

Oberlin High School  
Business Education Department  
Information Technology  
Grade 10 Outline

Unit 1: Computer Fundamentals and Information Processing

General Objectives: On completion of this Section, students should:

1. Develop an understanding of the fundamental hardware and software components and the interrelationship among them;
2. Develop expertise in evaluating computer systems;
3. Develop an understanding of basic information processing principles.

Specific Objectives:

**Computer Fundamentals**

At the end of these lessons students should be able to:

1. explain the concept of Information Technology;
2. distinguish among the major types of computer systems in terms of processing speed, storage and portability
3. explain the functions of the major hardware components of a computer system;
4. explain how the major hardware components of a computer system interrelate;
5. evaluate the relative merits of cloud storage and local storage;
6. select appropriate input/output devices to meet the needs of specified applications;
7. explain the role of the different types of software in computer operation;
8. discuss the relative merits of the various types of user interface;
9. evaluate the suitability of a given computer system for a specific purpose;
10. troubleshoot basic computer hardware problems;

**Key Concepts/Content**

Definition and scope of Information Technology.

Major types of Computer Systems: (a) Super Computers (for example, Cray). (b) Mainframes (for example, IBM zEnterprise 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).

Major components: input, central processing unit, primary memory (RAM and ROM), secondary storage, output. (a) Secondary storage devices: hard disks, magnetic tape, flash drive, memory card, and optical disks (CD, DVD and Blu-ray). (b) Units of storage: bits, bytes, kilobytes, megabytes, gigabytes, terabytes.

The Input processing output storage (IPOS) cycle.

Definition of cloud and local storage. Assessment criteria: capacity, cost, accessibility; security issues.

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.

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.

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).

## **Unit 2 : Word Processing and Web-Page Design**

### **Topic: Word Processing**

General Objectives: On completion of this Section, students should:

1. have hands-on experience in the use of Word-Processing and Web Page Design in the development of computer-generated documents; and,
2. be able to express their aptitude and creativity in design.

Specific Objectives: At the end of the lessons students should be able to:

1. create a document using content from a range of sources;
2. use appropriate document formatting features;
3. use appropriate editing features to structure and organize a document;
4. use the review feature of a word processor to enhance document readiness;
5. appropriately use features that allow the protection of a document
6. generate table of contents for a document
7. use mail merge feature in the preparation of a document for a variety of situations;
8. create a fillable electronic form for online use;
9. plan a website structure and organization of page;
10. create simple web pages using a variety of design features;
11. insert hyperlinks within different locations of a typical web page; and,
12. evaluate a website for accuracy, user friendliness and effective display.

## Key Concepts

Importing text (combining documents).

Typewritten text, images and other objects.

Formatting features: font types and sizes, colour, underline, bold, italics, superscript and subscript, tab stops, bullets and numbering, line spacing, justification (left, right, centre, full), highlight, uppercase, word wrap, page size, margins, page and section breaks, page numbers, headers, footers, footnotes and endnotes.

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).

Spell and grammar check, thesaurus, word count, language setting, comments, and track changes.

Automatic save and backup copy, edit restrictions – password protection.

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.

Reasons for the website. The intended audience. Number of web pages desired (no more than 3 pages). Content of each page. Layout of the web page.

Choosing an appropriate design for a page. Inserting and deleting text and graphics

Wrap text with image. Create home page with hyperlinks.

Link to another web page. Link to a location within the web page. Link to an email address. Link to user-created files

Considerations for publishing a website: Verify that all the hyperlinks work correctly. Use a test audience. Verify that all content is up-to-date.