

AN INTRODUCTION TO ALGEBRAIC NUMBER THEORY
Math 4900 - Spring 2008

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Office Hours: Mondays and Fridays 11:00-12:50, Wednesdays 11:00-11:50,
or by appointment.

Prerequisite: Math 3110 (or its equivalent)

Description/Purpose of Course: This seminar will introduce students to the techniques and objects studied in algebraic number theory. We will begin with a description of algebraic field extensions and develop the basics of Galois theory. Once a suitable foundation has been established, rings of integers will be studied along with the ramification theory of their prime ideals. Many examples will be worked out rigorously and we will tie all of these theories together with applications to reciprocity. If time permits, we may conclude the course with a description of local fields and rings of adeles.

Grades: This course will be run as a seminar with lecture notes comprising the main reference. You will be given a set of exercises with each topic that we cover and your solutions will be collected once a month with selected problems graded. You are encouraged to discuss problems and solutions with your classmates, but any work that you turn in must be your own. Participation will make up an important component of this course as well as your grade. Roughly, 75% of your grade will be graded exercises and 25% will be participation.

Withdrawal: If a student wishes to withdraw from the course, s/he must come and speak with me. If a student withdraws before midterm, a grade of W will be assigned. Any student withdrawing after midterm will receive a WF.

ADA Accommodations: Any student who may require special accommodations due to a disability should contact the Office of Disability Services in the Division of Student Affairs and should come and speak with me privately as soon as possible. I will work with the Office of Disability Services to provide accommodations according to their documented needs.

AASU Honor Code: The University's policies in regards to the Honor Code and Code of Conduct will be upheld in this class (see catalog p.345).

Letter Grades will be (roughly) assigned on a 10-point scale (100% – 90% A, 89% – 80% B, 79% – 70% C, 69% – 60% D, 59% – 0% F).