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, Spliting 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	Field Extensions
4	Sept 22-26	2	Automorphisms
5	Sept 29-Oct 3	3	Normal 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.