MAS 7397: Class Field Theory **Spring 2020**

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Class meets MWF 1:55–2:45 in Little 205
Office hours: Mondays and Wednesdays 10:15–11:30, or by appointment.

Textbook

Class Field Theory by Nancy Childress (This book can be downloaded through the UF library web site.)

Syllabus

This course is a continuation of MAS 7396. In this semester we will study global class field theory, which is one of the fundamental tools of number theory. Global class field theory allows one to determine all the abelian extensions of a number field (or function field) K. It also gives important information about these extensions, such as the splitting and ramification behavior of prime ideals. Class field theory has some surprising connections to topics in analytic number theory such as L-functions.

We will cover the material in chapters 2–6 in the textbook; some material which was covered in MAS 7396 will be omitted.

Homework

Homework problems will be assigned and collected. Although you are encouraged to discuss these problems with your classmates, all work you turn in for grading should be your own. In particular, no collaboration is allowed on final write-ups of solutions.

Grading

Grades will be based on the homework assignments.