



BAKER COLLEGE
STUDENT LEARNING OUTCOMES

MTH4910 Senior Seminar: Mathematics
3 Semester Hours

Student Learning Outcomes & Enabling Objectives

1. Integrate mathematical knowledge and problem-solving strategies to solve problems comparable to those found on the Michigan Test for Teacher Certification.
 - a. Communicate mathematical ideas using appropriate notation, symbols, and graphs.
 - b. Demonstrate mathematical proficiency in each of the areas of competency defined by the Michigan Test for Teacher Certification test objectives.
 2. Examine the history of mathematics, including diverse mathematical concepts and mathematicians.
 3. Incorporate theory and practice to inform mathematical instruction.
 - a. Discuss the use of technology as it relates to teaching and learning mathematics.
 - b. Research current issues related to mathematics education utilizing current research or resources available through the professional community of mathematics educators.
 - c. Identify professional and support organizations available to mathematics teachers and students.
 - d. Evaluate various instructional methods, such as active learning, problem-based learning, or inquiry based learning, as practices of mathematical education.
 4. Demonstrate critical thinking through the application of mathematical reasoning addressing real world challenges.
 - a. Apply mathematical problem solving to other disciplines.
 - b. Define real world problems using a mathematical perspective.
 - c. Evaluate potential approaches to problem solutions.
 - d. Justify mathematical approach to a particular problem.
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Big Ideas and Essential Questions

Big Ideas:

- Development of Mathematics
- Critical Thinking in Mathematics
- Mathematical Proficiency

Essential Questions:

1. How does an awareness of mathematical history enhance my understanding of how mathematical knowledge develops over time?
2. How does thinking critically help me to apply mathematical processes to address the real world problems I encounter?
3. How does analysis of the MTTC Objectives for mathematics teachers and practice of related problems help me to prepare for the MTTC exam?

These SLOs are not approved for experiential credit.

Effective: Fall 2017