Study Skills
Course Milestones for Students

Please fill in sheets outlining what subjects/topics activities should be covered/completed by when.

This will inform students on what they need to focus on throughout their study skills period.

Course Title: COMPUTING SCIENCE	Level: NAT 5

Month	Work to be covered/Topics/Activities/Assignments
June/July	**SOFTWARE DESIGN AND DEVELOPMENT UNIT** **Programming Basics** – Python (WingIDE), Data types, Variables, Input and Output **Program Analysis & Design** – Input, Process, Output, Pseudocode, Graphical Design Techniques (Flow Chart/Structure Diagram)
August	**Programming Constructs** – Arithmetic Operators, Logical Operators, Selection, Iteration, Complex Conditions a VS Simple Conditions **Class Test** – progress check for SDD
September	**Programming Constructs Continued** – Initilisation, Pre-Defined Functions, Parameters **Standard Algorithms** – Input Validation*, Find Max/Min, Linear Search, Counting Occurences **Testing** – Test Data – Normal, Extreme, Exceptional Types of Error - Syntax, Logical, Execution **Readability of Code** – Meaningful Variable Names, White Space, Indentation, Internal Commentary
October	**SDD Unit Assessment** – involves working through Analysis, Design, Implementation and Testing a Python Program. Comments that describe what your program does are essential. **Computer Architecture** – Input, Process, Output, CPU: Control Unit, Registers, Arithmetic and Logic Unit, Data Bus, Address Bus, Interfaces **Low Level machines** – High level VS Low Level, Translators: Compiler, Interpreter. Data Representation: Storage Units(bits, bytes…terabytes), Binary Numbers(positive, negative, floating point), Text, Graphics

November	**INFORMATION SYSTEM DESIGN AND DEVELOPMENT UNIT**
	Databases – Flat File, Relational, Primary Key, Foreign Key, Sorting, Searching, Queries, Field Types, Validation, Errors: Duplication, Modification.
	User Types – Expert, Novice
	Class Test - Databases
December	
	Web Based – Navigation: Sequence, Hierarchical, URL: protocol, location, organisation Page Addressing: Absolute, Relative, Web Browser, Search Engine
	User Interface – Selection, Consistency, Interactivity, Readability
	Media Types – Compression: Lossy, Lossless. Standard File Formats: Graphics(JPEG, GIF), Audio(MP3, AAC, WAV), Video(MPEG, WMV, AVI), Text(txt, RTF)
	Coding – HTML, Javascript
	Testing – Hyperlinks, External Group Testing, Beta Testing
	Class Test - ISDD
	ISDD Unit Assessment

January	**Hardware requirements**
	Software Requirements
	Storage
	Networks
	Security, Legal and Environmental
February	**Coursework Assessment**
March	
April	**Revision**
Study Skills Course Directory of Support Resources	

Please fill in details below outlining what support is available for students completing this course. Please include on-line resources, books and details of revision sessions. If appropriate match the resource to the topics in the milestone calendar.

Resources	Topic/Activity/Assignment
TEXTBOOKS How to Pass Higher Computing Science for CfE By Greg Reid published by Hodder Education	*Whole course theory*
Higher Computing Science by Alan Williams published by Bright Red	*Whole course theory*
Scholar	*Interactive online materials*
LUNCHTIME REVISION SESSIONS: These will be available prior to and after the Prelim during one lunchtime agreed with the majority of pupils in the class.	*Mainly concentrating on how to answer exam style questions in Higher Business Management.*