

Instructor: Michael Rosbotham (michael.rosbotham@maine.edu)

Credits: 3

Meeting times: Monday, Wednesday, Friday 8-8:50am

Course Description

A study of algebraic systems characterized by specific axiom systems. Begins with a study of set theory, functions, and operations, and continues with topics selected from group theory, ring theory, and linear algebra.

Prerequisites

A grade of C or better in MAT 261 and MAT 262.

More Information

In Introduction to Abstract Algebra I, we mostly focus on the study of the class of mathematical objects known as *groups*.

Groups are fundamental to the study of notions of symmetry; with applications in Biology, Chemistry and Physics. In many areas of mathematics, complicated structures can be more easily understood by studying a particular group associated with the structure.

A group is a set equipped with a binary operation that satisfies certain axioms. The real numbers, along with the addition operation, form a group. As does any vector space you might have encountered in linear algebra (again, addition is the operation here).

Other important classes of objects from abstract algebra, such as rings and fields, can be considered as groups with additional structure.

Please get in touch if you have any questions. (michael.rosbotham@maine.edu)

