PURE MATHEMATICS 613
"INTRODUCTION TO FIELD THEORY"

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

Prerequisite: Pure Mathematics 431 or consent of the Division.

Syllabus

Topics	Number of Hours
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
TOTAL HOURS	**36**

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