MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
SRIWIJAYA UNIVERSITY
FACULTY OF TEACHER TRAINING AND EDUCATION
BACHELOR PROGRAM IN MATHEMATICS EDUCATION
Jl. Raya Palembang – Prabumulih Km.32, Indralaya Ogan Ilir 30662 Website:https://fkip.unsri.ac.id/mathedu/

Bachelor Program in Mathematics Education **MODULE HANDBOOK**

Module designation	:	Non-Euclidean Geometry / GMA2105
Semester	:	4th (fourth) / Even
Person responsible for the module	:	Dra. Nyimas Aisyah, M.Pd., Ph.D. Dr. M. Hasbi Ramadhan, S.Pd., M.Si. Yovika Sukma, S.Pd., M.Pd.
Language	:	Indonesian
Relation to the curriculum	:	Study Program Compulsory Course
Teaching methods	:	Expository, Class Discussion, Structured Assignment, Independent Activities, Projects
Workload	:	14 weeks per semester excluding mid-term and final exams. 1 credit (1 SKS) per week = 170 minutes, consisting of 50 minutes synchronous learning + 60 minutes asynchronous learning + 60 minutes systematic project. 170 minutes × 2 credits (2 SKS) = 340 minutes = 5.67 hours per week 14 weeks × 5.67 hours = 79.38 hours 79.38 hours: 25 hours (1 ECTS) = 3.2 ECTS
Credit points	:	2 SKS (3.2 ECTS)
Prerequisite's course(s)	:	-
Module objectives	:	After taking this course, students have the ability to: CO 1: Show responsibility in doing assignments CO 2: Understand the difference between Euclidean Geometry and Non-Euclidean Geometry to solve math problems CO 3: Using the concepts of Euclidean geometry, non-Euclidean geometry, and neutral geometry in solving problems CO 4: Using Sketchpad software to prove the sum of the angles of a triangle in Lobachevsky Geometry and the obtuseness of the upper angle in the Saccheri Quadrilateral
Content	:	This course discusses: 1. The Emergence of Non-Euclid Geometry 2. The differences between Euclidean Geometry and Non-Euclid Geometry 3. Neutral Geometry 4. Lobachevsky Geometry
Examination forms	:	Examinations in this course include:

<table>
<tr><td></td><td></td><td>1. Affective (actively participating during classroom processes and responsible for doing assignments)
2. Tasks
3. Mid-term test in the 8th meeting
4. Projects (research instruments)</td></tr>
<tr><td>Study and examination requirements</td><td>:</td><td>Students are expected to attend 80% of the total meetings in the modules.

Total Score = (Affective × 25%) + (Tasks × 20%) + (Mid-term test × 20%) + (Projects × 35%)

Explanation:
1. Affective
● Actively participating during classroom processes
● Responsibility in doing assignments
2. Tasks
● Completed tasks 1 and 2
3. Mid-term test
● The mid-term test was conducted in the 8th meeting with 100 minutes of working time.
4. Projects
● Make a proof of the sum of the angles of a triangle in Geometry Lobachevsky using the software Sketchpad
● Make proof of the acuteness of the top corner of a Quadrilateral Saccheriwith using the software Sketchpad

The total score is converted into a qualitative score,
<table>
<tr><th>Total Score</th><th>Grade</th><th>Description</th></tr>
<tr><td>86 – 100</td><td>A</td><td>Excellent</td></tr>
<tr><td>71 – 85.99</td><td>B</td><td>Good</td></tr>
<tr><td>56 – 70.99</td><td>C</td><td>Fair</td></tr>
<tr><td>41 – 55.99</td><td>D</td><td>Bad</td></tr>
<tr><td>0 – 40.99</td><td>E</td><td>Worse</td></tr>
</table>
To successfully pass the module, the minimum grade required is C.</td></tr>
<tr><td>Reading lists</td><td>:</td><td>1. De Ban, M.A dan Bos, J.C. 1974. Ilmu Ukur (diterjemahkan</td></tr>
</table>

		oleh Sutedja). Jakarta: PT. 2. Pradnya Paramita. Hall, H.S dan Stevens, F.H. 1919. A School Geometry. London: Macmillan and Co, Limited. 3. Haroll, E Wolfe. 1945. Non-Euclidean Geometry. New York: Rinehart and Winston Inc. 4. Muharti, Hw. 1986. Sistem-sistem Geometri. Jakarta: Universitas Terbuka (UT). 5. Ray Hemmings. 1985. Majalah ”Mathematics Teaching” June 1985 –Lobachevsky on Micro. Australia. 6. Rawuh. 1994. Geometry. Jakarta: Universitas Terbuka (UT). 7. Soemadi, H. 2000. Sistem Geometri. Surabaya: Jurusan Matematika FMIPA Unesa. 8. Taskin, Gafur dan Kirikci, Mustafa. 2005. Pre-Geometry. Istanbul: Zambak Publishing. 9. Prenowitz, Walter. 1985. Basic Concept of Geometry.London: Blaisdell Publishing Company.

Date of last amendments: January 2024

PLO	CO
1: Have good morals, ethics, and personality in completing tasks as a mathematics educator	CO 1: Show responsibility in doing assignments
4: Have knowledge of mathematical concepts in solving mathematical problems and supporting further studies	CO 2: Understand the difference between Euclidean Geometry and Non-Euclidean Geometry to solve mathematical problems
7: Able to apply mathematical knowledge logically, critically, and systematically in solving problems	CO 3: Using the concepts of Euclidean geometry, non-Euclidean geometry, and neutral geometry in solving problems
10: Able to utilize technology in solving mathematics and learning problems	CO 4: Using Sketchpad software to prove the sum of the angles of a triangle in Lobachevsky Geometry and the sharpness of the top angle in the Saccheri Quadrilateral