

Module designation	IF130 Programming Fundamentals		
Semester(s) in which the module is taught	1		
Person responsible for the module	Januar Wahjudi		
Language	English & Indonesian		
Relation to curriculum	Compulsory		
Teaching methods	Lecture, Demonstration		
Workload (incl. contact hours, self-study hours)	Total workload: 136.08 hours - 35.01 hours of synchronous lecture. - 84.06 hours of self-study and assignments in the form of essays. - 17.01 hours related to exam and self study		
Credit points	3 SKS (5.04 ECTS)		
Required and recommended prerequisites for joining the module	-		
Module objectives/intended learning outcomes	Course Learning outcome	Related ELOs	
		ELO	Performance Indicator
	Students are able to write programs in C language to solve simple problems	J	Understand algorithms and mathematical principles upon which the computer system is founded to solve engineering problems.
Content	<p>This course discusses how to solve simple problems using algorithms presented in the form of flowcharts, pseudocodes, and the C programming language.</p> <p>Specifically, this course contain these topics:</p> <ol style="list-style-type: none"> 1. Algorithm 2. Selection control structure: definition, flowchart and pseudocode 3. Repetition control structure: definition, flowchart and pseudocode 4. Modular programming: definition, flowchart and pseudocode 5. Introduction to programming concepts with the C programming language 6. Introduction to input and output in the C programming language 7. Selection control structure in C programming language 8. Repetition control structure in C programming language 		

	<ul style="list-style-type: none"> 9. Modular programming in C programming language 10. Pointers in C programming language 11. Arrays in the C programming language.
Examination forms	Written test, Project
Study and examination requirements	<p>Total score ≥ 55 must be satisfied.</p> <p>The total score is the weighted average of the assignments (30%), the midterm exam (30%), and the final exam (40%).</p>
Reading list	<ul style="list-style-type: none"> 1. Gaddis, Tony, 2019, Starting out with programming logic & design, Fifth edition, Pearson Education, Inc. 2. Hanly, Jeri R. and Koffman, Elliot B., 2013, Problem Solving and Program Design in C, Seventh Edition, Pearson Education, Inc. 3. Deitel, Paul and Deitel, Harvey, 2016, C How to Program, Eighth Edition, Pearson Education, Inc.