



DAVIS UNIVERSITY

## COURSE SYLLABUS

### MAC233: ANALYTIC GEOMETRY AND CALCULUS III

SUMMER QUARTER 2026

**QUARTER:** SUMMER QUARTER 2026

**COURSE SYLLABUS FOR:** MAC233 ANALYTIC GEOMETRY AND CALCULUS III

**CREDIT HOURS:** 5 CREDITS

**INSTRUCTOR:**

**INSTRUCTOR EMAIL:**

**INSTRUCTOR OFFICE HOURS:**

**COURSE DESCRIPTION:** Topics include power series and Taylor series, parametric equations, vectors in the plane and 3-space, directional derivatives and curvature, quadric surfaces, cylindrical and spherical coordinates, differential calculus of functions of two and three variables and multiple integration.

**PREREQUISITES:** Analytic Geometry And Calculus II

**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

Online Homework	10%
Participation	5%
Quizzes	20%
Exams	40%
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	Content Covered	Assignments & Assessment Due
<b>Week 1:</b>	9.7. Taylor Polynomials and Approximations 9.8. Power Series 9.9. Representation of Functions by Power Series 9.10. Taylor and Maclaurin Series 10.2. Plane Curves and Parametric Equations	
<b>Week 2:</b>	10.3. Parametric Equations and Calculus 10.4. Polar Coordinates and Polar Graphs 10.5. Area and Arc Length in Polar Coordinates 11.2: Space Coordinates & Vectors in Space 11.3: The Dot Product of Two Vectors 11.4: The Cross Product of Two Vectors in Space	Exam 1 - Friday
<b>Week 3:</b>	11.5: Lines and Planes in Space 11.6: Surfaces in Space 11.7: Cylindrical and Spherical Coordinates 12.1: Vector-Valued Functions 12.2: Differentiation and Integration of Vector- Valued Functions 12.3: Velocity & Acceleration	
<b>Week 4:</b>	12.4: Tangent Vectors & Normal Vectors Section 12.5: Arc Length & Curvature 13.1: Introduction to Functions of Several Variables 13.2: Limits and Continuity 13.3: Partial Derivatives 13.4: Differentials 13.5: Chain Rules for Functions of Several Variables	EXAM 2 - Friday
<b>Week 5:</b>	13.6: Directional Derivatives and Gradients 13.7: Tangent Planes & Normal Lines 13.8: Extrema of Functions of Two Variables 13.9: Applications of Extrema 14.1: Iterated Integrals & Area in the Plane 14.2: Double Integrals & Volume 14.3: Change of Variables: Polar Coordinates	FINAL EXAM - Friday