Department of Mathematics and Statistics
Dr. R.A. Mollin

PMAT 603.49

Prerequisite: Pure Mathematics 315 and PMAT 427 or consent of the Department.

Required Text: Algebraic Number Theory:, R.A. Mollin, Chapman & Hall/CRC, Boca Raton, New York, London, Tokyo (1999). ISBN # 0-8493-3989-8

Syllabus

Topics

Chapter One — Arithmetic Numbers: Sections 1.1 – 1.6.

Chapter Two — Arithmetic of Number Fields: Sections 2.1 – 2.5.

Chapter Three —Ideal Theory: Sections 3.1 – -3.5 (excluding the proof of Theorem 3.70), and selections from 3.6.

Chapter Four — Ideal Decomposition in Extension Fields (ANT): Sections 4.1– 4.5.

Chapter Five — Sections 5.1 – 5.4, and selections from 5.5.

Grading: **There will be two take-home tests, each of one week's duration, each worth 25%, and two in-class tests each worth 25%, according to the following schedule. There is no final or mid-terms or other assignments.**

TEST#	Date held	Date returned marked
In-class test	February 7	February 9
Take-home test	February 28 – March 7	March 9
In-class test	March 28	March 30
Take-home test	April 4 – April 11	April 13

For each take-home test, you may not consult *any source* other than the course text Algebraic Number Theory. You may not use material in the text beyond what is covered in class to the time of the test. Moreover, if you use an even numbered exercise, to solve any question on the test, you must first solve the even numbered exercise. You may use any odd numbered exercise without verification. Although you may discuss the test with your fellow students in PMAT 603.49, the final ideas written as solutions must be your own, set down in your own words.