

Youngstown State University
Department of Mathematics and Statistics

Course Outline for Mathematics 1570

Course Title: Applied Calculus 1

Course Credit: 4 s.h.

Text: TECHNICAL CALCULUS, 5th ed., Ewen, Gary and Trefzger, Prentice Hall, 2005.

Course Prereq: Math 1513 or at least Level 5 on the Mathematics Placement Test.

Credit will not be given for both Math 1549 and 1570.

Course Description: Covers the basic concepts of derivative and integral calculus as applied to algebraic, exponential and logarithmic functions. Concepts are reinforced by application to engineering and scientific problems.

Course Objectives: Upon successful completion of the course the student will:

1. Understand the meaning of derivative of a function and its connection to rate of change of one quantity with respect to another quantity.
2. Be proficient in finding derivatives of given functions and in using derivatives to solve different types of applied problems.
3. Understand the meaning of indefinite integral and how to calculate indefinite integrals in a number of simple situations.
4. Understand the meaning of definite integral, how to compute it, and its connection to calculating the area under a curve.
5. Understand that calculus provides a language by which important physical relationships are expressed.

Course Assignments:

<u>Chapter</u>	<u>Sections</u>	<u>Topics</u>
1	1.1-1.10	Analytic Geometry
2	2.1-2.8, 2.9* , 2.10	The Derivative
3	3.1-3.6, 3.7*	Applications of the Derivative
4	4.1-4.9	Derivatives of Transcendental Functions
5	5.1-5.4	The Integral

*2.9 and 3.7 optional sections

NEED HELP? Stop in at the Mathematics Assistance Center, Cushwa Hall, Room 3090, to inquire as to the free service available for this course.

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, (330) 941-1372, intake procedure.

Semester: Spring 2007

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