



# UNIVERSITAS NEGERI YOGYAKARTA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES  
DEPARTMENT OF MATHEMATICS EDUCATION

Jalan Colombo Nomor 1 Yogyakarta 55281

Telepon: (0274) 565411 Pesawat 217, (0274) 565411 (TU); Fax. (0274) 548203

Laman: fmipa.uny.ac.id, E-mail: humas\_fmipa@uny.ac.id

## Bachelor of Education 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):	Ilham Rizkianto, M.Sc; Tuharto, M.Si; M. Fauzan, M.Sc.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory course
Teaching format / class hours per week 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.
Credit points:	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. CO3. Determine the relationship between sets and results of operations between sets. CO4. Proving the properties of functions, functions, and composition of functions.

	CO5. Understand finite and infinite sets, countable, and denumerable sets.																							
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="4">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	PLO11	PLO12
CO1		✓										
CO2					✓							
CO3								✓				
CO4									✓			
CO5							✓					