MODULE HANDBOOK DESCRIPTION

Module designation	Algorithm and Data Structure	
Code	FBD2109	
Semester(s) in which the module is taught	6 / third year	
Person responsible for the module	Cipta Ramadhani, S.T., M.Eng	
Language	Indonesian/English	
Relation to curriculum	Concentration Elective for Computer Engineering	
Teaching methods	Lectures, Small Group Discussion, Case Base Method.	
Workload (incl. contact hours, self-study hours)	Contact hours every week, each week of the 16 weeks/semester: (per week includes) ● 2 x 50 minutes: Lecture ● 2 x 60 minutes: Exercise and Assignment ● 2 x 60 minutes: Self-learning Total study hours = 5 hours 40 minutes/week.	
Credit points	2 SKS (~ 3.2 ECTS)	
Required and recommended prerequisites for joining the module	- FBD3104 Object Oriented Programming	
Module objectives/ intended learning outcomes	1. Students are able to understand the concept of array and pointer. 2. Students are able to understand the concept of Graph Theory. 3. Students are able to understand the concept of Tree data Structure.	PLO3 dan PLO4
	4. Students are able to create and understand the concept of Stack and Queue. 5. Students are able to create Linked List.	PLO 3

	6. Students are able to create Binary Search Tree. 7. Students are able to create BFS and DFS algorithm.	PLO5
Content	Array and pointer, Linked List, Stack and Queue, the concept of tree structure, Binary Search Tree, Graph.	
Examination forms	- Multiple choice examinations and Essay. - Presentation case study.	
Study and examination requirements	The final grade in the module is composed of: a. Per-meeting score = 5 % x 16 meeting = 80%. b. Exercise Report/ Homework/Portofolio = 20%. Students must have a final grade of 65% or higher to pass	
Reading list	1. Introduction to Algorithm, 1989, Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein. MIT Press. 2. Head First Java, 2nd edition, 2008, Bert Bates and Kathy Sierra, O'Reilly. 3. Java™ How to Program, 9th, 2012, Prentice Hall. 4. Algoritma dan Struktur Data Dengan Bahasa Java, 2015, Cipta Ramadhani, Andi Publisher.	