



UNIVERSITAS NEGERI PADANG
 FACULTY OF MATHEMATICS AND NATURAL SCIENCES
 MATHEMATICS DEPARTMENT, MATHEMATICS EDUCATION STUDY
 PROGRAM

Main Campus Universitas Negeri Padang.
 Jalan Prof. Dr. Hamka Air Tawar Padang, Sumatera Barat
 Telepon: +62 751 7053902, Fax: +62 751 7055628
 Email: matematika@fmipa.unp.ac.id

Bachelor of Mathematics Education

MODULE HANDBOOK

Module name:	Algorithms and Programming
Module level, if applicable:	Bachelor
Code:	MAT1.61.4304
Sub-heading, if applicable:	-
Classes, if applicable:	Algorithms and Programming
Semester:	4 th (fourth)
Module coordinator:	Muhammad Subhan, M.Si.
Lecturer(s):	Muhammad Subhan, M.Si., and Team
Language:	Bahasa Indonesia and English
Classification within the curriculum:	Study Program Compulsory Course
Teaching format / class hours per week during the semester:	<p>Teaching format:</p> <ul style="list-style-type: none"> • Lectures (face to face activities): Project Based Learning with Presentations, Group and Class Discussion methods, • Structured assignment, • Independent activities, and • Practice <p>3 x 170 minutes = 510 minutes = 8.50 hours</p>
Workload:	<p>16 weeks per semester include Midterm Exam and Final Exam which consist of:</p> <ul style="list-style-type: none"> • 1.67 hours lectures (2 x 50 minutes) per week • 2 hours structured assignments (2 x 60 minutes) per week • 2 hours independent activities (2 x 60 minutes) per week • 2.83 hours practice (1 x 170 minutes) per week <p>16 x 170 x 3 = 8160 Minutes =136 hours = 4.53 ECTS</p>
Credit points:	3 SKS (4.53 ECTS)
Prerequisite's course(s):	Computer Applications
Course outcomes:	<p>After taking this course the students have ability to:</p> <p>CO1 : Express the algorithm and programming concept, program structure, data type and operation, looping, array, procedure, function, by using Pascal</p> <p>CO2 : Interpret the algorithm and programming concept, program structure, data type and operation, looping, array, procedure, function, by using Pascal</p> <p>CO3 : Apply the algorithm and programming concept, program structure, data type</p>

	<p>and operation, looping, array, procedure, function, by using Pascal</p> <p>CO4 : Analysis the program that connect to the algorithm and programming concept, program structure, data type and operation, looping, array, procedure, function, by using Pascal</p> <p>CO5 : Demonstrate a program by using Pascal</p> <p>CO6 : Create a program by using Pascal</p> <p>CO7 : Show the responsibility attitude in own works</p> <p>CO8 : Maintain the responsibility attitude in team works</p>
<p>Content:</p>	<p>This course discusses:</p> <ol style="list-style-type: none"> 1. Algorithm 2. Introduction to Pascal Programming Languages 3. Program Structures 4. Types of Data and Operations 5. Branching 6. Repetition/looping 7. Array 8. Procedure 9. Functions
<p>Study/exam achievements:</p>	<p>Total Score= (20% x Midterm Exam Score) + (20% x Final Exam Score) + (20% x Project and Problem Based Score) + (10% x Assignment: Programming / Resume Score) + (20% x Practical Score) + (10% x Affective Score: responsibility and attendance)</p> <p>The initial cut - off points for grades A, A-, B+, B, B-, C+, C, C-, and D should not be less than 85, 80, 75, 70, 65, 60, 55, 50, and 40 out of 100 respectively.</p> <p>Explanation:</p> <ol style="list-style-type: none"> 1. Midterm Exam <ul style="list-style-type: none"> ✓ Midterm Exam will be conducted in the 9th meeting ✓ Midterm Exam is in the form of a written test (essay) and will be conducted in the classroom ✓ The time allocation is 120 minutes according to the module schedule 2. Final Exam <ul style="list-style-type: none"> ✓ Final Exam will be conducted in the 16th meeting. ✓ Final Exam is in the form of a written test (essay) and will be conducted in the classroom. ✓ The time allocation is 120 minutes which follows the Final Exam schedule provided by the Department. 3. Project and Problem Based <p>Projects are group assignments given by the lecturer in the form of a series of work carried out outside the learning time within a predetermined time and the progress is presented in several meetings until the task is completed and collected.</p> 4. Assignment <p>As individual assignments, students should using Pascal to solve math problems, which involve algorithms and programming concepts.</p>

