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### Module Handbook

Module Name :	<i>Aljabar Abstrak I</i> Abstract Algebra I
Module level :	Bachelor degree/Undergraduate Program
Course Code :	4420103002
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	Not Applicable
Semester/Term	5 <sup>th</sup> / third year
Module coordinator(s)	Dr. R. Sulaiman, M.Si
Lecturer(s):	Dr. Agung Lukito, M.S Budi Priyo Prawoto, M.Si
Language:	Bahasa Indonesia (Indonesian Language)
Classification within the curriculum:	Compulsory/ <del>Elective</del>
Teaching format/class hours per week during the semester:	3 contact hours of lectures ( <i>sks</i> or credit unit*)
Workload :	3 x 50 minutes lectures, 3 x 60 minutes structured activity, and 3 x 60 minutes individual activity per week, 14 weeks per semester 119 total hours per semester ~ 4.77 ECTS**
Credit Unit:	3 credit unit (4.77 ECTS)
Requirements:	Elementary Number Theory Elementary Linear Algebra



<p>Learning goals/competencies:</p>	<p><b>Knowledge (KNO-1):</b> Demonstrating mathematical knowledge and mathematical insight.</p> <p>CLO-1: Demonstrate mastery of the concept of group, subgroup, normal subgroup, factor group, and group homomorphism</p> <p><b>Skill (SKI-2) :</b> Applying the basic principles of mathematics to solve simple* mathematical problems.</p> <p>CLO-2: Apply theorem to check if some set is subgroup or not</p> <p><b>Competences (Com-3) :</b> Solving mathematical problems using technology</p> <p>CLO-3: Determine eigen value of matrix by using software (Matlab, Mapple)</p> <p><b>Attitude and Social (Soc-2) :</b> Showing responsibility for work in the field of expertise independently, having a lifelong willingness to learn, and having the courage to make decisions.</p> <p>CLO-4: Able to work independently, discipline, and responsible and tenacious in completing tasks.</p>
<p>Content</p>	<p>This course discusses about Set theory, group theory, classification of group, subgroup, normal subgroup, factor group, and group homomorphism. Lecture activities are carried out in a student center with discussions, observations, project assignments, and presentations.</p>

<p>Attribute Soft skill:</p>	<p>Active communication; Discipline; Collaboration; Responsibility; and Argumentation in class.</p>											
<p>Study/exam achievements:</p>	<p>The final grade (<i>NA</i>) is calculated based on the following ratio:</p> <table border="1" data-bbox="539 1608 1347 1928"> <thead> <tr> <th>Assessment Components</th> <th>Percentage of contribution</th> </tr> </thead> <tbody> <tr> <td>Participation</td> <td>20%</td> </tr> <tr> <td>Assignment</td> <td>30%</td> </tr> <tr> <td>Mid-semester test</td> <td>20%</td> </tr> <tr> <td>Final semester test</td> <td>30%</td> </tr> </tbody> </table>		Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%	Mid-semester test	20%	Final semester test	30%
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	<p>Grade conversion of 0-100 scale into 0-4 scale is set as below:</p> <table border="1" data-bbox="549 349 1418 815"> <thead> <tr> <th>Letter</th> <th>Number</th> <th>Grade Interval</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4,00</td> <td><math>85 \leq A \leq 100</math></td> </tr> <tr> <td>A-</td> <td>3,75</td> <td><math>80 \leq A- &lt; 85</math></td> </tr> <tr> <td>B+</td> <td>3,50</td> <td><math>75 \leq B+ &lt; 80</math></td> </tr> <tr> <td>B</td> <td>3,00</td> <td><math>70 \leq B &lt; 75</math></td> </tr> <tr> <td>B-</td> <td>2,75</td> <td><math>65 \leq B- &lt; 70</math></td> </tr> <tr> <td>C+</td> <td>2,50</td> <td><math>60 \leq C+ &lt; 65</math></td> </tr> <tr> <td>C</td> <td>2,00</td> <td><math>55 \leq C &lt; 60</math></td> </tr> <tr> <td>D</td> <td>1,00</td> <td><math>40 \leq D &lt; 55</math></td> </tr> <tr> <td>E</td> <td>0,00</td> <td><math>0 \leq E &lt; 40</math></td> </tr> </tbody> </table>	Letter	Number	Grade Interval	A	4,00	$85 \leq A \leq 100$	A-	3,75	$80 \leq A- < 85$	B+	3,50	$75 \leq B+ < 80$	B	3,00	$70 \leq B < 75$	B-	2,75	$65 \leq B- < 70$	C+	2,50	$60 \leq C+ < 65$	C	2,00	$55 \leq C < 60$	D	1,00	$40 \leq D < 55$	E	0,00	$0 \leq E < 40$
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Learning Methods :	Student-centered approach; project-based learning; lecturer and discussion; and presentations (structured activities)																														
Form of Media:	Power point slides; video; worksheets, and textbooks																														
Literature (primary references):	<ol style="list-style-type: none"> <li>Gallian, J. 2011. <i>Contemporary Abstract Algebra</i>, Boston Houghton Mifflin College Div.</li> <li>Herstein, I.N. 1975. <i>Topics in Algebra</i> 2nd Edition. New York John Wiley and Sons.</li> <li>Herstein, I.N. 1990. <i>Abstract Algebra</i>. New York John Wiley and Sons.</li> </ol>																														
Notes:	<p>*1 credit unit or <i>sks</i> in learning process = three periods consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.</p>																														



**MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY**

**UNIVERSITAS NEGERI SURABAYA**

**FACULTY OF MATHEMATICS AND NATURAL SCIENCE**

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<p><b>**1 credit unit or <i>sks</i> = 1.59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2019</b></p>
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