DAVIS UNIVERSITY

COURSE SYLLABUS

MAC231: ANALYTIC GEOMETRY AND CALCULUS I

SUMMER QUARTER 2026

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COURSE SYLLABUS FOR: MAC231 ANALYTIC GEOMETRY AND CALCULUS I

CREDIT HOURS: 5 CREDITS

INSTRUCTOR:

INSTRUCTOR EMAIL:

INSTRUCTOR OFFICE HOURS:

COURSE DESCRIPTION: This is the first course in analytic geometry and the theory and application of calculus. Selected topics include a review of functions, limits and continuity, the derivative, differentiation of algebraic and transcendental functions and their inverses, the Mean Value and Intermediate Value Theorems, extrema and graph sketching, area and the definite integral, anti-differentiation and the Fundamental Theorem of Calculus and integration of transcendental functions. A graphing calculator will be used throughout the course.

TEXT: *Calculus*, 10th Edition, Ron Larson. ISBN: 1285057090

LATE WORK POLICY: All students are expected to submit homework assignments electronically on the date specified on the syllabus No late homework will be accepted and the student will receive a “0” (zero) for the homework assignment. Should the student refuse to complete the assigned work for the class, it could result in the student failing the class. All work assigned is expected to be completed on the date assigned. The instructor reserves the right to alter the schedule as necessary. Please be sure to check your email/Moodle for any changes to the schedule.

PLAGIARISM AND COPYRIGHT INFRINGEMENT POLICY: Work that is found to be plagiarized receives a grade of zero and often causes a student to fail a class. Documentation of plagiarism is added to the student's academic file as a violation of accepted student conduct and is subject to disciplinary action. Plagiarism is the use of another person's exact words, or their ideas written in the student's words without giving the original author credit.

Plagiarism can result from any of the following:

- Quote material directly without using quotation marks.
- Paraphrase the original so that many of the phrases are the same as the original. A good rule is no more than 3 or 4 words in a row should be the same as the original.
- Copy the original sentence pattern, substitution synonyms for key words.
- Neglect to indicate the source of the original material.

ASSESSMENTS:

Content	
Assignments	15%
Participation	10%
Exams	50%
Final Exam	25%
Total	100%

COURSE GRADE:

A+ = 97%–100%	C+ = 77%–79%
A = 93%-96%	C = 73%–76%
A– = 90%–92%	C– = 70%–72%
B+ = 87%–89%	D+ = 67%–69%
B = 83%–86%	D = 63%–66%
B– = 80%–82%	D– = 60%–62%
	F = Below 60%

TENTATIVE CLASS SCHEDULE:

(Subject to change)

Week: Date	Content Covered	Assignments & Assessment Due
Week 1:	1.2: Finding Limits Graphically and Numerically 1.3: Evaluating Limits Analytically 1.4: Continuity and One-Sided Limits 1.5: Infinite Limits 2.1: The Derivative and the Tangent Line Problem	Assignment 1 - Fri
Week 2:	2.2: Basic Differentiation Rules and Rates of Change 2.3: Product and Quotient Rules and Higher-Order Derivatives 2.4: The Chain Rule 2.5: Implicit Differentiation 2.6: Related Rates 3.1: Extrema on an Interval 3.2: Rolle's Theorem and the Mean Value Theorem	Assignment 2 - Thur Exam 1- Friday
Week 3:	3.3: Increasing and Decreasing Functions and the First Derivative Test 3.4: Concavity and the Second Derivative Test 3.5: Limits at Infinity 3.6: A Summary of Curve Sketching 3.7: Optimization Problems	Assignment 3 - Fri
Week 4:	4.1: Antiderivative and Indefinite Integration 4.2: Area 4.3: Riemann Sums and Definite Integrals 4.4: The Fundamental Theorem of Calculus 4.5: Integration by Substitution 5.1: The Natural Logarithmic Function: Differentiation 5.2: The Natural Logarithmic Function: Integration	Assignment 4 - Thur Exam 2- Fri
Week 5:	5.4: Exponential Functions: Differentation and Integration 5.5: Bases Other than e and Applications 6.2: Growth and Decay 8.7: Indeterminate Form and L'Hopital's Rule	Assignment 5 - Thur Final Exam- Fri