<table>
<tr><td>Module designation</td><td>Abstract Algebra
Course code: 8420202004</td></tr>
<tr><td>Semester(s) in which the module is taught</td><td>Semester 5 (Third year)</td></tr>
<tr><td>Person responsible for the module</td><td>Coordinator: Dr. Endah Budi Rahaju, M. Pd.
Teaching staff: Dr. Endah Budi Rahaju, M. Pd; Prof. Dr. Dwi Juniati, M. Si.; Dr. Sri Suryanti, M. Si.; Budi Priyo Prawoto, M. Si.</td></tr>
<tr><td>Language</td><td>Indonesian</td></tr>
<tr><td>Relation to curriculum</td><td>Compulsory</td></tr>
<tr><td>Teaching methods</td><td>Lectures, tutorial assignments, and individual study
Media and tools: Slides and LCD projectors, whiteboard</td></tr>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>(Estimated) total workload: 3 CU × 170 minutes × 16 weeks = 8,160 minutes = 136.00 hours (≈ 4.77 ECTS)
Contact hours: lectures, 3 × 50 minutes per week × 16 weeks = 40.00 hours (class hours per week: 510 minutes = 8.50 hours, including structured activities)
Private study including examination preparation: structured assignments, 3 × 60 minutes per week × 16 weeks = 48.00 hours; independent study, 3 × 60 minutes per week × 16 weeks = 48.00 hours (total 96.00 hours)</td></tr>
<tr><td>Credit points</td><td>3 CU (4.77 ECTS)
1 CU = 170 minutes per week × 16 weeks = 45.3 hours; 1 ECTS = 28.48 hours (144 CU = 229 ECTS), so 1 CU = 1.59 ECTS (UNESA Rector's Decree No. 736/HK/KM/2023).</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>None</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>Programme learning outcomes (PLO) addressed:
• PLO-5: Apply the basic principles of mathematics to solve simple mathematical problems.
• PLO-6: Demonstrate mathematical knowledge and insight.</td></tr>
<tr><td>Content</td><td>This course examines sets, functions, group definitions, types of groups and group properties, subgroups and subgroup properties, cyclic groups and permutation groups, cosets and their properties, Lagrange's theorem, normal subgroups, factor groups, subgroup indices, group homomorphisms and isomorphisms.</td></tr>
<tr><td>Examination forms</td><td>Final score is calculated from the weekly assessment scheme below (CLO/PLO addressed and weight of each assessment):
<table>
<tr><th>Week</th><th>CLO</th><th>PLO</th><th>Weight (%)</th></tr>
<tr><td>1</td><td>CLO-1</td><td>PLO-5</td><td>3</td></tr>
<tr><td>2</td><td>CLO-1</td><td>PLO-5</td><td>3</td></tr>
<tr><td>3</td><td>CLO-2</td><td>PLO-5</td><td>5</td></tr>
<tr><td>4</td><td>CLO-2</td><td>PLO-5</td><td>5</td></tr>
<tr><td>5</td><td>CLO-2</td><td>PLO-5</td><td>5</td></tr>
<tr><td>6</td><td>CLO-2</td><td>PLO-5</td><td>3</td></tr>
<tr><td>7</td><td>CLO-2</td><td>PLO-5</td><td>3</td></tr>
<tr><td>8</td><td>CLO-2</td><td>PLO-5</td><td>20</td></tr>
<tr><td>9</td><td>CLO-3</td><td>PLO-6</td><td>3</td></tr>
</table></td></tr>
</table>

	10 | CLO-3 | PLO-6 | 3 11 | CLO-3 | PLO-6 | 5 12 | CLO-3 | PLO-6 | 3 13 | CLO-3 | PLO-6 | 3 14 | CLO-3 | PLO-6 | 3 15 | CLO-3 | PLO-6 | 3 16 | CLO-3 | PLO-6 | 30
Study and examination requirements	Student performance is assessed through a written test, a project for CLO 3, and class participation. These components measure conceptual understanding, application of abstract algebra concepts, and active engagement throughout the course. **Final index (grade conversion):** **Index** | **Converted score** | **Score range (A = final score)** A | 4.00 | 85 ≤ A ≤ 100 A- | 3.75 | 80 ≤ A < 85 B+ | 3.50 | 75 ≤ A < 80 B | 3.00 | 70 ≤ A < 75 B- | 2.75 | 65 ≤ A < 70 C+ | 2.50 | 60 ≤ A < 65 C | 2.00 | 55 ≤ A < 60 D | 1.00 | 40 ≤ A < 55 E | 0.00 | 0 ≤ A < 40
Reading list	1. Herstein,I.N.1996.AbstractAlgebra.NewJersey:PrenticeHall,Inc. 2. Herstein,I.N.1975.TopicsinAlgebra.NewYork:JohnWileyandSons. 3. Gallian,J.2013.ContemporaryAbstractAlgebra.Boston:Brooks/Cole,Cengag eLearning August, 25. 2025