MODULE HANDBOOK DESCRIPTION

Module designation	Basic Programming Laboratory
Code	FBS1216
Semester(s) in which the module is taught	2 / First year
Person responsible for the module	Giri Wahyu Wiriasto, S.T., M.T.
Language	Indonesian
Relation to curriculum	Compulsory for all Majors
Teaching methods	Collaborative learning, Case Base Method, Project Base Learning
Workload (incl. contact hours, self-study hours)	Contact Hours every week, each week of the 16 weeks/semester : • 1 x 170 minutes laboratory works (1 sks/credit) Total Study hours = 170 minutes/week
Credit points	(~ 1.6 ECTS)
Required and recommended prerequisites for joining the module	- Basic Programming (FBS1215)

Module objectives/intended learning outcomes	1. Students are able to explain about Data types: C supports various data types such as int, float, char, etc. 2. Students are able to explain Variables: A variable is a named location in memory used to store data. 3. Students are able to explain Operators: C supports various operators such as arithmetic, relational, logical, etc. 4. Students are able to explain Control structures: C provides control structures such as if-else, for loop, while loop, etc. to control the flow of a program. 5. Students are able to explain Functions: Functions are self-contained blocks of code that can be called from other parts of a program. 6. Students are able to explain Pointers: Pointers are variables that hold memory addresses, allowing programs to manipulate memory directly. 7. Students are able to explain Arrays: Arrays are data structures that store a collection of elements, each of which can be accessed using an index. 8. Students are able to explain Structures: Structures are user-defined data types that allow for the grouping of variables of different data types.	PLO3
	9. Students are able design program with particular case.	PLO4

	10. Students are able to practice/experiment about Data types: C supports various data types such as int, float, char, etc. 11. Students are able to practice/experiment Variables: A variable is a named location in memory used to store data. 12. Students are able to practice/experiment Operators: C supports various operators such as arithmetic, relational, logical, etc. 13. Students are able to practice/experiment Control structures: C provides control structures such as if-else, for loop, while loop, etc. to control the flow of a program. 14. Students are able to practice/experiment Functions: Functions are self-contained blocks of code that can be called from other parts of a program. 15. Students are able to practice/experiment Pointers: Pointers are variables that hold memory addresses, allowing programs to manipulate memory directly. 16. Students are able to practice/experiment Arrays: Arrays are data structures that store a collection of elements, each of which can be accessed using an index. 17. Students are able to practice/experiment Structures: Structures are user-defined data types that allow for the grouping of variables of different data types.	PLO5
Content	Data types, Variables, Operators, Control structures, Functions, Pointers, Arrays, Structures, pointer, input-output.	
Examination forms	Presentation case study, project game design using godot engine.	
Study and examination requirements	Assistance = 50% Project = 50%	
Reading list	1. “The C Programming Language" by Brian W. Kernighan and Dennis M. Ritchie. 2. "C++ Primer" by Lippman, Lajoie, and Moo. 3. "C++ How to Program" by Deitel and Deitel. 4. "C++ Standard Library Quick Reference" by Peter Van Weert and Marc Gregoire. 5. "Effective C++" by Scott Meyers. 6. "Modern C++ Design" by Andrei Alexandrescu. 7. "Accelerated C++" by Andrew Koenig and Barbara E. Moo. 8. "The C++ Standard Library: A Tutorial and Reference" by Nicolai M. Josuttis.	