



Digital Literacy

For Lower Secondary School

DEPARTMENT OF EDUCATION, INNOVATION AND GENDER RELATIONS

About this Document

One of the greatest imperatives of a 21st Century Education System is to prepare students to become fully capable in the fast evolving digital environment that we are now in. Students are engaged with several forms of digital technology but there is no guarantee that this engagement is preparing them for taking advantage of these technologies. This document is a guide that outlines those learning outcomes that are expected to develop fundamental digital literacies among student.

An emerging trend in the workplace is that nearly all of the new jobs and professions being created require the ability to use a computer effectively. An increasing number of tasks and operational activities at work and at school require the use of computers and computing devices. Importantly, the Caribbean Examinations Council (CXC) has made the bold move to introduce digital exams for all Caribbean Secondary Exit Certificate (CSEC) courses. Consequently, all secondary school students must develop a good degree of comfort and competence with using computers and computer applications. It is also important for students to learn and to apply safe and ethical practices while navigating the infinite and dynamic digital environment.

This guide is designed specifically for the lower secondary school curriculum in Saint Lucia. Many of the learning objectives and the content outlined in this document are similar to sections of CXC's CSEC Electronic Document Preparation and Management (EDPM) syllabus and from the Competency Standards for the Caribbean Vocational Qualifications (CVQ) Level One General Office Administration and Level One Data Operations courses. Additional content was added to address Internet Safety.

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Course Title: Digital Literacy
Target Group: Forms One, Two and Three (Lower Secondary)
Course Duration: 76 hours

Course Objectives:

1. To develop basic computer operation skills among students
2. To give students a basic introduction to productivity software
3. To help students achieve a proficiency of at least 30 words per minute in keyboarding

Rationale

The immediate rationale for this course is to provide secondary school students with requisite skills so that they are not in any way disadvantaged by the advent of Digital Testing by the Caribbean Examinations Council. From 2018, all CSEC courses will be evaluated through digital testing. Students require specific abilities and skills to take an exam on a computer. These include computer navigational skills, the ability to make use of the Internet, fluency with office productivity software and good typing speed. Furthermore, students should develop digital competencies that can be readily applied to their own education and self-development.

Students

The students taking this course are expected to already have a better than functional level of English proficiency/literacy. This course may be offered to any grade level in lower secondary school. Schools can decide, depending on the availability of resources, how and when to offer this course. It is important however, that too much contact time is not spent mulling through content with students. Contact time should be more activity-based and assessment-oriented.

Course Delivery

Teachers may use additional content to what is listed below. It is anticipated that teachers of IT and EDPM will teach this course. A digital version of this course will be made available to facilitate the consistency of delivery of the course, the continuing development of the course and the necessary support that some teachers may need to teach the course effectively.

Measurement and Assessment

Evaluation activities should be set as often as possible at the higher levels of expertise according to Bloom’s Taxonomy of Educational Objectives. It is critical that students **do**. Students should be able to demonstrate their application of knowledge, that they can analyze, synthesize and evaluate options for using specific software, functions and procedures.

<http://teaching.uncc.edu/learning-resources/articles-books/best-practice/goals-objectives/blooms-educational-objectives>

Course Outline

Unit		Recommended Number of Hours
1	Computer Hardware and Peripherals	4
2	Computers and Health	4
3	Operate a personal Computer	12
4	Introduction to Application Software	4
5	Use of Word Processing Software	10
6	Use of Presentation Software*	6
7	Use of Spreadsheet Software	8
8	Use of Web Browsing Software	8
9	Internet Safety	4
10	Keyboard Mastery	16
Total hours		76

Required Resources

Student should have access to

- A desktop computer or a laptop computer with a full keyboard
- Office Productivity Software (MS Office Suite, Office 365, LibreOffice, OpenOffice, Google Apps)
- Broadband Internet and updated web browsing software

Unit 1 - Computer Hardware, Peripherals and Operating Systems (4 hrs)

Specific Objectives	Content
Students should be able to:	
Identify the basic types of computers	<ul style="list-style-type: none"> ● Super, mainframe, mini and micro.
Identify the basic components of a computer system.	<ul style="list-style-type: none"> ● Input, output, data, storage, processor and user/s
List various input & output devices.	<ul style="list-style-type: none"> ● Input: Mouse, keyboard, scanner ● Output: printer, monitor, speaker
List the parts of a computer system	<ul style="list-style-type: none"> ● Memory, hard drive, processor,
Identify types of storage (Primary and Secondary).	<ul style="list-style-type: none"> ● Primary: ROM & RAM ● Secondary: Hard drive, USB, Flash drive, memory card, network/cloud storage, and optical disks
Troubleshoot basic hardware issues	<ul style="list-style-type: none"> ● Check voltage before plugging in device ● Check that plugs and cables are securely inserted/fitted ● Check that device is turned, well positioned and menu settings are correct
Discuss the factors affecting the durability of computers	<ul style="list-style-type: none"> ● Electrical and electrostatic conditions ● Moisture and humidity ● Dust and operating temperature ● Physical protection
Identify types of Computer networks	<ul style="list-style-type: none"> ● LAN, WAN, Internet
Identify the roles of the Operating System and different types of Operating Systems.	<ul style="list-style-type: none"> ● User Interface ● Input/Output and Processor management ● File Management ● Housekeeping functions

Unit 2 - Computers Health and Safety

Specific Objectives	Content
Students should be able to:	
Identify the types of health problems and injuries associated with repetitive/extended computer use	<ul style="list-style-type: none"> ● Repetitive strain injury - Tendonitis and Carpal tunnel syndrome ● Lower back pain ● Computer Vision Syndrome - sore, tired, burning, itchy or dried eyes <ul style="list-style-type: none"> - blurred or double vision - Blurred distance vision and difficulty focusing
Explain the symptoms of the injuries associated with repetitive/extended computer use	<ul style="list-style-type: none"> ● Repetitive strain injury ● Lower back pain ● Computer Vision syndrome
Describe the methods used to prevent/reduce injury due to repetitive/extended computer use	<ul style="list-style-type: none"> ● Ergonomics ● Reduction in length of time spent or concentrated hours of use ● Screen position, settings and maintenance ● Exercise and massage
Discuss safety factors associated with computer use	<ul style="list-style-type: none"> ● Electrical hazards, circuit overload, charging devices safely ● Safe installation and location of computers and peripherals ● The importance of voltage regulators and UPS devices

Unit 3 - Operate a Personal Computer

Specific Objectives	Content
Students should be able to:	
Start a computer and access basic system information and features	<ul style="list-style-type: none"> ● Computer is started or user logged on according to user procedures and/or institution requirements. ● Desktop configuration is customised in a manner suitable to meet individual requirements and/or special needs according to company/organizational guidelines. ● External media storage devices are inserted and ejected correctly ● Information is retrieved from and saved to external storage devices correctly ● Keyboard shortcuts are used to access functions on the computer ● Available help functions are used as required.
Describe computer security features	<ul style="list-style-type: none"> ● Passwords ● Locking workstation ● Anti-virus, malware software ● Scanning drives and files
Shutdown computer a computer correctly	<ul style="list-style-type: none"> ● All open applications are closed using correct procedures ● Computer is shutdown in accordance with user procedures.
Navigate and manipulate desktop environment	<ul style="list-style-type: none"> ● Desktop icons are correctly selected, opened and closed to access features (directories/folders, files, network devices, recycle bin and waste basket). ● Different roles and parts of the desktop window are identified for particular functions. ● The opening, resizing and closing of desktop windows for navigation purposes follow correct procedures. ● Shortcuts from the desktop are created if necessary with assistance from appropriate persons.
Organise basic directory and folder structures	<ul style="list-style-type: none"> ● Directories/folders with subdirectories/subfolders are created and named according to established guidelines. ● Directories/ folders are located using search techniques ● Directory/folder attributes (size, date, name etc) are identified. ● Sub-directories/folders are moved between directories/folders following correct

	<p>and appropriate procedures.</p> <ul style="list-style-type: none"> ● Directories/folders are renamed as required. ● Directories/folders and subdirectories/folders are accessed via different paths.
Organise files for use	<ul style="list-style-type: none"> ● The most commonly used types of files are identified. ● Files are created and suitably named when required. ● Groups of files are selected, opened and renamed as required. ● Files are copied/cut and pasted across directories/folders. ● Files are copied to external storage device where necessary. ● Files are compressed and extracted when necessary ● Deleted files are restored as necessary. ● Software tools are used to locate files.
Print information according to specifications	<ul style="list-style-type: none"> ● Print function is selected from application menu ● Appropriate printer is selected from list of installed printers ● Printer properties are selected to suit print job ● Progress of print jobs is monitored and cancelled or deleted if required ● Change default printer if required

Unit 4 - Introduction to Application Software (4 hours)

Specific Objectives	Content
Students should be able to:	
Identify various types of application software	<ul style="list-style-type: none">● Word processing, Spreadsheet, Database Management, Presentation, Desktop Publishing, CAD, Video and Image Editing Software.
Explain the purpose of a word processor	<ul style="list-style-type: none">● Instances in which word-processing should be used. Manipulation of text data. Illustration of the features of a word processing application.
Explain the purpose of a spreadsheet	<ul style="list-style-type: none">● Instances in which spreadsheets should be used. Manipulation of numeric data; Illustrate the features of a spreadsheet application.
Explain the purpose of a database management system	<ul style="list-style-type: none">● Instances in which databases should be used. Electronic storage and manipulation of data in tables for easy retrieval. Illustration of the features of a database application.
Explain the uses of a presentation software	<ul style="list-style-type: none">● Instances in which presentation software should be used. Presentations including delivery of lectures, speeches and reports. Illustration of the features of a presentation application.
Explain the uses of a web browser software	<ul style="list-style-type: none">● Instances in which web browser software should be used.
Determine the appropriate software to be used to perform specific tasks	<ul style="list-style-type: none">● Selection of appropriate word-processing, spreadsheet, database management, presentation and other specialised software.

Unit 5 - Use of Application Software – Word Processing Software

Specific Objectives	Content
Students should be able to:	
Create and save documents	<ul style="list-style-type: none"> ● Familiarization with the Word Processing interface ● Opening of documents and the addition of text and symbols are done according to information requirements ● Text is checked and amended in accordance with organisational and task requirement. ● Manuals, user documentation and online help are used to overcome problems with document production presentation. ● Document is saved to correct directory/folder.
Customise basic settings to meet page layout conventions	<ul style="list-style-type: none"> ● Select paper size and orientation to suit the purpose of the document ● Change font type, size and colour to enhance the appearance of the document. ● Apply text alignment, justification options and line spacing according to document formatting requirements. ● Modify margin sizes to suit the purpose of the documents. ● Demonstrate the ability to view multiple documents at any one time.
Format, edit and proofread document	<ul style="list-style-type: none"> ● Use italics, bold, underline and hyphenation as required and within organisational guidelines. ● Use various formatting tools correctly throughout the drafting of a document. ● Use spelling and grammar tool to proof document ● Manipulate document text by using cut, copy, paste, move, drag and drop. ● Closing of documents and saving of documents to storage media following the correct procedures according to institutional/organisational requirements.
Create tables according to specifications	<ul style="list-style-type: none"> ● Use different approaches to inserting a basic table into a word processing document using the correct procedures. ● Appropriately customise cell attributes to meet formatting and data requirements.

	<ul style="list-style-type: none">● Insert and delete columns and rows as necessary.● Use borders and other formatting tools appropriately in accordance to organisational style requirements.
Add Images to a document according to formatting requirements	<ul style="list-style-type: none">● Insert Images and/or graphics in a word processing document and customise according to requirements.● Position and resize images to meet the word processing document formatting needs.● Integrate images across other software into word processing document
Print word processing documents	<ul style="list-style-type: none">● Preview document in print preview mode.● Select correct print options, when sending a document to the printer.● Print information from installed printer.

Unit 6 - Use of Application Software – Presentation Software

Specific Objectives	Content
Students should be able to:	
Create simple presentations	<ul style="list-style-type: none">● The opening of presentations and addition of text and symbols follow the correct and appropriate procedures● Presentation is saved to correct directory/folder
Customise basic settings	<ul style="list-style-type: none">● Page display modes and size are adjusted● Selected font type, size and colour are appropriate for the purpose of the presentation● Ability to view multiple slides at once is demonstrated
Format presentations	<ul style="list-style-type: none">● Organisational charts, and bullet lists are used and modified as required● Objects (images and graphics) are correctly added and manipulated to meet presentation purpose● Objects such as tables are imported and modified for presentation purposes● Slides are duplicated within and/or across presentations following correct procedures
Print presentation	<ul style="list-style-type: none">● Slides are previewed in the required formats● Slides are printed in the required formats

Unit 7 - Use of Application Software – Spreadsheet Software

Specific Objectives	Content
Students should be able to:	
Create and save spreadsheet	<ul style="list-style-type: none"> ● Opening of documents and entering of numbers, text and symbols in the cells are done according to information requirements. ● Columns and rows are added, selected, copied, deleted or moved within the spreadsheet as desired. ● Create and apply simple mathematical formulae/functions. ● Ability to view multiple workbooks/spreadsheets at any one time is demonstrated. ● Document is closed and saved to storage device using the correct procedures and in the correct location.
Format spreadsheet	<ul style="list-style-type: none"> ● Selected font type, size and colour are appropriate for the purpose of the document. ● Alignment and justification options and row, height and column width are applied according to spreadsheet formatting requirements. ● Appropriate modifications are made to column width and height to suit spreadsheet requirements. ● Cells are formatted to display different styles, borders, values and information as required. ● Italics, bold, underline and hyphenation are correctly used as required. ● Information is aligned in selected cells as required. ● Sort a table by a primary field.
Create charts and graphs	<ul style="list-style-type: none"> ● Appropriate chart type is created and displayed according to requirements ● Appropriately label chart axes and data points
Print spreadsheets	<ul style="list-style-type: none"> ● Basic print options are correctly selected. ● Ability to preview spreadsheet in print preview mode is demonstrated. ● Spreadsheet or a selected part of spreadsheet is printed from installed printer using the correct procedures.

Unit 8 - Use of Application Software – Web Browsing Software

Specific Objectives	Content
Students should be able to:	
Access the Internet	<ul style="list-style-type: none"> ● List the most frequently used browsers available for accessing the web ● Appropriate browser is opened and assigned a Home Page/Start Page through setting basic preferences. ● The display/view modes are appropriately adjusted to suit personal requirements according to operational guidelines. ● Toolbar is appropriately modified to meet user and browsing needs. ● Identify and access useful web browser add-ons ● Access is gained to desired site and data is retrieved in accordance with guidelines and regulations. ● Images are loaded or not loaded depending on modem speed, computer and browser capabilities. ● Uniform Resource Locator (URL) is opened to obtain data and browse link in accordance with established procedures.
Search the Internet	<ul style="list-style-type: none"> ● Search engines are opened using the correct methods and search requirements are clearly defined. ● Usage of a range of search parameters (keywords, logical operators) is demonstrated. ● Use Hypertext and Hyperlinks to arrive at required information ● Search results are saved and presented as a report according to the information required and operational guidelines. ● Bookmarks are created for required web page and saved in associated bookmark folder using correct procedures. ● Page setup options are appropriately modified and the web page or the required information is printed according to approved guidelines and procedures. ● Established procedures are followed in shutting down and exiting browser. ● Use advanced search techniques to locate Open Educational Resources
Verify the accuracy and reliability of	<ul style="list-style-type: none"> ● Use of reputable and or peer reviewed sources

information found on the web	<ul style="list-style-type: none">● Cross reference information source with other sources● Identify potential signs of bias from web sources
Acknowledge the use of downloaded Intellectual Property off the Internet	<ul style="list-style-type: none">● Established procedures are followed when downloaded material is used in any form of presentation.● Knowledge of shareware, freeware, open source, OER, creative commons licensing● Appropriate method is used to cite information downloaded off the Internet

Unit 9 - Internet Safety

Specific Objectives	Content
Students should be able to:	
Identify potential risks of using the Internet	<ul style="list-style-type: none"> ● Loss of privacy - extortion, exploitation, cameras, video ● Compromise of Data Security - data theft ● Wrong/False Information - propaganda, fake news ● Piracy - copyright infringement ● Identity Theft - financial loss ● Fraud - soliciting ● Spamming - nuisance ● Pornography - sexting, inappropriate content ● Child Abuse - sex recruitment, online predators, human trafficking ● Electronic (Virtual) Addiction - video games, social media ● Cyber-Bullying - abuse, harassment, threats, suicide
Explain the harm that can be caused to individuals by negative practices on the Internet	<ul style="list-style-type: none"> ● Depression and suicidal thoughts ● Damage to reputation, way of life, means of income, family relations
Discuss the legal and moral implications of various types of abuse on the Internet	<ul style="list-style-type: none"> ● Private, Inappropriate or False information that is shared on someone can be used as evidence in legal proceedings against the person sharing ● Content placed on the Internet becomes permanent. A lot of harm can be done by such content
Apply safe practices when using the Internet	<ul style="list-style-type: none"> ● Time limits for Internet use ● Designated safe areas for Internet use (not in the bedroom) ● Have a clear purpose for going online ● Avoid gimmicks or too good to be true schemes ● Use very secure passwords ● Do not save passwords on a public computer ● Keep Wi-Fi network secured with a strong password ● Do not share personal information (DOB, Address, Account numbers) ● Keep a lock pattern or code on mobile devices ● Keep your antivirus software updated ● Avoid downloading suspicious files ● Scan downloaded files for virus before opening them

	<ul style="list-style-type: none">● Be careful when visiting peer-to-peer sites, the content can contain malicious software● Do not keep nude photos or video of yourself on your computer or mobile device● Do not share or post nude photos or video of yourself or others This can be duplicated many times over and you will never be able to delete all the available copies● Fake social media profiles exist. Be sure you know who individuals are before accepting their 'friend' requests● If you are being bullied, tell your teacher and your parents immediately● Be smart, know when to identify the trend of an online conversation to reject sexual advancements or other negative activity with unknown persons

Unit 10 - Keyboard Mastery

Specific Objectives	Content
Students should be able to:	
demonstrate competence in keyboarding techniques;	<ul style="list-style-type: none"> ● Practise and develop speed and accuracy at the keyboard using proper touch keyboarding techniques on alphanumeric keys.
demonstrate correct posture at the computer;	<ul style="list-style-type: none"> ● Practise correct posture, arm reach, seat-height, Screen-to-eye-level contact.
demonstrate competence in the use of special keys;	<ul style="list-style-type: none"> ● Apply special keys, for example, Tab, Escape, Insert. Shortcut keys, for example, ctrl and alt; and Function keys, for example, F1.
use correct spacing after punctuation marks;	<ul style="list-style-type: none"> ● After full stop, comma, semicolon, colon, question mark, exclamation mark, apostrophe, parentheses, quotation marks.
interpret manuscript signs;	<ul style="list-style-type: none"> ● Application of Manuscript Signs (See end of Syllabus for commonly used signs).
use different types of headings;	<ul style="list-style-type: none"> ● Main head, sub-head, shoulder, paragraph, marginal, and others; appropriate use of these headings.
apply appropriate language skills to produce a professionally finished document;	<ul style="list-style-type: none"> ● Correct use of punctuation, grammar, spelling and knowledge of abbreviations.
type at a minimum speed of 35 words per minute	<ul style="list-style-type: none"> ● Incorporation of all the skills in specific objectives 1–8 above.