Module Description of Algorithms and Programming

Module Name	:	Algorithms and Programming
Module Level	:	Bachelor
Code, if applicable	:	23H01110604
Subtitle, if applicable	:	-
Courses, if applicable	:	Algorithms and Programming
Semester(s) in which the module is taught	:	2 (Second Semester)
Module coordinator(s)	:	Dr. Khaeruddin, M.Sc.
Lecturer(s)	:	Dr. Khaeruddin, M.Sc.
Language	:	Bahasa (Indonesian language)
Relation to curriculum	:	Compulsory course in first year for Bachelor degree in Mathematics
Type of teaching/ teaching method		Lecturing, Small Group Discussion, Collaborative Learning, Self-Directed Learning
Contact hours	:	150 minutes Lectures per week, 180 minutes Structured Assignments per week, 180 minutes Independent Study per week, and 170 minutes Practicum
Workload	:	Total workload is 180 hours per semester which consists of 40 hours per semester for Lectures, 46.6 hours per semester for Independent Study, 46.6 hours per semester for Structured Assignments, and 46,6 hours per semester for Practicum
Credit points	:	4 (6.4 ECTS)
Requirements according to the examination regulations	:	Students are required to attend at least 80% of the total meetings which is recorded via the attendance menu at https://sikola-v2.unhas.ac.id/, complete all mandatory assignments, and obtain permission from the lecturer to participate in the examination.
Recommended prerequisites	:	None

Module objectives/intended learning outcomes	:	After the completion of this module, the student will be able to: CLO 1. explain algorithms; CLO 2. apply algorithms to programming languages; CLO 3. analyze algorithms to solve programming problems; CLO 4. communicate ideas in appropriate contexts, both verbally and in writing, with groups. The following is the mapping of the ILO and the CLO of this course:

	ILO 1	ILO 5	ILO 6	ILO 7	ILO 9
CLO 1	X	X			
CLO 2		X	X	X	
CLO 3				X	
CLO 4				X	X

Content	:	The Algorithms and Programming course discusses designing algorithms that serve as the basis for analyzing logic-related problems. Most of this course consists of intensive exercises to improve students' logic skills in solving logic problems, transforming them into algorithms and implementing them in a programming language.
Study and examination requirements	:	Study and examination requirements: ● Students must attend 15 minutes before the class starts. ● Students must switch off all electronic devices. ● Students must inform the lecturer if they will not attend the class due to sickness, etc. ● Students must submit all class assignments before the deadline. ● Students must attend the exam to get final grade.
Exams and assessment formats	:	Participants are marked based on their performance in theory: Quizzes (20%), Report (50%), and Assignments (30%). Assignments assess student's ability to apply concepts independently, while Reports measure analytical and writing skills. Quizzes are used to test continuous understanding of weekly content. Altogether, these components account for 100% of the final grade. Students are marked based on their percentage of points obtained and based on the following grade scale:

Percentage of Achievement	Grade	Conversion Value
85 – 100	A	4.00
80 - <85	A-	3.75

		75 - < 80	B+	3.5	
		70 - < 75	B	3.0	
		65 - < 70	B-	2.75	
		60 - < 65	C+	2.5	
		50 - < 60	C	2.00	
		40 - < 50	D	1.00	
		< 40	E	0.00	
Reading list	:	1. Schaum's Outline of Programming with Pascal, Byron S. Gottfried, McGraw Hill 2. Head First Java 2nd Edition, Kathy Sierra, Bert Bates, Oriel 3. Buku Penuntun Praktikum dengan Pascal tahun 2016 4. Buku Penuntun Praktikum dengan Java tahun 2016			
Last revision date	:	February 5th, 2025			