

Syllabus

Math 01.533 - Graduate Seminar in Mathematics

CATALOG DESCRIPTION:

Math 01.533 Graduate Seminar in Mathematics 3s.h.

(Prerequisite: One year of graduate level mathematics courses or permission of instructor)

Students will be introduced to mathematics not found in textbooks. They will learn how to read journal articles and analyze them. An emphasis will be placed on communication skills, both oral and written. Students will be required to give both oral and written analysis of their readings.

OBJECTIVES:

Students in this course will become familiar with various mathematical journals and periodicals. They will synthesize and analyze readings for their peers. In particular students will be able to:

Conduct a literature search.

Analyze, interpret, and summarize current mathematics.

Communicate effectively, both orally and in writing.

Generalize, applying inductive reasoning.

Specialize and form analogies, applying deductive reasoning.

Apply current results.

CONTENT:

1. Relationships among the Different Branches of Mathematics including discussion of the Classification of Mathematics

Algebra

Analysis

Foundations, e.g., set theory and logic

Geometry

Emerging Areas, e.g., discrete mathematics

2. Reading Mathematical Research

Literature searches.

Exposition and communication.

Generalization.

Specialization and analogy.

Application.

3. Researching an Area of Interest in the Current Literature.

Identify the area.

Research the area.

Oral/Written Exposition of the area.