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:	Transformational Geometry
Module level,if applicable:	Undergraduate
Code:	MAT6228
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	5th
Module coordinator:	Himmawati Puji Lestari, M.Si
Lecturer(s):	1. Himmawati Puji Lestari, M.Si, 2. Murdanu, M.Pd
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory course
Teaching format / class hours perweek during the semester:	100 minutes lectures and 120 minutes structured activities per week.
Workload:	Total workload is 90.67 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes self-study per week for 16 weeks.
Creditpoints:	2
Prerequisites course(s):	Analytic Geometry (MAT6312)
Course outcomes:	After taking this course the students have ability to: CO1. Demonstrate respect for the opinions of others through various types of transformations and methods for solving the problems in transformation CO2.Solve transformational geometry problems systematically

<table>
<tr><td></td><td>or in various ways
CO3.Explain concepts and principles of isometry and similarity transformations and the composition of transformationssynthetically, analytically, and using matrices
CO4. Explore and discover the properties of isometry transformation and transformation of similarity</td></tr>
<tr><td>Content:</td><td>This course studies the concepts and principles of isometric transformation and similarity transformation onto the plane synthetically, analytically and using matrices. Isometric transformation includes translation, reflection, rotation, and glide reflection, while the similarity transformation includes dilation, stretch, and shear. It’s also discussed the composition of these transformations.</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 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>CO 2</td><td>Presentation</td><td>Observation</td><td>10%</td></tr>
<tr><td>2</td><td>CO 3
CO 4</td><td>a. Individual Assignment
b. Group assignment
c. Mid test
d. Final test</td><td>written</td><td>15%

10%
30%
35%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Formsof media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>1. Gans David. (1969). Transformations and Geometries.</td></tr>
</table>

	New York: Appleton Century Crofts. 2. Martin, George. (1982). *Transformation Geometry*. New York: Springer-Verlag. 3. Moeharti Hadiwidjojo. (1987) *Ilmu Ukur Vektor dan Transformasi.* FMIPA IKIP YOGYAKARTA. 4. Susanta, B. (1995) *Geometri Transformasi.* Bahan Ajar Program Pelatihan Dosen MIPA-LPTK Tipe B. FMIPA Universitas Gadjah Mada.

PLO and CO mapping

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