COURSE SYLLABUS

MAC233: ANALYTIC GEOMETRY AND CALCULUS III

SUMMER QUARTER 2025

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COURSE SYLLABUS FOR: MAC233 ANALYTIC GEOMETRY AND CALCULUS III

CREDIT HOURS: 5 CREDITS

INSTRUCTOR:

INSTRUCTOR EMAIL:

INSTRUCTOR OFFICE HOURS:

COURSE DESCRIPTION: Topics include 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 = 93%-100%

B = 85%-92%

C = 77%-84%

D = 70%-76%

F = below 70%

TENTATIVE CLASS SCHEDULE:

(Subject to change)

Week	Content Covered	Assignments & Assessment Due
Week 1:	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 11.5: Lines and Planes in Space 11.6: Surfaces in Space 11.7: Cylindrical and Spherical Coordinates	Homework 1 & 2 - Thursday Quiz 1 & 2 - Thursday
Week 2:	12.1: Vector-Valued Functions 12.2: Differentiation and Integration of Vector-Valued Functions 12.3: Velocity & Acceleration 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	Homework 3 & 4 – Thursday Quiz 3 & 4 - Thursday Exam 1 - Friday
Week 3:	13.3: Partial Derivatives 13.4: Differentials 13.5: Chain Rules for Functions of Several Variables 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	Homework 5 & 6 – Thursday Quiz 5 & 6 - Thursday
Week 4:	14.2: Double Integrals & Volume 14.3: Change of Variables: Polar Coordinates 14.5: Surface Area 14.6: Triple Integrals & Applications 14.7: Triple Integrals in Other Coordinates End of 14.8: Change of Variables: Jacobian	Homework 7 & 8 – Thursday Quiz 7 & 8 - Thursday EXAM 2 - Friday
Week 5:	15.1: Vector Fields 15.2: Line Integrals 15.3: Conservative Vector Fields and Independence of Path 15.4: Green's Theorem	Homework 9 – Thursday Quiz 9 - Thursday FINAL EXAM - Friday