



# MODULE HANDBOOK

## Algorithm and Programming

**BACHELOR DEGREE PROGRAM**  
**DEPARTMENT OF MATHEMATICS**  
**FACULTY OF SCIENCE AND DATA ANALYTICS**  
**INSTITUT TEKNOLOGI SEPULUH NOPEMBER**

# MODULE HANDBOOK

## Algorithm and Programming

Module name	<b>Algorithm and Programming</b>	
Module level	Undergraduate	
Code	KM184202	
Course (if applicable)	Algorithm and Programming	
Semester	Spring (Genap)	
Person responsible for the module	Drs. Daryono Budi Utomo, M.Si.	
Lecturer	Drs. Daryono Budi Utomo, M.Si. Drs. Nurul Hidayat, M.Kom Dr. Drs. Bandung Ary S., M.Ikomp	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, <b>mandatory</b> , 2 <sup>nd</sup> semester.	
Type of teaching, contact hours	Lectures, <60 students	
Workload	<ol style="list-style-type: none"> <li>1. Lectures : 4 x 50 = 200 minutes per week.</li> <li>2. Exercises and Assignments : 4 x 60 = 240 minutes (4 hours) per week.</li> <li>3. Private learning : 4 x 60 = 240 minutes (4hours) per week.</li> </ol>	
Credit points	4 credit points (sks)	
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.	
Mandatory prerequisites	-	
Learning outcomes and their corresponding PLOs	<p>Course Learning Outcome (CLO) after completing this module,</p> <p>CLO-1 Be able to understand the basic concepts of algorithms and procedural computer programming.</p> <p>CLO-2 Be able to design algorithms, flow charts, and create computer programs with JAVA language programming to solve mathematical problems, individual or by group</p>	
Content	<p>Algorithms and programming are courses that discuss the basic concepts of algorithms and procedural programming. The algorithm and programming concepts are implemented in the JAVA programming language and will be used to solve simple problems. The topics covered include: basic algorithms, algorithm creation, data types, variables, I / O structures, operators, iterations, control structures, functions (methods) and procedures, arrays, string manipulation, recursive, GUI and event driven. The teaching system includes tutorials, scheduled responses and practicum.</p>	

Study and examination requirements and forms of examination	<ul style="list-style-type: none"> <li>• In-class exercises</li> <li>• Assignment 1, 2</li> <li>• Mid-term examination</li> <li>• Final examination</li> </ul>
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading list	<p>Main :</p> <ol style="list-style-type: none"> <li>1. Java Programming Comprehensive, 10th edition, Pearson Education, Inc., publishing as Prentice Hall, 2013</li> <li>2. Paul Deitel, Harvey Deitel, Java: How to Program, 9th edition, Prentice Hall, 2012</li> </ol> <p>Supporting :</p> <ol style="list-style-type: none"> <li>1. Abdul Kadir, "Algoritma &amp; Pemrograman Menggunakan Java", Andi Offset, 2012</li> </ol>