

# MATH 2425 Representative Syllabus

## Instructor Information

This is an example of a syllabus that is typical for the class. An official syllabus will be provided by the faculty member teaching the specific section of the course for which students have enrolled.

## Course Information

### Section Information

Lecture Sections end in 0, Lab Sections end in 1 or 2. Lab Sections meet the first day of class.

### Course Description

**Course Title:** Math 2425: Calculus II

This course includes the study of applications of integration, techniques of integration, parametric equations, polar coordinates, sequences, and series.

**Prerequisites:** C or better in MATH 1426 or HONR-SC 1426.

### Time and Place of Class Meetings

This course operates on Central Time. All times listed for class meeting times, exams, and assignment deadlines are in Central Time (CT). This class is an IN PERSON course.

### Classroom/Lecture Recording Policy

Faculty maintain the academic right to determine whether students are permitted to record classroom and online lectures. Recordings of classroom lectures, if permitted by the instructor or pursuant to an ADA accommodation, may only be used for academic purposes related to the specific course. They may not be used for commercial purposes or shared with non-course participants except in connection with a legal proceeding.

Sound and/or Video Recording of classroom and online lectures in this course will require the permission of the instructor of record.

### Student Learning Outcomes

By the end of this course, you will be able to:

1. Correctly compute the volumes and surface areas of solids of revolution in both rectangular and polar coordinates, as well as the arc length of parametric, polar, and rectangular curves;
2. Accurately calculate the value of definite and indefinite integrals by the methods of integration by parts, trigonometric substitution, and partial fractions;
3. Use limits, integration rules, and series tests to successfully determine the convergence or divergence of improper integrals, sequences, and series. When convergent, use limits,

integration rules, and series tests to evaluate improper integrals, limits of sequences, and sums of infinite series;

4. Justify the radius of convergence of power series, and then appropriately apply the rules for limits, derivatives, and integrals to differentiate and integrate the power series;
5. Use a known function to create its Taylor series representation and approximate a known function with a Taylor polynomial to produce an approximation and to estimate the error involved;
6. Justify and explain their steps in problem-solving by constructing correct and detailed mathematical arguments to validate their claimed solutions to problems.

## Course Materials & Technology

### Textbook Information

This course is participating in a program to provide digital course materials on or before the first day of class at a reduced cost. The cost for these materials will be automatically charged to your UTA student account and you'll have access to the materials through Canvas. Course fees are associated with course registration.

**Digital Access (Required Course Materials):** Access to Knewton Alta for homework and other digital materials is included in the \$30 fee. Every student has full access to course materials through Canvas as soon as the course is available, so you can start working on your course right away. Knewton Alta is designed to enrich student success by providing instant feedback on your assignments plus on-demand access to problem examples, tutorials, and more.

Knewton Alta follows closely the OpenStax book Calculus Volume 2. You can download it for free from <https://openstax.org/details/books/calculus-volume-2>

For more information about this program, please see the Course Resources page in your Canvas course. For further questions, contact your campus bookstore at [uta@bkstr.com](mailto:uta@bkstr.com) or 817-272-2785.

### Technology & Equipment Requirements

#### *Additional Materials and Associated Costs for this Course*

1. Scientific Calculator: Students may choose to use a scientific, non-graphing calculator on quizzes, group lab activities (except where indicated), midterms and the final exam. If so, it MUST be one of the following models explicitly:
2. Texas Instruments 30X series: TI-30XIIS, TI-30XIIB, TI-30XS MultiView, or TI-30Xa. No variation of model will be accepted. Plus or Pro versions are not allowed.
3. Prices range from \$10 to \$25 for various models.
4. Web-Enabled Device: Use your smartphone, tablet, laptop, or another device to check in at lectures for required attendance. Index cards may be used as a back-up.

#### *Software and System Requirements*

Mozilla Firefox and Google Chrome are the recommended and supported browsers for this course. Please check your Canvas course for other course requirements.

Visit the [OIT Services page](#) for a list of Applications and Software available through UTA.

Visit the [UTA Libraries Technology page](#) for a list of items that can be checked out or used at the library.

## Assignments & Exams

Complete all assignments and exams by the due dates. Assignment due dates are listed in the KNEWTON-ALTA PLATORM and in the Course Summary located in the Canvas Syllabus. Quizzes and Group-Problem Solving Labs are in person and require Lab Attendance. A schedule of weekly topics is included on the last page of the Syllabus.

**Two Departmental Midterms are held on campus on a Friday evening from 6-8pm and will align with the departmental exam schedule.** Each exam will be a mix of multiple choice problems and show-your-work problems. You must provide a **Scantron brand form SC882-E** for each exam. (Other brands do not work on the departmental grading machine.) **The cumulative Final Exam is held on campus on a Saturday from 12:30-3pm and will align with the departmental final exam schedule.** TENTATIVE DATES ONLY

Midterm 1:	Fall 25: Fri Sep 19, 6-8p	Spring 26: Fri Feb 13, 6-8p
Midterm 2:	Fall 25: Fri Oct 17, 6-8p	Spring 26: Fri Mar 28, 6-8p
Final Exam:	Fall 25: Sat Dec 6, 12:30-3p	Spring 26: Sat May 2, 12:30-3p

## Grading Information

Assignments	Percent of Final Grade
Midterm 1	15%
Midterm 2	25%
Final Exam	35%
In Person Group Problem-Solving Labs	10%
Lecture Attendance	5%
Online Homework (Knewton Alta)	5%
In Person Quizzes	5%

Students are expected to track their performance throughout the semester, which Canvas facilitates, and seek guidance from available sources, including the instructor, if their performance drops below satisfactory levels. Refer to the [Student Support Services](#) section below.

## Final Grade Calculation

Percentage	Letter Grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

## Lab Description

One lab day is devoted to group problem solving. You will be expected to complete Prep materials by the start of the lab. Failure to do so will result in a 0 grade for that week. Lab assignments are due at the end of the period.

One lab day is devoted to homework and an in-person quiz.

Attendance is required to receive credit. Makeups are case by case and always require documentation.

## Grading Standards

Typically, a passing grade must be a letter grade of C or higher. However, check with your home department (major) for guidelines and grade requirements.

## Late Work Policy

Late work is handled case by case.

## Make-Up Exams Policy

**If you have a conflict with either midterm or final, you must contact your instructor no later than 5pm on the Census Date**, by using a form provided to you at your request by your instructor & submitting it together with necessary documentation as indicated on the form. If a conflict arises after the census date, contact your instructor immediately. **Delays in submitting a make-up request may mean that your request cannot be approved by the course coordinator. Getting the time or date wrong is not justification for a makeup exam.**

## Extra Credit Policy

The only opportunity for extra credit is to complete the online review assignments covering the prerequisite topics of limits, the chain rule, and integration by the Census Date. This will count as an additional group project lab grade and can replace your lowest lab grade.

## Grade Grievance Policy

Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current [University Catalog: Grades and Grading Policies](#).

## Course & University Policies

### Attendance Policy

Students should review the University Class Attendance Policies on the [Class Attendance Policies page](#). The following attendance policy will be applied in this course.

As the instructor of this section, attendance for this course will be monitored using the Attendance+ app on Canvas. Each class day, your instructor will provide a unique code that you must submit during a specified interval to receive attendance credit for that day. **By submitting the**

**code, you confirm your in-person attendance for the entire class session.** If you intend to leave early, do not submit the attendance code for that day unless you have permission from your instructor. Random attendance checks can occur at any time throughout the semester. **Any student who submits an attendance code but is absent during a random attendance check will be reported for a code of conduct violation and will receive a zero for semester attendance. Do not share attendance codes with others or post them online. Any student found doing so will also be reported for a code of conduct violation and will receive a zero for semester attendance.**

## Institutional Policies

UTA students should review the [University Catalog](#) and the [Syllabus Institutional Policies](#) page for institutional policies and contact the specific office with any questions. The institutional information includes the following policies, among others:

- Drop Policy
- Disability Accommodations
- Academic Integrity
- Electronic Communication

## UTA Honor Code

UTA students are expected to adhere to and observe standards of conduct compatible with the University's functions as an educational institution and live by the [University of Texas at Arlington's Honor Code](#). It is the policy of The University of Texas at Arlington to uphold and support standards of personal honesty and integrity for all students consistent with the goals of a community of scholars and students seeking knowledge and responsibility.

## Student Support Services

### Student Services Page

The [Student Services page](#) provides links to many resources available to UTA students, including:

- Academic Success
- Counseling and Psychological Services (CAPS)
- Health Services
- Students with Disabilities
- Veteran Services

Students are also encouraged to check out [Career Center](#) resources to enhance their career-readiness, find student employment, search for internships, and more. We encourage [Major Exploration](#) and the use of [Experiential Major Maps](#) to keep students on track for graduation. Refer to the [Graduation Help Desk](#) for more details.

## Online Academic Success Guide

Visit the [Online Academic Success Guide](#) to explore a list of helpful tips and resources to help you succeed in your online journey.

## Course Schedule

TEXT: OpenStax Calculus Vol 2

Dates (Tent)	Sections	Topics
	3.2	Trigonometric Integrals
	3.2,3.1	Integration by Parts
	3.3	Trigonometric Substitutions
	3.4	Partial Fractions
	3.7	Improper Integrals
	5.1	Sequences (excluding partial sums)
		Review
		<b>Midterm 1: 3.1, 3.2, 3.3, 3.4, 3.5,3.7,5.1 (tent)</b>
	5.2	Infinite Series
	5.3	The Divergence and Integral Test
	5.4	Comparison Tests
	5.5	Alternating Series
	5.6	Ratio and Root Tests
	6.1,6.2	Power Series & Interval of Convergence
		Review
		<b>Midterm 2: 5.2, 5.3, 5.4, 5.5, 5.6, 6.1 (tent)</b>
	6.2,6.3	Taylor Series
	6.3	Manipulating and Applications of Taylor Series
	6.4	Taylor Polynomials
	6.4	Taylor Polynomial Error Term
	2.2	Volume, Disk Method
	2.3	Volume, Shell Method
	2.4	Arc Length
	2.4	Surface Area
	7.1,7.2	Plane Curves and Parametric Equations
	7.3	Polar Coordinates
	7.4	Areas and Lengths in Polar Coordinates
		Review
		<b>Final Exam: All of the Above (cumulative)</b>