

King Fahd University of Petroleum and Minerals
Department of Mathematics & Statistics
Math 232 – Syllabus
2015-2016 (151)
Dr. Othman Echi

Title: Introduction to Sets and Structures

Textbook: Mathematical Proofs, A transition to Advanced Mathematics (3rd edition: International Edition) by Gary Chartrand et al., Pearson 2014.

Description: Elementary logic. Methods of proof. Set theory. Relations and functions. Finite and infinite sets. Equivalence relations and congruence. Divisibility and the fundamental theorem of arithmetic. Well-ordering and axiom of choice. Groups, subgroups, symmetric groups, cyclic groups and order of an element, isomorphisms, cosets and Lagrange's Theorem.

Grading Policy:

First Major	Second Major	Homework	Tests&Projects & Presentations	Final Exam
20%	20%	5%	10% & 5% & 5%	35%

Syllabus

Chapter	Title	Week(s)
1	Logic	2
2	Sets	1
3	Direct Proof and Proof by Contrapositive	1
4	More on Direct Proof and Proof by Contrapositive	1
5	Existence and Proof by Contradiction	1
6	Mathematical Induction	1
8	Equivalence Relations	2
9	Functions	1
10	Cardinalities of Sets	2
11	Proofs in Number Theory	1
13	Proofs in Group Theory	2

Exams

Material of First Major Exam	Chap: 1,2, 3
Material of Second Major Exam	Chap: 4, 5, 6, 8
Final Exam (Comprehensive)	Saturday, December 26, 2015, 08:00 -11:00 AM