture:

TuTh, 7:00-8:20 PM, PKH 319

Lab:

TuTh, 6:00-6:50 PM, PKH 309

**Lab Instructor (TA):**

Ting Luo

[tingluo@uta.edu](mailto:tingluo@uta.edu)

Office: PKH 409

Office Hours: MoWe 11:00-12:00

Phone: 817-272-3246

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. 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. Information about activating and using MavMail is available at

<http://www.uta.edu/oit/cs/email/mavmail.php>.

**Course Content and Prerequisite:** Applications of integration (area and volume), techniques of integration, parametric equations, polar coordinates, sequences, series, vectors, dot and cross products, planes and quadric surfaces. Prerequisite: C or better in MATH 1426 or HONR-SC 1426 (Calculus I).

**Student Learning Outcomes:** Upon completion of MATH 2425, the student should be able to:

1. Compute the area between two curves, in both rectangular and polar coordinates; compute volumes and surface areas of solids of revolution, in both rectangular and polar coordinates; compute arc length of both polar and rectangular curves
2. Compute the value of integrals by the methods of integration by parts, trigonometric substitutions and partial fractions
3. Compute the value of improper integrals
4. Compute limits of sequences and series
5. Determine the radius of convergence of power series; differentiate and integrate power series
6. Represent a known function as a Taylor series; approximate a known function with a Taylor polynomial and determine the error involved
7. Compute the standard representation of a vector in 3-space, compute the dot product and cross product of vectors
8. Write equations of lines, planes and quadric surfaces in 3-space
9. Justify and explain their steps in problem solving. In particular, students should be able to construct correct and detailed mathematical arguments to justify their claimed solutions to problems.

**Required Textbook, Supplies, and Electronic Access:** *Calculus: Early Transcendentals*, Custom Edition for the University of Texas at Arlington, by Soo T. Tan; **with WebAssign (required)**. You must bring a scantron to all tests. On the midterms and final, you will be permitted to use only the TI-30XA or TI-30XIIS, the latter is on the current list of calculators allowed for the professional engineering exams.

**Description of Major Assignments and Expectations:** There will be two (2) departmental examinations (midterms), online homework, weekly quizzes from the homework, weekly group lab projects, and a departmental final examination. Dates or due dates will be made available online.

**Attendance:** **Attendance is highly recommended:** You are responsible for any and all announcements made in class. You are responsible for any material missed during class.

**Lab Attendance is required:** You will not be given full credit for your (or your group's) lab submission if you have not attended the corresponding lab.

**Grading:** The Grading Scale is 90-100 A; 80-89 B; 70-79 C; 60-69 D; 0-59 F. Any appeal of a grade in this course must follow the procedures and deadlines as published in the current University Catalog.

Midterm Exam I: 20% Friday, Sept 25, 2015; 6-8 PM

Midterm Exam II: 25% Friday, Oct 30, 2015; 6-8 PM

Final Exam: 35% Saturday, Dec 12, 2015; 12:30-3 PM

Online homework: 5% (cumulative semester average)

Quizzes: 5% (average of top 10 quizzes)

Lab projects: 10% (average of top 10 labs)

**Homework:** A student must have access to **WebAssign** for this course, as part of your grade will be based on the completion of online homework assignments. The problems will be similar to those found on the homework assignment sheet (recommended problems found in the required textbook). Your homework grade, however, is based only on the online (**WebAssign**) homework. The course director, Dr. Gornet, will control homework assigned thru **WebAssign**. You will register for **WebAssign** at <http://webassign.net> (note that the class key for this section will be provided at the time of the first class meeting). If you purchased your book new, you received an access code for **WebAssign**.

**Quizzes:** Quizzes will be administered during your lab section each Tuesday, and will consist of 1-3 problems similar to those on the assignment sheet. Prior to the quiz, you will have an opportunity to ask your TA questions from homework, lecture, general concepts, etc.

**Lab:** Each Thursday, the lab section will consist of a problem-solving activity and worksheet. These are more in-depth problems, and are worked on in groups of 3 or 4 (no more, no less), and **one** solution is to be turned in by each group at the end of the lab session. Each student must be present for the entire lab period. One week prior to each lab project, a pre-lab assignment will be distributed to each student, and must be completed **before** arriving for the associated lab. This helps each student direct preparation for completion of the lab assignment in a timely fashion. The pre-lab assignment will constitute 20% of your lab grade for that day.

**Midterms and Finals:** These exams are departmental; i.e., all sections of MATH 2425 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 and show-your-work problems.

**Any student who scores below 50 on the final exam cannot receive a grade higher than a D in the course.**

**Previous Midterms and Finals:** You may access previous midterms and some of the finals online. The link(s) for these may be found on the course website, accessed via Dr. Gornet's (Course Coordinator) UTA homepage.

**Expectations for Out-of-Class Study:** Between lectures, you are expected to review your notes, go through the appropriate section(s) in the book, understand all relevant examples in the book, and attempt all homework problems assigned for the section(s). Beyond the time required to attend each class meeting, students enrolled in this course who intend to earn a grade of 'C' or higher should expect to spend at least an additional 12 focused hours each week of their own time in course related activities, including reading required materials, completing assignments and preparing for exams.

**Exam and Quiz Make-up Policy:** **If you have a conflict with either midterm or final, you must contact the course coordinator, Dr. Ruth Gornet, no later than the Census Date (September 14, 2015)** by using a form attached to the course coordinator's office door (PKH 419) and submitting it together with necessary documentation as indicated on the form. If a conflict arises after September 14, 2015, contact the course coordinator immediately. **Delays in submitting a make-up request may mean that your request cannot be approved.** If you have a legitimate conflict with any of the quizzes or group labs, you may e-mail Q. Mark Adams **prior** to the quiz or lab. If after receiving supporting documentation the excuse is approved, a make-up quiz will be arranged at that time, or you will be permitted to submit the lab. Do not assume that your e-mail has been received if there is no response.

**Exam and Quiz Calculator Policy:** On the midterms and final, you will be permitted to use only the TI-30XA or TI-30XIIS, the latter is on the current list of calculators allowed for the professional engineering exams. No calculators will be allowed on quizzes. Calculators other than those listed above will be taken up at the beginning of exams, **no exceptions**. Any device that has electronic communications abilities of any kind is not allowed for any reason, including child-care issues, during any exam or quiz. Any student caught with such a device will be considered to be cheating, with resulting consequences.

**Exam Picture ID Policy:** You will be asked to present your UTA picture ID at all exams. Bring your UTA picture ID to all exams.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising center. Drops can continue through two-thirds of the way through the term or session. The last day this semester to drop a course is **Wednesday, November 4, 2015 at 4 PM.** Any student who drops the course on or before this date will receive a W. **Students must consult with their major advisor to drop a course.** It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not automatically be dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/ses/fao>).

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all Federal equal opportunity legislation, including the Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor **in a timely manner** with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. This **must be done by the Census date, September 14, 2015.** Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [www.uta.edu/eos](http://www.uta.edu/eos). For information regarding Title IX, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:** All students enrolled in this course are expected to adhere to the UT Arlington Honor Code: *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a 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.*

At UT Arlington, academic dishonesty is completely unacceptable and will not be tolerated in any form, including (but 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" (UT System Regents Rule 50101, Section 2.2). Suspected violations of academic integrity standards 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.

**Student Support Services:** UT 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. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at (817) 272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu) or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**Math Clinic Tutoring:** The Math Department operates the Math Clinic, a tutoring service staffed by upper level undergraduate students. The Math Clinic is located on the 3<sup>rd</sup> floor of Pickard Hall; the phone number is (817) 272-5674; and the hours of operation for fall and spring are Monday-Thursday 8 am to 9 pm, Friday 8 am to 1 pm, Saturday 1 pm to 6 pm and Sunday 1 pm to 9 pm. Go to the Math Clinic web page <http://www.uta.edu/math/clinic/> to get more information or to access assignment sheets for the courses for which tutoring services are offered.

**SECC:** All previous midterm exams and some previous final exams are available to students in the Science Education and Career Center (SECC), 106 Life Science Building. The fall and spring hours of operation are Monday-Thursday 8am to 8pm, Friday 8am to 5pm, Saturday 12pm to 5pm, and Sunday

closed. You will need a Mav ID card to check out these exams. A copy machine is available for you to make copies. There are also videotapes 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>.

**Private tutoring:** The math Department maintains a list of people who have expressed an 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 in the Math Office, 478 PKH.

**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.

**Exit Strategy:** From PKH 319 or 309: go to 1<sup>st</sup> floor via central stairways during inclement weather (eg, tornado), exit to 1<sup>st</sup> floor via central stairs and through doors to outside for fire.

**Cell Phone/Laptop Use:** Cell phones are not allowed during class time; the only exception is for those who are the primary contact for a child in daycare or school. If this is the case, notify Q. Mark Adams by email by the census date. If you need to check your messages, you must do so on your own time, not class time. Using a laptop during class is a privilege, not a right. This privilege will be revoked for any students using the laptop for purposes other than Calculus.

**Grade Exclusion and Grade Replacement Policies:** These policies are described in detail in the University catalog and can also be found online. Further questions should be directed to your academic advisor and not the instructor of this course.

**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.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as lecture, seminar or laboratory shall be directed to complete a 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 (5) 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.

**Course Schedule:** We will cover the following sections, in this order, from the text:

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|-------------|--|
| Midterm I:  | (tentative) 6.1, 6.2, 6.3, 6.4, 6.6, 8.1   |
| Midterm II: | (tentative) 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9a (through<br>Taylor polynomial, do not include Taylor error, do not include<br>binomial series) (plus above sections) |
| Final exam: | 8.9b (Taylor error), 5.2, 5.3, 5.4, 9.2, 9.3, 9.4, 9.5, 10.1, 10.2,<br>10.3, 10.4 and 10.5 (plus above sections)   |

Sections 6.1-6.4 cover integration techniques, 6.6 concerns improper integrals and section 8.1 covers sequences. Section 8.2 introduces series, sections 8.3-8.6 discuss convergence tests, 8.7 introduces power series and sections 8.8-8.9 introduce Taylor and Maclaurin Series and approximations by Taylor polynomials. Sections 5.2-5.4 cover volume calculation methods. Sections 9.2-9.5 cover various topics, including parametric curves, polar coordinates and arc length and surface area computation with parametric curves, and area and length computation in polar coordinates. Sections 10.1-10.5 introduce elementary concepts in multivariable calculus, including vectors in 2 and 3-space, the Dot product, the Cross product and lines and planes in space. Typically, one or two sections can be covered in a single lecture.

“As instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.” Q Mark Adams, MD

**Important Dates (Fall 2015)**

Mon, Sept. 14, 2015: Census Date (deadline for ALL make-up exams requests)  
Fri, Sept. 25, 2015: Midterm I (6:00-8:00 PM)  
Thu & Fri, Nov 26-27, 2015: Thanksgiving Holiday  
Fri, Oct 30, 2015: Midterm II (6:00-8:00 PM)  
Wed, Nov 4, 2015: Last Day to Drop (prior to 4:00 pm)  
Wed, Dec 9, 2015: Last Day of Classes  
Sat, Dec 12, 2015: Final Examination (12:30-3:00 PM)