Module code	SS-2202			
Module Title	Algorithms and Data Structures			
Degree/Diploma	Bachelor of Science (Computer Science)			
Type of Module	Major Core			
Modular Credits	4	**Total student Workload**	10	hours/week
		Contact hours	4	hours/week
Prerequisite	SS-1203 Programming Fundamentals 2			
Anti-requisite	None			

Aims

The module aims to improve the student's problem solving skill using a repertoire of basic algorithms and data structures as well as basic techniques in performance analysis.

Learning Outcomes

On successful completion of this module, a student will be expected to be able to:

Lower order :	20%	- analyze the performance of different algorithms
Middle order :	60%	- explain and implement some basic algorithms and data structures
Higher order:	20%	- apply appropriate algorithms and data structures to solve computing problems - apply good program design to encapsulate data structures and their operations as reusable abstract modules

Module Contents

- Performance analysis of various algorithms: average case, worst case, empirical and analytical techniques
- Data structures and associated operations: linked lists, stacks, queues, hash tables, binary trees, heaps, binary search trees and graphs
- Sorting and searching

Assessment	Formative assessment	Interactive Quizzes and Feedback
	Summative assessment	Examination: 50% Coursework: 50% - 2 class tests (20%) - 1 written assignment (15%) - 1 laboratory exercise (15%)