



UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Mathematics Department

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Undergraduate Programme in Mathematics

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MODULE HANDBOOK

| Module name | Transformation Geometry | | | | | | | | | | | | |
|---|--|---------------------|---|---------------------|---|-------------------|----|---|----------------------|----|---|--|----|
| Module level, if applicable | Bachelor | | | | | | | | | | | | |
| Code, if applicable | MMM-2114 | | | | | | | | | | | | |
| Subtitle, if applicable | - | | | | | | | | | | | | |
| Courses, if applicable | Transformation Geometry | | | | | | | | | | | | |
| Semester(s) in which the module is taught | 3 rd (third) | | | | | | | | | | | | |
| Person responsible for the module | Chair of the Lab. of Analysis | | | | | | | | | | | | |
| Lecturer(s) | Imam Solekhudin, Ph.D. Moch. Tari, M.Si | | | | | | | | | | | | |
| Language | Bahasa Indonesia | | | | | | | | | | | | |
| Relation to curriculum | Compulsary course in the second year (3 rd semester) Bachelor Degree | | | | | | | | | | | | |
| Type of teaching, contact hours | 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 per week for 14 weeks, 120 minutes structured activities per week, 120 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam. | | | | | | | | | | | | |
| Credit points | 2 | | | | | | | | | | | | |
| Requirements according to the examination regulations | Students have taken Transformation Geometry course (MMM-2114) and have an examination card where the course is stated on. | | | | | | | | | | | | |
| Recommended prerequisites | Students have taken Analytical Geometry course (MMM-1106) and have participated in the final examination of the course. Before taking this course, students must have a good understanding about the concepts of functions, and some concepts of analytic geometry. | | | | | | | | | | | | |
| Module objectives/intended learning outcomes | After completing this course the students will be able : CO1. to understand the concept of transformation. CO2. to classify and identify types of transformations. CO3. to apply transformations to simple problems. | | | | | | | | | | | | |
| Content | Topics : a. Introduction: i. Explanation of the contents of the course. ii. References, scoring and grading. iii. Definition of Transformation. b. Transformations: isometry, product of transformation, translation, reflection, half turn, rotation, similarity, dilatation, affinity. | | | | | | | | | | | | |
| Study and examination requirements and forms of examination | The final mark will be weighted as follows: <table border="1"> <thead> <tr> <th>No</th> <th>Assessment methods (components, activities)</th> <th>Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination</td> <td>40</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination</td> <td>35</td> </tr> <tr> <td>4</td> <td>Class Activities: Quiz, Homework, etc.</td> <td>25</td> </tr> </tbody> </table> The initial cut-off points for grades A, B, C, and D should not be less than 80%, 70%, 50%, and 40%, respectively. | No | Assessment methods (components, activities) | Weight (percentage) | 1 | Final Examination | 40 | 2 | Mid-Term Examination | 35 | 4 | Class Activities: Quiz, Homework, etc. | 25 |
| No | Assessment methods (components, activities) | Weight (percentage) | | | | | | | | | | | |
| 1 | Final Examination | 40 | | | | | | | | | | | |
| 2 | Mid-Term Examination | 35 | | | | | | | | | | | |
| 4 | Class Activities: Quiz, Homework, etc. | 25 | | | | | | | | | | | |
| Media employed | White/Black Board, LCD Projector, Laptop/Computer | | | | | | | | | | | | |

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| Reading List | <ol style="list-style-type: none"> 1. Eccles, F. M., 1971, <i>An Introduction to Transformation Geometry</i>, Addison-wesley publishing company, Philipines. 2. George, E., Martin, 1982, <i>Transformation Geometry An Introduction to symmetry</i>, Springer-verlag, New York. |
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PLO and CO Mapping

| | PLO 1 | PLO 2 | PLO 3 | PLO 4 | PLO 5 | PLO 6 | PLO 7 | PLO 8 | PLO 9 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CO 1 | | v | | | | | | | |
| CO 2 | | v | | | | | | | |
| CO 3 | | v | v | | | | | | |