Minnesota State University Moorhead

MATH 626: Mathematical Problem Solving

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course focuses on mastering effective strategies for solving a wide array of mathematical problems. The course will present a framework for mathematical problem solving that includes training in a variety of problem solving heuristics, learning metacognition and self-monitoring skills, and developing a sound mathematical epistemology that supports effective problem solving. Class participants will be expected to complete problem sets that allow them to learn and practice effective mathematical problem solving in the context of actually solving problems over time periods ranging from a few days to one (or more) weeks.

B. COURSE EFFECTIVE DATES: 02/01/2017 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Analyze Schoenfeld¿s four category framework for mathematical problem solving.
2. Evaluate the role of control and metacognition in mathematical problem solving.
3. Explain the role of epistemology in mathematical problem solving.
4. Illustrate the connection between problem posing and mathematical problem solving.
5. Make use of problem solving heuristics to solve mathematical 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