

MTH 515 ALGEBRA I

Fall 2014

Description: This is the first semester of our two semester graduate abstract algebra sequence. Algebra is one of fundamental disciplines of mathematics and the algebraic way of thinking is pervasive in much of mathematics. There are numerous applications of algebra; for example to *computer science*, coding, computer graphics, *theoretical physics* (groups, representations, Hopf algebras), *mathematical biology* (algebraic geometry). The goal of this course is to introduce the basic concepts and facts of modern algebra. This should prepare the student to be able to manipulate and understand fairly abstract concepts, and provide the necessary background for further graduate courses.

In the first semester, we will concentrate on properties of basic algebraic structures: groups, rings, and modules. The second semester will concentrate on further properties of modules, fields, Galois theory, and commutative algebra.

Instructor: L. Thoma

If you would like to get more information, do not hesitate to contact me at thoma@math.uri.edu

Time: Tuesdays and Thursdays, Fall 2014

Room: Lippitt Hall

Prerequisites: an undergraduate course in abstract algebra or permission of the instructor

Textbook: D. Dummit, R. Foote, Abstract Algebra, Wiley, ISBN-10: 0-471-43334-9

Note: *If you are interested in this course please preregister early. Courses with low preregistration numbers are likely to be canceled.*

