



# 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	Introduction to Topology												
Module level, if applicable	Bachelor												
Code, if applicable	MMM- 3108												
Subtitle, if applicable	-												
Courses, if applicable	Introduction to Topology												
Semester(s) in which the module is taught	6 <sup>th</sup> (sixth)												
Person responsible for the module	Chair of the Lab. of Analysis												
Lecturer	Prof. Dr. Soeparna Darmawijaya												
Language	Bahasa Indonesia												
Relation to curriculum	Bachelor Degree, Elective Course, 6 <sup>th</sup> semester												
Type of teaching, contact hours	150 minutes lectures and 180 minutes structured activities per week.												
Workload	Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam.												
Credit points	3												
Requirements according to the examination regulations	Students have taken Introduction to Topology course (MMM-3108) and have participated in the final examination of the course.												
Recommended prerequisites	Topology on real system, sequence, and metric space.												
Module objectives/intended learning outcomes	After completing this course the students have ability to: CO 1. use properties of open and closed sets to prove their advance properties. CO 2. prove some characteristics of continuous functions. CO 3. prove some properties of compactness, connectedness, and Hausdorff space.												
Content	<ul style="list-style-type: none"> <li>• Definition of topology space, open set, closed set, dense, subspace, bases, sub-bases.</li> <li>• Continuous function: definition and some properties.</li> <li>• Charachteritics: compactness, connectedness, and Hausdorff space.</li> </ul>												
Study and examination requirements and forms of examination	<p>The final mark will be weighted as follows:</p> <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>35% – 45%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination</td> <td>30% – 35%</td> </tr> <tr> <td>3</td> <td>Class Activities: Quiz, Homework, etc.</td> <td>25% – 30%</td> </tr> </tbody> </table> <p>The initial cut-off points for grades A, B, C, and D should not be less than 80%, 70%, 50%, and 40%, respectively.</p>	No	Assessment methods (components, activities)	Weight (percentage)	1	Final Examination	35% – 45%	2	Mid-Term Examination	30% – 35%	3	Class Activities: Quiz, Homework, etc.	25% – 30%
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1	Final Examination	35% – 45%											
2	Mid-Term Examination	30% – 35%											
3	Class Activities: Quiz, Homework, etc.	25% – 30%											
Media employed	Board, LCD Projector, Laptop/Computer												
Reading List	<ol style="list-style-type: none"> <li>1. James R. Munkres, 2000, <i>Topology</i>, second edition, Prentice Hall Inc.</li> <li>2. Sze-Tsen Hu, 1964, <i>Elements of General Topology</i>, Holden-day, San Fransisco.</li> </ol>												

### 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			v			v
CO 2			v			v	v		v
CO 3						v	v		v