

Instructor: David Trott (dtrott1@umbc.edu), MP 239

Office Hours: MT 12:00PM-12:50PM and by appointment.

Textbook: Calculus Early Transcendentals by James Stewart, Chapters 12-16

Prerequisites: MATH 152 with a grade of C or better.

Course Outline:

Grade Policy: 85+ A, 75-84 B, 65-74 C, 55-64 D, < 55 F

Course Objectives: This course builds on the knowledge obtained in Math 151/152 and introduces the concepts of Vector Calculus. While it is true that the single variable Calculus previously learned will be extended to additional variables, the scope of the course is more broader than this. We will see both the geometric and algebraic concepts behind Vector calculus.

Grading: Homework (45%), Midterm(25%), Final (30%)

Doing problems on your own is critical to mastering the material. You may work on the homework in groups but you are expected to know all the material you hand in. No Late Homework will be allowed.

Academic Honesty: By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, the UMBC Integrity webpage www.umbc.edu/integrity, and the UMBC Undergraduate Student Academic Conduct Policy.

Extra Help: Do not hesitate to come to my office during office hours or by appointment to discuss a problem or any aspect of the course.

Tentative Schedule:

Lecture 1: Intro - Curve Sketching - Dot + Cross Product	May 29th
Lecture 2: Cross Product - Lines / Planes	May 31st
Lecture 3: Planes - Quadric Surfaces - Cyl+Sph Coords	June 4th
Lecture 4: Vector Functions - Space Curves	June 5th
Lecture 5: Calculus of Curves + Arc Length	June 7th
Lecture 6: Functions of Several Variables - Limits+Continuity ..	June 11th
Lecture 7: Partial Derivatives + Tangent Planes	June 12th
Lecture 8: Parametric Surfaces + Chain Rule	June 14th
Lecture 9: Gradient + Directional Derivative	June 18th
Lecture 10: Optimization - Lagrange Multipliers	June 19th
Midterm Exam	June 21st
Lecture 11: Iterated Integrals - Double Integrals (Gen Reg)	June 25th
Lecture 12: Double Int. (Pol) - Vector Fields - Line Integrals ...	June 26th
Lecture 13: FTC for Line Integrals	June 28th
Lecture 14: Green's Theorem	July 2nd
Lecture 15: Curl + Divergence	July 3rd
Lecture 16: Surface Integrals	July 5th
Lecture 17: Stokes Theorem - Triple Integrals (Rect)	July 9th
Lecture 18: Triple Integrals (Cyl+Sph)	July 10th
Lecture 19: Divergence Theorem	July 12th
Lecture 20: Review	July 16th
FINAL EXAM	July 19th