Master Program of Mathematics Education **Module Handbook**

Module Name:	Geometry
Module Level:	Master (S-2)
Abbreviation, if applicable:	
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	1/First year
Module Coordinator(s):	Prof. Dr. Dwi Juniati, M.Si.
Lecturer(s):	Prof. Dr. Dwi Juniati, M.Si. Dr. Agung Lukito, M.S.
Language:	Indonesian
Classification within the curriculum:	~~Compulsory course~~/elective studies
Teaching format/class hours per week during the semester	Teaching format: lectures, tutorial assignment, and individual study. 3 × 240 minutes = 720 minutes = 12 hours lectures
Workload:	15 weeks per semester consisting of: • 1 hour lecture (1 × 50 minutes) per week, • 2 hours assignments (2 × 45 minutes) per week, • 2 hours individual study (2 × 50 minutes) per week, Total workload: 14 × 2 × 240 minutes = 6,720 minutes ≈ 4.48 ECTS*
Credit Point:	2
Requirements:	N/A
Learning Goals :	**Knowledge (KNO-1)** CLO-1: able to understand the development and properties of various geometric systems CLO-2: able to understand the principle of center points, Voronoi diagrams and other geometric principles and apply them to solve problems CLO-3: able to understand spirolateral, isometry, Lindenmayer system and iteration function system **Skill (SKI-1)** CLO-4: able to implement a solution search method related to geometry

<table>
<tr><td></td><td>applications using offline and online software such as geogebra, Voronoi diagram software, Lindenmayer system software, etc.

Competency (COM-1)
CLO-5: able to work on and present problem-solving and project assignments related to geometric theory

Social (SOC-1)
CLO-6: able to collaborate and be responsible professionally and ethically in completing tasks</td></tr>
<tr><td>Content:</td><td>Studying ideas and properties that apply to various geometric systems (Euclidean, non-Euclidean, and Fractal geometries), isometry, spirolateral, Lindenmayer systems, systems of iteration functions and their applications, geometric properties and their applications in various problems by utilizing various software.</td></tr>
<tr><td>Study/exam achievements</td><td>• Students are considered competent and pass if the final score calculated from the score of midterm exam, assignments, participation, and final exam is at least 55 or C.
• Final score is calculated as follows:
20% midterm exam + 30% assignments + 20% participation + 30% final exam
• Final index is defined as follows:
<table>
<tr><th>Index</th><th>Converted Score</th><th>Score Range</th></tr>
<tr><td>A</td><td>4.00</td><td>$85 \leq A \leq 100$</td></tr>
<tr><td>A-</td><td>3.75</td><td>$80 \leq A- < 85$</td></tr>
<tr><td>B+</td><td>3.50</td><td>$75 \leq B+ < 80$</td></tr>
<tr><td>B</td><td>3.00</td><td>$70 \leq B < 75$</td></tr>
<tr><td>B-</td><td>2.75</td><td>$65 \leq B- < 70$</td></tr>
<tr><td>C+</td><td>2.50</td><td>$60 \leq C+ < 65$</td></tr>
<tr><td>C</td><td>2.00</td><td>$55 \leq C < 60$</td></tr>
<tr><td>D</td><td>1.00</td><td>$40 \leq D < 55$</td></tr>
<tr><td>E</td><td>0.00</td><td>$0 \leq E < 40$</td></tr>
</table></td></tr>
<tr><td>Media employed</td><td>Slides and LCD projectors, white board</td></tr>
<tr><td>Reading list</td><td>[1] Juniati, D. & Budayasa, I. K. 2016. Geometri Fraktal dan Aplikasinya. Unesa University Press.
[2] Meyer, W. J. 2006. Geometry and Its Applications. Academic Press, Elsevier.</td></tr>
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	[3] Ryan, P. J. 2008. *Euclidean and Non-Euclidean Geometry: An Analytic Approach*. Cambridge University Press. [4] Michele Audin. (2007). Geometry. Berlin: Springer-Verlag [5] Juniati, D. & Budayasa, I. K. 2022. *Teori Grup dan Aplikasinya*. Lima Aksara.
Note	*Total hours per 1 credit in 1 semester = {(1 credit × 240 minutes × 14 weeks)/60 minutes} = 56 hours. Each ECTS equals 25 hours, so 1 credit in 1 semester is equivalent to 2.24 ECTS.
Last Amendment	January 2023