UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION
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Bachelor of Science in Mathematics **MODULE HANDBOOK**

Module name:	Semigroup Theory
Module level,ifapplicable:	Undergraduate
Code:	MAT6344
Sub-heading,ifapplicable:	-
Classes,ifapplicable:	-
Semester:	7^{th}
Module coordinator:	Dr. Karyati
Lecturer(s):	Dr. Karyati
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hoursperweekduring the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week for 16 weeks.
Creditpoints:	3
Prerequisites course(s):	Abstract Algebra (MAT6311)
Course outcomes:	After taking this course the students have ability to: CO1. Demonstrate respect for other people's opinions in completing group and individual tasks CO2. Communicate ideas in solving mathematical problems in writing or verbally. CO3. Explain the concept of semigroup and its properties

<table>
<tr><td></td><td>CO4. Explain the propertiesspecial relation on semigroup
CO5. Prove the properties of homomorphism in semigroup</td></tr>
<tr><td>Content:</td><td>This course discussesthe definition and examples of semigroup, subsemigroup, ideal, equivalence and congruence relation, semigroup homomorphism, green relation, simple semigroup, rehularsemigroup and semigroup inverse.</td></tr>
<tr><td>Study/exam achievements:</td><td>Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.

The final mark will be weight as follow:

<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1</td><td>presentation</td><td>Observation</td><td></td></tr>
<tr><td>2</td><td>CO2, CO3 CO4 and CO5</td><td>a. Individual Assignment
b. Group Assignment
c. Mid
d. Final Exam</td><td>Presentation / written test</td><td>30%

20%
25%
25%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>1. A. Howie, JM. 1976. An Introduction to Semigroup Theory. London: Academic Press.
2. Grillet. 1995. Semigroups: An Introduction to The Structure Theory. Marcel Dekker Inc: New York
3. Harju, T. 1996. Lecture Notes on Semigroup. Finland: University of Turku.</td></tr>
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1		✓								
CO2				✓						
CO3					✓					
CO4						✓				
CO5						✓				