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:	Graph Theory
Module level,if applicable:	Undergraduate
Code:	MAT-6234
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	6th
Module coordinator:	Emut,M.Si.
Lecturer(s):	Emut,M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory course
Teaching format / class hours perweek during the semester:	100 minutes lectures and 100 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):	-
Course outcomes:	After taking this course the students have ability to: CO1. Appreciate the work and opinions of other groups in submitting ideas in writing or verbally CO2. Demonstrate collaborative attitude and independence in carrying out independent tasks and group assignments CO3. Communicate ideas in solving mathematical problems in

<table>
<tr><td></td><td>writing or verbally
CO4. Explain the basic concepts of graphtheory and apply them to solve related problems.
CO5. Proving properties, lemmas, and theorems to be applied in logical reasoning</td></tr>
<tr><td>Content:</td><td>This course study about the concepts in graph theory that is graph definition, graphical presentation technique, graph types, connectedness, tree graph, generator tree graph, algorithm to determine minimal plant grass tree, planarity and technique to determine planarity of a graph, and decomposition in the graph.</td></tr>
<tr><td>Study/exam achievements:</td><td>CO1: 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 attitudeif they show it significantlycompared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of therequirements 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>Assesment Object</th><th>Assessment Techniques</th><th>Weight</th></tr>
<tr><td>1</td><td>CO2, CO 3, CO4 and CO 5</td><td>a. Individual assignments
b. group assignments
c. Quiz
d. Mid Exam
e. Final Exam</td><td>Written test</td><td>15%
10%
20%
25%
30%</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. Robin J. Wilson &Jhon J. Watkin. 1990. Graphs, An Introductory Approach. New York: John Wiley & Sons. Inc.</td></tr>
</table>

	2. Mardiyono, S. 2010. Teori Graf. Jakarta : Universitas Terbuka 3. Liu, CI. 1985. Element of Discrete Mathematics, Second Edition. MacGraw-Hill, Inc.

PLO and CO mapping

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