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**

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| Module designation | : | Transformation Geometry/ GMA2211 |
| Semester | : | 4th (fourth) / Even |
| Person responsible for the module | : | Drs. Muhammad Yusup, M.Pd. |
| Language | : | Indonesian |
| Relation to the curriculum | : | Study Program Compulsory Course |
| Teaching methods | : | Expository (Week 1-7, 9-15)<br>Group discussion (Week 2-7, 9-15)<br>Independent Assignment (Week 2-7, 9-15) |
| Workload | : | 16 weeks per semester include a mid-term and a final exam,<br>1 sks per week = 170 minutes, consisting of 50 minutes synchronous learning + 60 minutes asynchronous learning + 60 minutes systematic project.<br>170 minutes x 3 sks = 510 minutes = 8.5 hours per week<br><br>16 weeks x 8.5 hours = 136 hours<br>136 hours : 30 hours (1 ECTS) = 4.53 ECTS |
| Credit points | : | 3 SKS = 4.8 ECTS |
| Prerequisite's course(s) | : | Algebra, Geometry, Matrix and Vector |
| Module objectives | : | After taking this course, students have the ability to:<br>CO1: Show an attitude of responsibility for work in their field of expertise independently and in groups<br>CO2: Understand the concept of transformation as a function<br>CO3: Understanding the terms in the transformation on the field of euclid and its properties<br>CO4: Understanding transformations as compositions and inverses<br>CO5: Using the concepts, principles and procedures of transformation geometry in solving problems analytically |
| Content | : | This course discusses:<br>1. Relations and Functions<br>2. Transformation<br>3. Fixed elements, collineation, identity<br>4. Isometry<br>5. Involution<br>6. Reflection, rotation, translation, dilation,<br>7. The product of two transformations |

<table>
<tr><td></td><td></td><td>8. Reverse transformation<br>9. Half Turn</td></tr>
<tr><td>Examination forms</td><td>:</td><td>Examination in this course includes:<br>1. Affective (actively participating during classroom processes)<br>2. Assignments<br>3. Mid-term test in the 8th meeting<br>4. Final test in the 16th meeting</td></tr>
<tr><td>Study and examination requirements</td><td>:</td><td>It is expected that students attend 80% of the total meetings in the modules.<br><br>Total Score = 20% × (affective) + 15% × (assignment) + 30% × (mid-term test) + 35 (final-test)<br><br>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>
<br>To successfully pass the module, the minimum grade required is C.</td></tr>
<tr><td>Reading lists</td><td>:</td><td>1. Eecles, Frank M. (1971). An Introduction to Transformational Geometry. Phillips Academy, Andorn, Massachusetts: Addison-Wesley, Publishing Company.<br>2. Martin, George E. (1982). Transformation Geometry: An Introduction to Symmetry. New York: Springer-Verlag.<br>3. Rawuh. R. (1990). Geometri Transformasi: Bandung: FMIPA-ITB<br>4. Bottema, O, 2008, Topics in Elementary Geometry, second editions, springer, New-York<br>5. Gibson, C.G, 2003, Elementary Euclidean Geometry An Introduction, Cambridge University Press, New-York.<br>6. Gerard A. Venema: Exploring Advanced Euclidean Geometry</td></tr>
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| | | with Geometer's Sketchpad, July 2006.<br>7. Godfray, C & Siddons, A.W. 1908. Modern Geometry. Cambridge University Press, London.<br>8. Wong Yan Loi, 2009, An Introduction to Geometry, Academic press inc.<br>9. Aisyah, Nyimas. 2021. Geometri. Bening Media Publishing<br>10. Suryanto, D., Aisyah, N., & Susanti, E. (2022). Pengembangan Bahan Ajar Geometri Modern Dengan Strategi Syntactic With Two-Column Proof Untuk Mahasiswa Calon Guru. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *11*(4), 2929-2940. |

Date of last amendments: February 2024

| PLO | CO |
|---|---|
| PLO3: Internalizing the spirit of independence, struggle, entrepreneurship, and communication skills, as well as being responsible as a mathematics educator. | CO1: Show an attitude of responsibility for work in their field of expertise independently and in groups |
| PLO4 : Having knowledge of mathematical concepts in solving mathematical problems and supporting further studies. | CO2: Understand the concept of transformation as a function<br><br>CO3: Understanding the terms in the transformation on the field of euclid and its properties<br><br>CO4: Understanding transformations as compositions and inverses |
| PLO 7: Able to apply mathematical knowledge logically, critically and systematically in solving problems. | CO5: Using the concepts, principles and procedures of transformation geometry in solving problems analytically |