INFORMATION TECHNOLOGY

COURSE OUTLINE & ASSESSMENT PLAN

OCTOBER – DECEMBER 2020

GRADE 10

Course Instructor: **Mrs. A. Edwards-Williams**

Course Overview:

1. prepare students to function effectively in a dynamic technological era;

2. promote the development of computer-related skills for application to real-life situations;

3. prepare students to use information technology responsibly.

WEEK	TOPICS	OBJECTIVES	CONTENT	
1 Oct 5- 9	Computer Fundamentals	Explain the concept of Information Technology; Distinguish among the major types of computer systems in terms of processing, speed, storage and portability;	Definition and scope of Information Technology **Major types:** (a) Super Computers (for example, Cray). (b) Mainframes (for example, IBM enterprise System). (c) Desktop systems. (d) Mobile devices (for example, laptops, notebooks, netbooks, smartphones, tablets and game consoles). (e) Embedded devices (for example, special-purpose systems such as controllers in microwaves, car ignition systems, answering machines).	**Classwork:** Arrange the major types of computer system in term of their portability from **LEAST** to **MOST** portable: Mainframe Mobile Super Computer Desktop Embedded

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2 Oct 12 - 16	Computer Fundamentals	Explain the functions of the major Hardware components of a computer system cont.	Major components: input, central processing unit, primary memory (RAM and ROM), secondary storage, output Units of storage: bits, bytes, kilobytes, megabytes, gigabytes, terabytes.	**Homework:** **Define the following** Units of storage: bits, bytes, kilobytes, megabytes, gigabytes, terabytes
		Explain how the major hardware components of a computer system interrelate;	Input processing output storage (IPOS) cycle	
		Evaluate the relative merits of cloud storage and local storage;	Definition of cloud and local storage. Assessment criteria: capacity, cost, accessibility; security issues.	
		select appropriate input/output devices to meet the needs of specified applications;	Associate the following devices with suitable applications: (a) Input: Optical mark reader (OMR), character readers (OCR, MICR), mouse, joystick, bar code reader, document scanner, light-pen, touch terminals, voice response unit, Touch Screens (tablets, point of sale, ATM), keyboard, digital camera, biometric systems, sensors, remote control, sound capture, pointing devices, webcam. (b) Visual output: Monitors, Printers (laser, inkjet, dot matrix, thermal, plotters, 3D Printers), microfilm. (c) Audible output: speakers, headphones, earphones.	**Test:** Computer Fundamentals

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3 Oct 19 – 23	Word-Processing	Create a document using content from a range of sources; Use appropriate document formatting features;	Importing text (combining documents). Typewritten text, images and other objects. Formatting features: font types and sizes, color, underline, bold, italics, superscript and subscript, tab stops, bullets and numbering, line spacing, justification (left, right, center, full), highlight, uppercase, word wrap, page size, margins, page and section breaks, page numbers, headers, footers, footnotes and endnotes.	**Classwork**
		Use appropriate editing features to structure and organize a document;	Drag and drop editing: perform block operations on selected areas of text within a document. Use search and replace functions appropriately to edit a document. Use of tables, table styles, shading, borders, row and column insertion, split cells, split tables, text direction and cell margins, cell size. Use of columns (one, two, three, left and right columns, column breaks).	**Graded Classwork**
		Use the review feature of a word processor to enhance document readiness; Appropriately use features that allow the protection of a document;	Spell and grammar check, thesaurus, word count, language setting, comments, and track changes. Automatic save and backup copy, edit restrictions – password protection.	

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4 Oct 26 - 30	Word-Processing: Mail Merge	Generate table of contents for a document; Use mail merge feature in the preparation of a document create a fillable electronic form for online use;	Auto table of content. Creation of primary documents and data files in mail merge application. Field names. Use of content controls, such as check boxes, text boxes, date picker, drop-down lists, and command buttons.	**Test:** Word Processing
5 Nov 2 – 6	Computer Fundamentals	explain the role of the different types of software in computer operation; discuss the relative merits of the various types of user interface; evaluate the suitability of a given computer system for a specific purpose;	System Software: Operating System, Utilities. Application software: general-purpose and special-purpose; integrated package; source: off the shelf, custom-written, and customized. Hardware: touch screens, specialized keyboards. Software: command line, menu-driven, graphical user, touch. Basic knowledge of system specification needed for purposes such as: to run a video game, web browsing, graphic design, video editing, and desktop publishing. Criteria: (a) Processing speed (CPU type and speed); (b) Memory (RAM); (c) Secondary storage (capacity and speed); (d) Types of software; and, (e) Input/Output devices.	**Graded Classwork:** CSEC Questions **Homework:** Locate a document that show the specification of any one of the following: (a) Laptop (b) Desktop computer (c) Tablet

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5 cont. Nov 2 - 6	Computer Fundamentals	troubleshoot basic computer hardware problems;	Cable problems (for example, loose cables). Monitor problems (for example, improperly adjusted monitor controls). Printer problems (for example, changing printer cartridges). Battery problems (for example, loose or dead battery).	**Class Activity** Watch a video on trouble shooting basic computer problem Students will write notes and share it the class.
6 Nov. 9 - 13 7 Nov 16 –20	Spreadsheet	explain the purpose of a spreadsheet; use appropriate terminologies and notions commonly associated with spreadsheets use basic pre-defined systems functions; create advanced arithmetic formulae replicate (copy) formulae into other cells manipulate columns and rows manipulate data in a spreadsheet;	Purpose of a spreadsheet: Common features: workbook, worksheet, column, row, cell (cell address, range, label, value), formula, function. Including sum, average, date, max, min, count, counta, countif, if. Formulae including addition, subtraction, multiplication, division, and use of brackets. Relative addressing, absolute addressing, naming of ranges. Effect of move, copy, delete operations on formulae. Insert, delete and modify columns and rows. Numeric Data formatting (currency, accounting, percentage, comma, decimal places). Sorting data (primary field, secondary field, ascending vs descending order). Filtering data (multiple criteria, complex criterion). Pivot Table (create one and two dimensional pivot tables, create frequency distribution from data and create pivot chart)	**Classwork** **Graded Homework:** 1. State the difference between absolute addressing, naming of ranges. 2. Give Examples for each

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8 Nov 23 - 27	Spreadsheet	perform charting operations;	Select appropriate chart types: Column charts, Bar charts, line graphs, pie charts. Labelling charts: graph titles, labels on axes, data labels.	**Test:** Spreadsheet
		Manipulate one or more worksheets.	Use of one or more worksheets to solve problems involving some of or all of the functions and operations listed above. Linking of two or more worksheets to solve problems.	
9 Nov 30 – Dec 4	Information Processing Fundamentals	distinguish between data and information;	Data as raw unprocessed facts; information as processed data. Sources of data and information (people, places and things). Document types: turnaround document, human-readable and machine-readable forms; hard copy, and soft copy.	**Graded Classwork** CSEC Questions
10 Dec 7 – 11		evaluate the reliability of information obtained from online sources;	Evaluation of information retrieved electronically for authenticity, currency, relevance, and bias	**Test:** information Processing
		differentiate between validation and verification of data;	Difference between validation and verification.	
11 Dec 14 - 18		identify appropriate validation and verification checks given a particular scenario; and,	Methods of validation: range check, reasonableness checks, data type checks, consistency checks, presence, format and length.	
		select appropriate file organization for particular application.	Methods of verification: double entry and proofreading (to identify and correct typographical and transpositional errors). File access methods: sequential, serial, direct and random. Application areas: archiving, payroll file, real time systems	