

# Minnesota State University Moorhead

## MATH 362: Intermediate Analysis II

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites:

MATH 361 - Intermediate Analysis I

Corequisites: None

MnTC Goals: None

A continuation of the rigorous treatment of concepts of calculus and foundations of mathematics including the Riemann integral, infinite series, sequences of functions and uniform convergence.

**B. COURSE EFFECTIVE DATES:** 06/01/1995 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Riemann Integration
2. The Fundamental Theorem of Calculus and its applications
3. Infinite Series and Convergence Tests
4. Taylor Series
5. Sequences and Series of Functions
6. Applications of Sequences and Series of Functions

### D. LEARNING OUTCOMES (General)

1. Demonstrate Analytic Proof Techniques including delta-epsilon and N-epsilon proofs.
2. Stronger ability to solve multi-step problems and write multi-layered proofs.
3. Understand the Riemann Integral and its applications.
4. Understand the Fundamental Theorem of Calculus and its proof.
5. Understand Infinite Series and Convergence Tests.
6. Apply Sequences and Series of Functions to solve problems.

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted