Detail ofCoursesinComputer Science RMK

Course	Course Name	:Algorithm and Programming
	Course Code	:KM184202
	Credit	:4
	Semester	: 2

Description of Course
Algorithms and programming is course that discuss the basic concepts of algorithms and procedural programming. The concepts of algorithm and programming is implemented in JAVA programming language and will be used to solve simple problems. The topic include: basic algorithms, data types, variables, I/O structures, operators, loops, control structures, functions and procedures, array, string manipulation, recursive, GUI and event driven. The teaching system includes tutorials, responses and scheduled workshops.

Learning Outcome

ELO 1	[C2] Able to explain basic concepts of mathematics that includes the concept of a proof construction both logically and analytically, modeling and solving the simple problems, as well as the basic of computing.
ELO 3	[C3] Able to make use of the principles of long life learning to improve knowledge and current issues on mathematics.
ELO 5	[C3] Able to solve problems based on theoretical concepts in at least one field of mathematics: analysis and algebra, modeling and system optimization, and computing science.

Course Learning Outcome

1. Be able to understand the basic concepts of algorithms and procedural computer programming.
2. Be able to design algorithms, flow charts, and create computer programs with JAVA language programming to solve mathematical problems, individual or by group.

Main Subject.
1. Algorithms: definition, criteria, flow chart, pseudo-code
2. Programming concepts: paradigms, structured programming steps, programming languages.
3. Java Programming Language: data types, keywords, constants, variables, I/O structures, operators, loops, control structures, functions and procedures, array, string manipulation, recursive, GUI and event driven.

Prerequisites

Reference
1. *"Java Programming Comprehensive"*, 10th Edition, Pearson Education, Inc., publishing as Prentice Hall, 2013
2. Paul Deitel, Harvey Deitel, "*Java: How to Program*", 9th Edition, Prentice Hall, 2012

Supporting Reference
1. Abdul Kadir, "*Algoritma & Pemrograman Menggunakan Java*", Andi Offset, 2012