MATH 417: Introduction to Abstract Algebra (3 credit hours)

Course description

Math 417 is an introduction to abstract algebra. The main objects of study are groups, which are abstract mathematical objects that reflect the most basic features of many other mathematical constructions. We will also study rings and fields and other abstract mathematical objects, which can be thought of as groups with additional structure.

Prerequisite: Either MATH 416 or one of MATH 410, MATH 415 together with one of MATH 347, MATH 348, CS 374; or consent of instructor.

Course Objectives

The goal of the course is to introduce students to abstract mathematical thinking through the study of these simple, beautiful mathematical constructions, and to explore the relationship to other areas of mathematics.

Course Content


Format

- This course features video lectures from the UIUC Spring 2016 course taught by Professor Chris Leininger and includes online lecture notes via Moodle. No additional textbook has to be purchased.

- These additional materials may be used for reference:

- Students must be able to print out assignments, write out solutions, then scan their written work and upload it to Moodle. Some elements of this course may require Flash Player. Please visit this link to ensure you have the latest version installed.

- This course requires multiple paper-based exams that must be taken with an approved proctor. Exams may be taken on campus with NetMath proctoring; for off-campus options see https://netmath.illinois.edu/offcampus. Off-campus proctors must be able to scan completed exams and email them to NetMath for grading, as well as mailing the paper exam back for archival purposes.