

## 7. PMAT 603.64 (formerly PMAT 613) Introduction to Field Theory

Instructor: Claude Laflamme  
Offered Winter 2013

**Calendar Description:** H(3-0) Field theory. Galois theory.

**Prerequisite:** Pure Mathematics 431 or consent of the Division.

### *Syllabus*

<b>Topics</b>	<b>Number of Hours</b>
Algebraic and transcendental field extensions	4
Splitting fields	4
Normal, separable and Galois extensions	6
The Fundamental Theorem of Galois Theory	6
Finite Fields	3
Ruler-and-compass constructions	2
Solution of polynomials by radicals	2
Cyclic extensions and cyclotomic polynomials	2
Elementary symmetric polynomials and generic polynomials	2
Algebraic closure and absolute Galois groups	2
Infinite Galois groups	3
<b>TOTAL HOURS</b>	<hr/> <b>36</b>