

Course Code	TKIE161103P
Course Name	Fundamentals of Programming Lab Work
Course Instructors	Adhistya Erna Permanasari
Course Type	Required
Course Classification	Engineering Topics
Credit / Contact Hour per Week	1 / 150 minutes per Week
Course Description	The main purpose of this course is to encourage students' technical and analytical skills in implementing basic programming concepts to solve various problems.
Prerequisites Courses	Fundamentals of Programming (TKIE161103)
Covered Student Outcome	Development of Engineering Solution (b) Data and Experiment (d) Modern Tools Utilization (e) Multidisciplinary Teamwork (h)

Learning Mapping		
Code	Learning Outcome	Student Outcome
LO1	Students are able to implement and analyze the use of data types and operators in C / C ++	Development of Engineering Solution (b)
LO2	Students are able to apply and analyze the concept of selection control structure, recurrence control, recursive, and combinations	Data and Experiment (d)
LO3	Students are able to apply and analyze the concept of modularity and communication among modules in C / C ++	Modern Tools Utilization (e)
LO4	Students are able to use and analyze arrays, structures and unions, and dynamic data types in programming	Multidisciplinary Teamwork (h)

Topic	<ol style="list-style-type: none"> 1. Introduction to GCC 2. Operator and Data Types 3. Selection Structure 4. Repetition Structure 5. Pointer & Array 6. I/O Function 7. Module 8. Final Projects 							
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Final Exam</td> <td>LO1, LO2, LO3, LO4</td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Final Exam	LO1, LO2, LO3, LO4		
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	Final Exam	LO1, LO2, LO3, LO4						
Indirect Assessment	Questionnaire and direct communication							
References	<p>[1] Robertson, L. Anne, 2012, Simple Program Design, Thomson Course Technology, United States of America.</p> <p>[2] B. Tucker, 1995, Fundamentals of Computing I, McGraw-Hill, Inc., United States of America.</p> <p>[3] L. Wear, 1991, "Computers", McGraw-Hill, Inc., United States of America.</p> <p>[4] Hanly, Jeri R., et.al., 1993, Problem Solving and Program Design in C, Addison Wesley Publishing Company.</p>							