



**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:	Logic and Set Theory
Module level,if applicable:	Undergraduate
Code:	MAT6301
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	1 <sup>st</sup>
Module coordinator:	Ilham Rizkianto, M.Sc
Lecturer(s):	1. Ilham Rizkianto, M.Sc; 2. Tuharto, M.Si; 3. M. Fauzan, M.Sc.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory course
Teaching format / class hours perweek during 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):	-
Course outcomes:	After taking this course the students have ability to: CO1. Respecting other people's views, opinions,and original ideas. CO2. Understand concepts in mathematical logic.

	<p>CO3. Determine the relationship between sets and results of operations between sets.</p> <p>CO4. Proving the properties of functions, functions, and composition of functions.</p> <p>CO5. Understand finite and infinite sets, countable, and denumerable sets.</p>																						
Content:	This course discusses about statements, Truth tables, tautology, contradiction, contingency, quantifier, arguments, definition of a set, operations on a set, relations, equivalence relations, functions, cardinality of a set.																						
Study/exam achievements:	<p>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.</p> <p>The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td rowspan="5">1</td> <td rowspan="5">CO 1-CO 5</td> <td>a. Individual assignment</td> <td rowspan="5">Written test</td> <td>15%</td> </tr> <tr> <td>b. Group assignment</td> <td>15%</td> </tr> <tr> <td>c. Quiz</td> <td>10%</td> </tr> <tr> <td>d. Mid Exam</td> <td>30%</td> </tr> <tr> <td>e. Final Exam</td> <td>30%</td> </tr> <tr> <td colspan="3">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO 1-CO 5	a. Individual assignment	Written test	15%	b. Group assignment	15%	c. Quiz	10%	d. Mid Exam	30%	e. Final Exam	30%	Total			100%
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Total			100%																				
Forms of media:	Board, LCD Projector, Laptop/Computer																						
Literature:	<ol style="list-style-type: none"> <li>Sukirman, 2006. <i>Logika dan Himpunan</i>. Yogyakarta: Hanggar Kreator</li> <li>Tarski, Alfred. 1994. <i>Introduction to Logic and to the Methodology of Deductive Sciences</i>. New York : Oxford University Press.</li> </ol>																						

### PLO and CO mapping

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