

King Fahd University of Petroleum and
Minerals Department of Mathematics &
Statistics **Syllabus Math 552**
Semester I, 2012
(121)

Dr Abdeslam MIMOUNI

Course: Math 552 (Field and Galois Theory)

Text Book: Field and Galois Theory, P. Morandi (1996).

Objectives: Field Extension, fundamental Theorem, Splitting fields and algebraic closure, finite fields, Separability, cyclotomic and radical extensions, Structure of fields, Transcendence bases.

Week	Date	Section	Topic
1	Sep 1-5	A	Review on Rings
2	Sept 8-12	1	Field Extensions
3	Sept 15-19	1 2	Field Extensions Automorphisms
4	Sept 22-26	2 3	Automorphisms Normal Extensions
5	Sept 29-Oct 3	3 4	Normal Extensions Separable and Inseparable Extensions
6	Oct 6-10	4	Separable and Inseparable Extensions
7	Oct 13-17	5	The Fundamental Theorem of Galois Theory
8	Nov 3 – 7	5	The Fundamental Theorem of Galois Theory
9	Nov 10-14	6	Finite Fields
10	Nov 17-21	7	Cyclotomic Extensions
11	Nov 24-28	8	Norms and Traces
12	Dec 1-5	9	Cyclic Extensions
13	Dec 8-12	11	Kummer Extensions (partially)
14	Dec 15-19	15	Ruler and Compass Constructions
15	Dec 22-26	16	Solvability by Radicals

Remarks and Policies

- ☑ KFUPM attendance policy will be enforced. A DN grade will be awarded to any student who accumulates 9 unexcused absences.
- ☑ **Exams and Distribution of Marks:**
 - Exam I (Take Home Exam) (20%) (Sections 1-2-3)
 - Exam II (Class Exam) (20%) (Sections 4-5-6)
 - Exam III (Take Home Exam) (20%) (7-8-9)
 - Final Exam (Class Exam) (40%): Comprehensive.