UNIVERSITAS NEGERI PADANG
FACULTY OF MATHEMATICS AND NATURAL SCIENCES MATHEMATICS
DEPARTMENT, MATHEMATICS STUDY PROGRAM
Main Campus Universitas Negeri Padang.
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Bachelor of Science in Mathematics   **MODULE HANDBOOK**

Module name:	Transformational Geometry
Module level, if applicable:	Bachelor
Code:	MAT1.62.4006
Subheading, if applicable:	-
Classes, if applicable:	Transformational Geometry
Semester	3rd
Module coordinator:	Head of Geometry Expertise Group
Lecturer(s):	Drs. Yusmet Rizal, M.Si, and Dra, Mirna, M.Si.
Language:	Indonesian Language and English
Classification within the curriculum:	Compulsory course in the second year (3rd semester) Bachelor Degree
Teaching format / class hours per week during the semester:	a. Lectures : Cooperative learning with methods such as expository and discussion. (3 x 50 minutes = 150 minutes) b. Structured assignment : Weekly individual written assignment. (3 x 60 minutes = 180 minutes) c. Individual study (3 x 60 minutes = 180 minutes)
Workload:	Total workload is 136 hours per semester, which consists of 150 minutes lectures, 180 minutes structured assignment, and 180 minutes individual study for 16 weeks per semester, including midterm and final exams.
Credit points:	3 SKS = 1.51 ECTS
Prerequisites course(s):	Analytical Geometry

Course outcomes:	After taking this course the students have ability to: CO1. Use the concepts of function, transformation, reflection and isometrics to solve analytic geometry problem CO2. Discover the concepts of transformation composition, transform inverse CO3. Prove the properties of vectors CO4. Determine the appropriate formula (translation, rotation, composition, reflection, advanced isometric, similarity or dilation) to solve analytic geometry problems.
Content:	- Definition of transformation - isometry - transformation composition and several isometry - reflection - translation - rotation - congruence - dilation
Study/exam achievements:	The final mark will be weighted as follows: The assessment consists of final exam (30 %), mid term exam (30%), assignment (20 %), and discussion (20%). The final and midterm exams are essay tests with a closed book (120 minutes). A classroom discussion is held to help students better understand the issue. There are two types of weekly tasks (solving specific problems): group and individual.
Form of Media:	White Board, laptop, Projector, e-learning via elearning2.unp.ac.id, and zoom meeting.
Literature:	1. Whitney, H. (2015). *Geometric integration theory*. Princeton university press. 2. Bailey, F. H. (2015). Plane and Solid Analytic Geometry. United States: FB&C Limited. 3. Struik, D. J. (2014). Lectures on Analytic and Projective Geometry. United States: Dover Publications. 4. Price, J. J., Flanders, H. (2014). Calculus with Analytic Geometry. United Kingdom: Elsevier Science. 5. Woods, F. S. (2013). *Higher geometry: an introduction to advanced methods in analytic geometry*. Courier Corporation. 6. Mukhni. (2010). Bidang Rata dan Garis Lurus di Ruang.

PLO and CO Mapping

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