Module code	SS-1201			
Module Title	Programming Fundamentals 1			
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	None			
Anti-requisite	None			

Aims

This module provides a foundation in the design and implementation of well-structured computer programs.

Learning Outcomes

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

Lower order :	20%	- construct expressions using numeric, string, Boolean and composite values
Middle order:	60%	- construct nested code blocks using selection and iteration - implement pure functions and those with side effects - construct recursive functions
Higher order:	20%	- implement modular programs that can be tested and debugged easily - design test cases

Module Contents

- Program development: programming cycle, programming tools
- Program design: abstraction, top down refinement, nested structures
- Control structures: sequence, selection, loop, recursion
- Data types: numeric, string, Boolean, composites
- Basic coding patterns: linear recursion, input-process-output, foreach, map, fold, select
- Abstraction: functions, modules
- Debugging and testing

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%)