
MATH 4998 Senior Seminar**Lec. 2 Lab. 0 Cr. 2**

Course Description

Prerequisite: Senior standing required and at least 9 hours of mathematics courses numbered 3000 or above. A capstone course required of all Liberal Studies or Bachelor of Science mathematics majors. Each student will undertake several math related reading projects, make oral presentations, and write an expository paper on a mathematical topic. Credit will be given for only one of the following: MATH 4997, MATH 4998.

Course Objectives

Students will:

1. Study in depth, important topics in mathematics in which the student has a special interest or which the instructor deems appropriate.
2. Use creativity and inquiry to examine a mathematical topic.
3. Complete a formal library orientation session and will learn to use the library catalog and periodical indexes to prepare a mathematical research project.

Procedures to Evaluate these Objectives

1. Student must meet with the instructor periodically throughout the semester to report on progress in the course and to discuss any material which the student is experiencing difficulty in understanding.
2. Oral presentations.
3. In-class discussions.
4. An assigned project.

Use of Results of Evaluation to Improve the Course

1. The meetings between the student and the instructor will be used to gauge the student's progress toward achieving the goals established at the beginning of the semester. Meetings will also be used to redirect the student's efforts, if necessary.
2. An assigned project will be used to evaluate the student's understanding of mathematics and its usefulness.
3. Oral presentations and in-class discussions will be used to evaluate student understanding of assigned reading material.
4. All evaluation methods will be constantly monitored to determine if there is a more effective method of presenting the material.
The research project will be used to evaluate student understanding of library literacy (see objective 3).

Detailed Topical Outline

1. Selected readings chosen and assigned by the professor. Possible topics for exploration include but are not limited to the history of mathematics (or a particular strand of mathematics), mathematical proof, applications of mathematics, fractals, chaos theory, select topics from abstract algebra and/or topology, problem solving strategies and technical writing.
2. Major project which examines a mathematical topic.