

King Fahd University of Petroleum and Minerals  
 Department of Mathematics & Statistics  
**Syllabus Math 345**  
 2010 (092)  
 Dr. Mohammad Samman

**Course** : Math 345  
**Title** : Modern Algebra I  
**Textbook** : Contemporary Abstract Algebra, J.A. Jallian, 6<sup>th</sup> ed. 2006.  
**Objectives** : The aim of this course is to introduce the students to the basic notions and techniques of Abstract Algebra.

**Lecturer info**      Office: **5-409**      Phone: **2674**      E-mail: [msamman@kfupm.edu.sa](mailto:msamman@kfupm.edu.sa)  
 Web Site: <http://faculty.kfupm.edu.sa/math/msamman>  
 Office hours: 12:10 – 01:00 pm S-M-W Or by appointment

Week	Date	Chapter	Topics
1	Feb 20-24	2	Groups
2	Feb 27- Mar 03	5	Permutation Groups
3	Mar 06-10	3	Finite Groups; Subgroups
4	Mar 13-17	4	Cyclic Groups
5	Mar 20-24	7	Cosets and Lagrange's Theorem
	<b>Exam I</b>		<b>Sunday - March 28</b>
6	Mar 27-31	9	Normal Subgroups and Factor Groups
7	Apr 03-07	10	Group Homomorphisms
8	Apr 10-14	6	Isomorphisms
	<b>Midterm Vacation</b>		<b>Thursday April 15, 2010 – Friday April 23, 2010</b>
9	Apr 24-28	12	Introduction to Rings
10	May 01-05	13	Integral Domains, Fields
	<b>Exam II</b>		<b>Sunday - May 2</b>
11	May 08-12	14	Ideals and Factor Rings
12	May 15-19	15	Ring Homomorphisms
13	May 22-26	16	Polynomial Rings
14	May 29-Jun 02	17	Factorization of polynomials
15	Jun 05 – 09	18	Divisibility in Integral Domains

**Grading Policy**

Major Exam I	20%	Sunday, March 28, 2010
Major Exam II	20%	Sunday, May 2, 2010
Quizzes	10%	
Homework	8%	Must be handed in every Monday. Late homework will not be accepted
Attendance	2%	Students are expected to attend all classes. However a DN Grade will be reported in case of excessive absences according to the university's regulations. Moreover, 1/2 mark will be deducted for each absence.
Comprehensive Final Exam	40%	To be announced