Master Program of Mathematics Education   **Module Handbook**

Module Name:	Abstract Algebra
Module Level:	Master (S-2)
Abbreviation, if applicable:	
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	1 / First year
Module Coordinator(s):	Dr. Agung Lukito, M.S.
Lecturer(s):	1. Dr. Agung Lukito, M.S. 2. Dr. Raden Sulaiman, M.Si.
Language:	Indonesian
Classification within the curriculum:	Compulsory course / ~~elective studies~~
Teaching format/class hours per week during the semester	Teaching format: lectures, tutorial assignment, and individual study. 3×240 minutes $= 720$ minutes $= 12$ hours lectures
Workload:	15 weeks per semester consisting of: • 1 hour lecture (1×50 minutes) per week, • 2 hours assignments (2×45 minutes) per week, • 2 hours individual study (2×50 minutes) per week, Total workload: $14 \times 3 \times 240$ minutes $= 10,080$ minutes ≈ 6.72 ECTS*
Credit Point:	3
Requirements:	N/A
Learning Outcomes:	**Knowledge (KNO-1)** CLO-1: able to understand group structure and group homomorphism CLO-2: able to understand the concepts of subgroups, normal subgroups, factor groups, direct sum groups (external and internal) and symmetric groups **Skill (SKI-1)** CLO-3: able to prove the principles that apply to groups, subgroups, group homomorphisms, normal subgroups, factor groups, direct sum groups, and symmetric groups with various methods/approaches

	Competency (COM-1) CLO-4: able to work on and present problems related to group structures and group homomorphisms **Social (SOC-1)** CLO-5: able to collaborate and be responsible professionally and ethically in completing tasks
Content:	Studying group structures and its properties, subgroups, normal subgroups, factor groups, and group homomorphisms
Study/exam achievements	• Students are considered competent and pass if the final score calculated from the score of midterm exam, assignments, participation, and final exam is at least 55 or C. • Final score is calculated as follows: 20% midterm exam + 30% assignments + 20% participation + 30% final exam • Final index is defined as follows: {table below}
Media employed	Slides and LCD projectors, white board
Reading list	[1] Lukito, A., Manuharawati, & Khabibah, S. 2020. *Pengantar Teori Grup*. Zifatama Jawara. [2] Herstein, I. N. 1996. *Abstract Algebra* (3rd Ed.). Prentice Hall, Inc. [3] Herstein, I. N. 1975. *Topics in Algebra*. John Wiley and Sons. [4] Gallian, J. 2013. *Contemporary Abstract Algebra*. Brooks/Cole, Cengage Learning. [5] Hodge, J. K., Schlicker, S., & Sundstrom, T. 2013. *Abstract Algebra. An Inquiry-based Approach*. CRC Press.
Note	*Total hours per 1 credit in 1 semester = {(1 credit × 240 minutes × 14

Index	Converted Score	Score Range
A	4.00	$85 \leq A \leq 100$
A-	3.75	$80 \leq A\text{-} < 85$
B+	3.50	$75 \leq B\text{+} < 80$
B	3.00	$70 \leq B < 75$
B-	2.75	$65 \leq B\text{-} < 70$
C+	2.50	$60 \leq C\text{+} < 65$
C	2.00	$55 \leq C < 60$
D	1.00	$40 \leq D < 55$
E	0.00	$0 \leq E < 40$

	weeks)/60 minutes} = 56 hours. Each ECTS equals 25 hours, so 1 credit in 1 semester is equivalent to 2.24 ECTS.
Last amendment	January 2023