

King Fahd University of Petroleum and Minerals
Department of Mathematics & Statistics
Math 232 – Syllabus
2015-2016 (152)
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:

Exam1	Exam2	Exam2	Exam4	HW	Presentations	Final Exam
15%	15%	15%	15%	5%	5%	30%

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 Exam 1: Chap: 1 February 07, 2016
Material of Exam 2: Chap: 2, 3 February 29, 2016
Material of Exam 3: Chap: 4, 5, 6 March 22, 2016
Material of Exam 4: Chap: 8, 9 April 17, 2016
Final Exam (Comprehensive) Wednesday, May 11, 2016, 08:00 -11:00 AM

Attendance: KFUPM attendance policy will be enforced. A **DN grade** will be awarded to any student who accumulates 9 unexcused absences.