MATH 323: INTRODUCTION TO RINGS AND MODULES

Sujatha Ramdorai

2014W Term 2 (January-April, 2015)

Textbook: Dummit and Foote, “Abstract Algebra”

Tues Thurs: 9:30-11:00 a.m.

BUCH A202

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Office Hours: By appointment

Course Outline: We plan to approximately cover Chapters 7-10 and 12 of the textbook. The first half of the course will focus on rings, ideals, quotient rings, and other important kinds of rings such as integral domains, Principal ideal domains (PID) and Unique factorization domains (UFD). We shall then move on to polynomial rings, and study their special properties. In the second half of the course, modules will be introduced and we shall study modules over PIDs. We shall end with the structure theory for modules over PIDs and as a special case study the classification of finite abelian groups.

Evaluation: Assignments and quizzes will constitute 20% of the final grade, midterm 30% and the final exam 50%. Students are expected to turn in the assignments on time. No allowances shall be made for students failing to do this. No alternate midterms or quizzes will be given, unless there is a valid reason. In case of a medical reason, students are expected to furnish a medical certificate.