

Course Code	TKIE161103									
Course Name	Fundamental of Programming									
Course Instructors	Silmi Fauziati; Markus Nurtiantara Aji									
Course Type	Required									
Course Classification	Engineering Topics									
Credit / Contact Hour per Week	3 / 150 minutes per Week									
Course Description	This course will discuss about program development steps ranging from defining problems to be solved, determining program inputs and outcomes and determining processing steps by utilizing operators and operands, data types and structures, programming controls and some programming strategies and modularities. This course will also discuss how the program runs on a computer system and how to evaluate and validate programs by utilizing debugging and compilers. This lecture will utilize the procedural programming paradigm represented by the C programming language.									
Prerequisites Courses	-									
Covered Student Outcome	Fundamental and Engineering Knowledge (a) Development of Engineering Solution (b) Modern Tools Utilization (e)									
Learning Outcome	<ol style="list-style-type: none"> 1. Students are able to explain the concept of programming 2. Students are able to develop procedural paradigm program 3. Students are able to utilize various data types and basic data structures to develop the program. 4. Students are able to implement modular programming and choose various programming strategies to get a good, effective and efficient program. 									
Topic	<ol style="list-style-type: none"> 1. Introduction to Basic Programming 2. Overview Language C 3. Operators in Language C 4. Selection Control Structure 5. Structure of Loop Control 6. Combination of Selection, Repetition and Sequential Structure Control 7. Modularity 8. Communication between Modules 9. Array Process 10. Structure and Union 11. Dynamic Data Types 12. Recursion 13. Constraint, Testing and Debugging 14. Exercises and duties 									
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Tugas dan Quiz</td> <td>LO1,LO3</td> </tr> <tr> <td>Mid Exam</td> <td>LO2</td> </tr> <tr> <td>Final Exam</td> <td>LO4</td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Tugas dan Quiz	LO1,LO3	Mid Exam	LO2	Final Exam	LO4
Direct Assessment Plan	Measured Learning Outcome									
Tugas dan Quiz	LO1,LO3									
Mid Exam	LO2									
Final Exam	LO4									
Indirect Assesment	Questionnaire (EDOM)									
References	<ol style="list-style-type: none"> 1. Robertson, L. Anne, 2012, Simple Program Design, Thomson Course Technology, United States of America. 2. B. Tucker, 1995, Fundamentals of Computing I, McGraw-Hill, Inc., United States of America. 3. L. Wear, 1991, "Computers", McGraw-Hill, Inc., United States of America. 4. Hanly, Jeri R., et.al., 1993, Problem Solving and Program Design in C, Addison Wesley Publishing Company. 									