



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:	Transformational Geometry
Module level, if applicable:	Undergraduate
Code:	MAT6228
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	6 th
Module coordinator:	Himmawati Puji Lestari, M.Si
Lecturer(s):	Himmawati Puji Lestari, M.Si. Murdanu, M.Pd.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory course
Teaching format / class hours per week 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.
Credit points:	2
Prerequisites course(s):	Plane Analytic Geometry (MAA6204)
Course outcomes:	After taking this course the students have ability to: CO1. Demonstrate courtesy, independence, discipline, and responsibility in carrying out individual and group assignments

	<p>CO2. Demonstrate skills in conveying concepts and principles of isometric and similarity transformations verbally and in writing</p> <p>CO3. Explain verbally, in writing and demonstratively about isometry and similarity transformations and the composition of them synthetically, analytically, and using matrices</p> <p>CO4. Solve the problem of transformation and composition of transformation</p> <p>CO5. Design the game of transformation as learning media</p>																													
<p>Content:</p>	<p>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.</p>																													
<p>Study / exam achievements:</p>	<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" data-bbox="620 1472 1432 1793"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO 2</td> <td>Presentation</td> <td>Observation</td> <td>20%</td> </tr> <tr> <td rowspan="3">2</td> <td rowspan="3">CO 3 CO 4</td> <td>a. Assignment</td> <td rowspan="3">Written</td> <td>20%</td> </tr> <tr> <td>b. Mid test</td> <td>20%</td> </tr> <tr> <td>c. Final test</td> <td>30%</td> </tr> <tr> <td>3</td> <td>CO 5</td> <td>Media</td> <td>Observation</td> <td>10%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO 2	Presentation	Observation	20%	2	CO 3 CO 4	a. Assignment	Written	20%	b. Mid test	20%	c. Final test	30%	3	CO 5	Media	Observation	10%	Total				100%
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		b. Mid test		20%																										
		c. Final test		30%																										
3	CO 5	Media	Observation	10%																										
Total				100%																										
<p>Forms of media:</p>	<p>Board, LCD Projector, Laptop/Computer</p>																													

Literature:	<ol style="list-style-type: none"> 1. Gans David. (1969). <i>Transformations and Geometries</i>. New York: Appleton Century Crofts. 2. Martin, George. (1982). <i>Transformation Geometry</i>. New York: Springer-Verlag. 3. Moeharti Hadiwidjojo. (1987) <i>Ilmu Ukur Vektor dan Transformasi</i>. FPMIPA IKIP YOGYAKARTA. 4. Susanta, B. (1995) <i>Geometri Transformasi</i>. Bahan Ajar Program Pelatihan Dosen MIPA-LPTK Tipe B. FMIPA Universitas Gadjah Mada.
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO 10	PLO11	PLO12
CO1		√										
CO2			√									
CO3					√							
CO4							√					
CO5										√		