



# UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Mathematics Department

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Graduate Program in Mathematics

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## MODULE HANDBOOK

Doctoral in Mathematics

Module name	Algebraic Structure												
Module level, if applicable	Doctoral Program												
Code, if applicable													
Semester(s) in which the module is taught													
Person responsible for the module	Chair of Algebra Research Group												
Lecturer(s)	Dr. DiahJuniaEksiPalupi M.S. Dr. Yeni Susanti M.Si												
Language	Bahasa Indonesia												
Relation to curriculum	Doctoral Degree in Mathematics, Compulsory/Elective Course												
Credit points	3 Semester Credit Unit												
Type of teaching, contact hours	3 x 50 minutes lectures, 3x60 hours structured activities.												
Workload	<ul style="list-style-type: none"> <li>● 3 x 50 minutes lectures.</li> <li>● 3 x 50 minutes structured activities.</li> <li>● 3 x 50 minutes individual study.</li> <li>● In 16 weeks per semester (including mid-term and final examinations), .</li> </ul>												
Recommended prerequisites	Students should be proficient in elementary structure algebra (group and ring fundamental theories.)												
Module objectives/intended learning outcomes	<p>After completing this course the students should have:</p> <p>CO2. Ability to prove the fundamental properties of group and ring</p> <p>CO3. Ability to recognize the advance groups-rings theory, as the modules</p> <p>CO4. Ability to analyze and to observe deeply of the properties of the advance groups-ring theory</p> <p>.</p>												
Content	<p>a. Review of Characterization of the fundamental groups properties. Subgroup, Normal, Quotient Group, Homomorphism and some Fundamental Theorem, etc.</p> <p>b. Review of Characterization of the fundamental ring properties: Subring, Ideal, Nil, Nilpotent, Quotient Ring, Regular, etc.</p> <p>d. Special Topic depend on the research planning.</p>												
Study and examination requirements and forms of examination	<p>The final mark will be weighted as follows:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">No</th> <th style="text-align: left;">Assessment methods (components, activities)</th> <th style="text-align: left;">Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination</td> <td>20%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination</td> <td>20%</td> </tr> <tr> <td>3</td> <td>Class Activities: Quiz, Homework, etc.</td> <td>60%</td> </tr> </tbody> </table> <p>Final grade will be determined as follows: Grade Criteria The initial cut-off points for grades A, B, C, and D should not be less than 80%, 65%, 50% and 40%, respectively</p>	No	Assessment methods (components, activities)	Weight (percentage)	1	Final Examination	20%	2	Mid-Term Examination	20%	3	Class Activities: Quiz, Homework, etc.	60%
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1	Final Examination	20%											
2	Mid-Term Examination	20%											
3	Class Activities: Quiz, Homework, etc.	60%											
Media employed	White/Black Board, LCD Projector, Laptop/Computer												
Reading List	<ol style="list-style-type: none"> <li>1. Dummit, D.S, Foot, R.M, 2004, Abstract Algebra, Third Edition, John Wiley &amp; Son, Inc.</li> <li>2. Grillet, P.A, 1999, Algebra, John Wiley &amp; Son, Inc.</li> <li>3. Malik, D.S, Mordeson, J.N, Sen, M.K, 1997, Fundamentals of Abstract Algebra, The McGraw-Hill Companies, Inc.</li> </ol>												

### PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CO 2	v		v			
CO 3	v		v	v	v	v
CO 4	v		v	v	v	v