

UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE
DEPARTMENT OF COMPUTER ENGINEERING
FACULTY OF INTELLIGENT ELECTRICAL AND INFORMATICS TECHNOLOGY

Module name	Basic Computer Programming	
Module level	Undergraduate	
Code	EW184102	
Courses (if applicable)	Basic Computer Programming	
Semester	1 / Fall (Gasal)	
Contact person	Dr. Eko Mulyanto	
Lecturer	Dr. Eko Mulyanto	
Language	Indonesia / English	
Relation to curriculum	Undergraduate degree program, mandatory, 3 rd semester.	
Type of teaching, contact hours	Lecture, < 60 students, 170 Minutes * 3 SKS	
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week. 	
Credit points	3 credit points (sks).	
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.	
Mandatory prerequisites		
Learning outcomes and their corresponding PLOs	<p>CLO-1 Students are able to explain the programming basics, binary number system, differences between syntax errors, runtime errors, and logic errors.</p> <p>CLO-2 Students are able to distinguish language definition from implementation, syntax and parsing from semantics and evaluation, understand how program state maps to memory (globals/statics, locals/stack, heap/instances), and understand the implications of heap reachability for memory management</p>	<p>PLO-3</p> <p>PLO-3 PLO-5</p>

	<p>CLO-3 Students are able to develop, understand, test, and evolve substantial programs using a modern IDE, and associated configuration tools; use programming approaches that avoid common coding errors; practice fundamental defensive programming; perform individual and team program reviews; use established design principles to organize a software system</p> <p>CLO-4 Students are able to use, implement, and evaluate fundamental data structures and associated algorithms; create, implement, debug, and evaluate algorithms for solving substantial problems, including recursive, using divide-and-conquer and via decomposition; select and implement an abstract data type for a given problem</p>	<p>PLO-6</p> <p>PLO-5 PLO-6</p>
Content	In this subject, students will learn the history and development of computer, computer components and computer system, algorithm concept, data type, basic programming, structured programming, iteration, loop, condition, function, structure and file concept.	
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Quiz 1 and 2 • Assignment 1, 2, 3 • Mid-term examination • Final examination 	
Media employed	LCD, whiteboard, websites (myITS Classroom).	
Assessments and Evaluation	<p>CO-1: Question no 1 in midterm exam (10%)</p> <p>CO-2: Question no 2 in midterm exam (10%)</p> <p>CO-3: Assignment 1 (5%), question no 4 in midterm exam (20%), Quiz 2 (5%)</p> <p>CO-4: Question no 1 in final exam (25%), question no 2 in final exam (25%)</p>	
Reading List	<ol style="list-style-type: none"> 1. "Discovering Computers Fundamentals", Gary B. Shelly and Misty E. Vermaat, Cengage Learning, 8th Edition, 2012. 2. "Introduction to Algorithms", Thomas H. Cormen, MIT Press, 3th Edition, 2009. 3. "The C Programming Language", Brian Kernighan and Dennis Ritchie, -, 1978 	