INSTITUT TEKNOLOGI SEPULUH NOPEMBER
FACULTY OF SCIENCE AND DATA ANALYTICS
DEPARTMENT OF STATISTICS
STATISTICS UNDERGRADUATE PROGRAM

Course	Course Name	:	**Data Structure and Algorithm**
	Course Code	:	SS234628
	Credit	:	3 SKS
	Semester	:	VI

COURSE DESCRIPTION

The data structure course discusses the dynamic arrangement of data. The basic knowledge that students must have is programming knowledge. This course is useful for compiling simulation result data. Stack material provides an overview of data processing if the arrangement of data is stacked, pointer, queue and list material provide an overview of data processing sequentially. Material Tree, sort graph and search are useful for sorting data.

PROGRAM LEARNING OUTCOME

PLO-6	Able to design, collect, and perform data management with the right methodology
PLO-7	Able to use modern computing devices to solve statistical problems
PLO-8	Able to use computational techniques to solve statistical problems

COURSE LEARNING OUTCOME

CLO.1	Able to understand the concept of data structure for statistical analysis purposes
CLO.2	Able to analyze an algorithm.
CLO.3	Understand and apply the concept of data structure theory
CLO.4	Able to use computational techniques and modern computer equipment to apply structural concepts data and algorithms

MAIN SUBJECT

1. Data Structure
2. Algorithm Analysis
3. ARRAY and RECORD, POINTER, LINKED LIST, STACK, QUEUE, SQRT and SEARCH
4. Recrusive, TREE

PREREQUISITE

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REFERENCES

1. Data Structures and Algorithms with Python, 2015, Kent D. Lee, Steve Hubbard, ISSN 1863-7310 DOI 10.1007/978-3-319-13072-9
2. Data Structures and Algorithms in Python, 2013, Goodrich, Tamassia, and Goldwasser. ISBN: 978-1-118-29027-9
3. Data Structures and Algorithms in C++ (4rd edition), 2013, A. Drozdek, ISBN-13: 978-1-133-60842-4 & ISBN-10: 1-133-60842-6
4. Data Structures and Algorithm Analysis in C++ (3rd edition), 2007, M. A. Weiss. Addison-

Wesley, ISBN-10: 032144146X & ISBN-13: 9780321441461
1. Data Structures and Algorithm Analysis in C++, Third Edition, 2012, Clifford A. Shaffer, ISBN: 048648582X,9780486485829