Bemidji State University

MATH 2471: Calculus I

A. COURSE DESCRIPTION

Credits: 5
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

Limits, differentiation and integration of algebraic and trigonometric functions; applications of the
derivative and curve sketching; applications of integration. A graphing calculator is required. Prerequisite:
An appropriate ACT math sub-score or Mathematics Placement Test score or a grade of C or better in
MATH 1470 or grades of C or better in both MATH 1170 and MATH 1180 or consent of instructor. [Core
Curriculum Goal Area 4]

B. COURSE EFFECTIVE DATES: 10/28/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Limits and Their Properties
2. Differentiation
3. Applications of Differentiation
4. Integration
5. Logarithmic, Exponential, and Other Transcendental Functions
6. Differential Equations

D. LEARNING OUTCOMES (General)

1. explain of the basic concepts, methods and content of calculus.
2. apply calculus in problem solving and mathematical modeling.
3. apply problem solving strategies to look at problems from multiple points of view and judge the
   appropriateness of various models and techniques in each problem situation.
4. create logical mathematical arguments in order to communicate problems and solutions effectively
   both orally and in writing.
5. perceive the structure and beauty of mathematics, the economy and power of its notation and its
   applications in the world around us.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 04 - Mathematical/Logical Reasoning

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Apply higher-order problem-solving and/or modeling strategies.
F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted