



UNIVERSITAS NEGERI YOGYAKARTA  
FAKULTAS MIPA

SYLLABI

FRM/FMIPA/063-01  
18 Februari 2011

Faculty : MIPA  
Study Programme : Mathematic and Mathematic Education  
Course /Code : Abstract Algebra  
Credit : Theory =.....2...; Practice =.....1.....  
Semester : 5  
Prerequisite/Code : Number Theory  
Lecturer : Musthofa,M.Sc

I. Description

This lecture contains binary operation, group, subgroup, coset, normal subgroup, quotient group and group homomorphisms.

II. Standard Competency

The students will be able to explain the concept and properties of group and apply them to solve problem

III. Lecture Design

Lecture	Basic Competence	Topics	Lecturer Strategy	Reference
1, 2	Understand the concept of binary operation	Binary operation	Discussion & exercises	A
3,4,5	explain the concept of group and its properties	group	Discussion, presentation & exercises	A
6,7,8	Determine subgroup of certain group	subgroup	Discussion, presentation & exercises	A
9,10,11	Understand the concept of coset and its properties	Coset	Discussion, presentation & exercises	A
12,13,14	Explain the concept of normal subgroup	Normal subgroup	Discussion, presentation & exercises	A
15		Test 1		
16		Discuss test 1		
17,18,19	Determine quotient group of certain group	Quotient group	Discussion, presentation &	A



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			exercises	
20,21,22	Explain the concept of cyclic group and its properties	Cyclic group	Discussion, presentation & exercises	A
23,24,25	Understand the concept of homomorphism, kernel and image	Homomorphism	Discussion, presentation & exercises	A
26,27,28	Understand the concept of permutation group	Permutation group	Discussion, presentation & exercises	
29		Test 2		
30		discuss test 2		
31,32	Understand the concept of direct product	Direct product	Discussion, presentation & exercises	A

IV Reference

A. Compulsory Text Book

Sukirman, 2005. *Pengantar Aljabar Abstrak ( Teori Grup)*. Malang: UM Press

B. Suggested reference books :

Raisinghania, M.D, Anggarwal, R.S. 1980. *Modern Algebra*. New Delhi: S. Chand & Company LTD

V Evaluation

No	Component	Percentages
1	Participation	10
2	Assignment	30
3	Mid test	25
4	Final Test	35
	Total	100 %