



Grade 10 Information Technology Course Outline



September (2024) -July (2025)

IMPORTANT DATES

1. Christmas Midterm: **October 21 - 23**
2. 1st Sixth week test: **October 14 - 18**
3. 2nd Sixth week test: **December 9 – 13**
4. Prize Giving: **December 18**
5. 3rd Sixth week test: **February 17- 21**
6. Easter Mid Term: **March 5-7**
7. 4th Sixth week test: **May 12- 16**
8. Summer Mid Term: **May 21-23**

Department Name:	Computer Studies
Grade Level:	10
Title of Course:	Grade 10 Information Technology
Duration:	September 4 (2024) - July 4 (2025)
Description of the Course:	<p>The Grade 10 Information Technology course is designed to prepare students for the Information Technology CSEC external examinations. Each topic is directly aligned with the CSEC Information Technology 2020 Syllabus. There is a focus on both practical and theory topics.</p> <p><u>Practical topics</u> to be covered at this level include:</p> <ul style="list-style-type: none"> • Spreadsheet • Database Management • Word Processors • Website Development <p>Students will also be starting the School Based Assessment (SBAs) for the practical areas stated above as well.</p>

COMPUTER STUDIES DEPARTMENT

- Term 1(Christmas) Spreadsheet SBA
- Term 2 (Easter) Database Management SBA
- Term 3 (Summer) Word and Webpage SBA

Theory Topics to be covered at this level include:

- Computer Fundamentals and Information Processing
- Computer Networks and Web Technologies

There will be a total of three (3) teaching sessions for each week:

- Double Sessions: Practical
- Single Sessions: Theory

Course Objective: *(General Objectives)*

Upon Completion of this course, students should be able to:

COMPUTER FUNDAMENTALS AND INFORMATION PROCESSING

- develop an understanding of the fundamental hardware and software components and the interrelationship among them.
- develop expertise in evaluating computer systems; and,
- develop an understanding of basic information processing principles.

Upon Completion of this course, students should develop an awareness of:

COMPUTER NETWORKS AND WEB TECHNOLOGIES

- basic networking concepts, including mobile networks; and,
- Internet and Web Technology concepts.

Upon Completion of this course, students should be able to:

SPREADSHEETS

- develop expertise in the use of spreadsheet packages in the development of computer applications.

DATABASE MANAGEMENT

- develop expertise in the design of a database management system in the development of computer applications

WORD-PROCESSING AND WEB PAGE DESIGN

- have hands-on experience in the use of Word-Processing and Web Page Design in the development of computer-generated documents.

COMPUTER STUDIES DEPARTMENT

- express their aptitude and creativity in design.

Student Learning Outcomes:

(Specific Objectives)

Students will be able to:

COMPUTER FUNDAMENTALS AND INFORMATION

PROCESSING

- explain the concept of Information Technology
- distinguish among the major types of computer systems in terms of processing speed, storage and portability
- explain the functions of the major hardware components of a computer system
- explain how the major hardware components of a computer system interrelate
- evaluate the relative merits of cloud storage and local storage.
- select appropriate input/output devices to meet the needs of specified applications
- 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
- troubleshoot basic computer hardware problems
- distinguish between data and information
- evaluate the reliability of information obtained from online sources
- differentiate between validation and verification of data
- identify appropriate validation and verification checks given a particular scenario
- select appropriate file organization for application

COMPUTER NETWORKS AND WEB TECHNOLOGIES

- distinguish among types of networks
- explain the functions of the basic components of a network
- assess the importance of mobile communication technologies as a component of modern communication networks.
- explain the interrelationship among key Web technology concepts

SPREADSHEETS

- explain the purpose of a spreadsheet
- use appropriate terminologies commonly associated with spreadsheets

COMPUTER STUDIES DEPARTMENT

- manipulate columns and rows
- manipulate data in a spreadsheet
- *use* basic pre-defined systems functions
- create advanced arithmetic formulae
- replicate (copy) formulae into other cells
- perform charting operations
- Manipulate *one or more* worksheets

DATABASE MANAGEMENT

- explain the concept of a database
- use terminologies commonly associated with a database
- create a database
- manipulate data in a database.

WORD-PROCESSING AND WEB PAGE DESIGN

- create a document using content from a range of sources
- use appropriate document formatting features
- use appropriate editing features to structure and organize a document
- use the review feature of a word processor to enhance document readiness
- appropriately use features that allow the protection of a document
- generate table of contents for a document
- use mail merge feature in the preparation of a document for a variety of situations
- use mail merge feature in the preparation of a document for a variety of situations
- plan a website structure and organization of page
- create simple web pages using a variety of design features from open-source platforms (Wix) (no html coding required)

Topical Outline of the Course Content:

COMPUTER FUNDAMENTALS AND INFORMATION PROCESSING

- Definition and scope of Information Technology
- IPOS Cycle
- Input Devices
- Output Devices

COMPUTER STUDIES DEPARTMENT

- Storage Devices (*Local and Cloud*)
- System Software (*Operating and Utility Software*)
- Application Software (*general-purpose and special purpose; integrated package, source: off the shelf, custom written and customized*)
- Major Types of Computers
- User Interface
- Computer Specifications
- Trouble Shooting
- File Organization
- Data Processing (Processing Modes)
- Distinguish between data and Information
- Data Verification and Validation

COMPUTER NETWORKS AND WEB TECHNOLOGIES

- Types of Networks
- Concept of a Mobile Network as a Radio Based Common Carrier
- Intranet, Extranet and Internet
- Transmission Media (Wired and Wireless)
- Terminologies (Switch, Router, Modem and Networks Interface Card/Network Adapter) and how they interrelate.

SPREADSHEETS

- Definition and Purpose of Spreadsheets
- Appropriate terminologies associated with Spreadsheets
- Manipulate Columns and Rows in a Spreadsheet (*insert , delete etc*)
- Numeric and Data Formats
- REVIEW of formulae and functions (Sum, avg, max, min, date, count, counta, countIF, IF)
- Absolute and Relative Cell addressing
- VLookup and PMT functions
- Sorting
- Simple and Advanced Filtering
- Data Visualization (Charts)
- Summarize Data in a Spreadsheet (Pivo Table)

DATABASE MANAGEMENT

- Terminologies used in Database Management
- Identifying parts of a Database
- Creating a Database (*Table, Query, Relationships, Form and Subform, Reports*)
- Data Types

COMPUTER STUDIES DEPARTMENT

- Keys (*Primary, foreign secondary key*)

WORD-PROCESSING AND WEB PAGE DESIGN

- Spell and grammar check, thesaurus, word count, language setting, comments, and track changes.
- Generating a TOC (Table of Contents)
- Mail Merge
- Fillable Forms

Guidelines/Suggestions for Teaching Methods and Student Learning

Activities:

Lectures: Provide contextual background and detailed analysis of each topic.

Group Discussions: Facilitate discussions on the computer system.

Research Projects: Assign research on a topic related to the components of a computer system.

Differentiated Instruction: Tailoring instruction to meet the needs, strengths, and interests of each student.

Lecture-Demonstration: Combining lectures with demonstrations to enhance understanding through verbal and visual learning

Peer Teaching: Students teach their peers, which can reinforce their own learning and enhance their understanding.

Guidelines/Suggestions for Methods of Student Evaluation:

Quizzes and Tests: Regular assessments to check understanding of key concepts.

Classwork: Assignments completed during class that help monitor ongoing student progress and understanding.

Homework Assignments: Tasks assigned for completion outside of class, reinforcing concepts taught and promoting independent study.

Class Participation: Assessment based on engagement in discussions and activities.

Presentations: Students present their research findings to the class.

Final Exam: A comprehensive exam covering all course material.

Group Projects: Team assignments that assess collaborative and interpersonal skills along with individual contributions.

Peer Reviews: A process where students evaluate each other's work, providing feedback and gaining insights from peers.

COMPUTER STUDIES DEPARTMENT

Reflections: Written insights by students on their learning experiences, often discussing what they learned and areas for improvement.

Self-Grading: Allowing students to evaluate their own work, fostering self-reflection and critical thinking about their performance.

Online Quizzes and Exams: Digital tests that make use of technology to assess students' understanding in a more flexible or remote setting

Suggested Readings, Texts, Objects of Study:

- CSEC Information Technology Syllabus with Specimen Papers
- Oxford Information Technology for CSEC
- Information Technology for CSEC 2nd Edition (CXC Study Guide)

Bibliography of Supportive Texts and Other Materials

Bibliography

Glenda Gay, R. B. (2019). *Oxford Information Technology for CSEC (Third Edition)*. Oxford: Oxford University Press.

Howard Lincoln, A. P. (2019). *Information Technology for CSEC 2nd Edition (CXC Study Guide) Second Edition*. Oxford: Oxford University Press.