

Youngstown State University

Department of Mathematics and Statistics

Course Outline for Mathematics 2673

Course Title: Calculus 3

Course Credit: 4 s.h.

Text: *Thomas' Calculus*, Weir, Hass, Giordano

Course Prereq: MATH 1572

Course Description: The course is an introduction to the study of calculus in three or more dimensions. The main concepts to be studied include the geometry of three dimensional space, vectors and vector-valued functions, functions of several variables, differentiation and integration of these functions, and applications. The computer will be used to assist this study.

Course Objectives: The goals for the course include:

- Developing an understanding of the fundamental concepts of vector-valued functions of one and several variables and scalar-valued functions of several variables, and their applications.
- Understanding the techniques and applications of derivatives, partial derivatives, and integrals of these kinds of functions, where appropriate, and their applications.
- Developing the ability to read mathematics with understanding and to write mathematics understandably.
- Use MAPLE to aid in the development and understanding of all concepts outlined above.

Material Covered:

<u>Sections</u>	<u>Topics</u>
12.1 – 12.6	Vectors and the Geometry of Space
13.1 – 13.6	Vector-Valued Functions and Motion in Space
14.1 – 14.9	Partial Derivatives
15.1 – 15.7	Multiple Integrals
16.1 – 16.4	Integration in Vector Fields

Grading: A grading and attendance policy will be distributed by the instructor.

Students with Disabilities: In accordance with University procedure, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the Office of Equal Opportunity and Disability Services at the beginning of the semester or when given an assignment for which an accommodation is required. Students with disabilities must verify their eligibility through the Office of Disability Service in Wick House (330) 941-1372 intake procedure.

Need help? Stop in the Mathematics Assistance Center, Cushwa Hall, Room 3090, to inquire about the free services available for this course.

Semester: Spring 2007

Last Day to Withdraw with a "W": Thursday, March 29, 2007