The New Senior Secondary Curriculum for Sierra Leone

Subject Syllabus for Computer Literacy
Subject stream: Sciences and Technologies

This subject syllabus is based on the National Curriculum Framework for Senior Secondary Education. It was prepared by national curriculum specialists and subject experts.

SSSC
Senior Secondary School Curriculum

Curriculum Elements for Computer Literacy - an everyday subject

Subject Definition

In the Sierra Leone context, *computer literacy* can be *defined* as familiarity with, understanding of, and ability to use computers and related technology efficiently. It ranges from learning the basics of how computers work and developing the practical competencies to use computers for different purposes. In particular the subject covers competent use of the main computer applications, including: Word processing, spreadsheets, and PowerPoint. Learning to use computers in the office includes understanding how computer works and operates. Computer Literacy differs from computer science and computer programing which deal with the design and coding of computer programs. Every senior secondary school student should have the opportunity to take this Everyday Subject as a form of "literacy" in the 21st century and to later become functional professionals in our modern world.

Rationale for the Inclusion of Computer Literacy in the Senior Secondary School Curriculum

a) Many countries, especially in the developed world have put in place major initiatives for a national computer literate society.
b) Computer literacy projects have great initiative in many countries because they conform to general political and economic needs of those countries' public and private organizations.
c) Compute literacy cognitive computing aspect enables students to have the ability of higher order thinking and problem-solving skills.
d) Computer literacy for high school students effectuate deepening of critical thinking as they empower students to grasp abstract ideas that is very applicable in today's workspace.
e) Computer literacy like its parent discipline computer science encourages collaborative learning, sharpens interpersonal skills, teaches active listening and how to draft eloquent reports.
f) In the late 1970 and early 1980s, the game industry grew quite rapidly and helped to popularize computing, coding and gaming in the United Kingdom and Europe.
g) The initiative by the British to educate a slew of computer coders in schools and at home spawn the successful development of mass market PCs in England and in Europe in the 1990s.
h) Thus, in 2012, Computer Literacy Project was established in schools to prepare students to acquire skills in information technology and computer science and thus proffer their marketability.
i) In today's job market, computer illiteracy severely limits employment while having basic computer skills open up many opportunities and privileges.

General Learning Outcomes (Broad Goals)

a) Students acquire the ability and skills necessary to operate a computer and its peripherals.

b) A computer literate person can write and modify text, troubleshoot minor computer operating issues, and organize and analyse information on a computer.

c) Learning about computers is a worthwhile experience in and of itself as it is useful productivity tools for other academic work as well as in offices and industries.

d) The Information technology and digital revolution has made computer literacy essential in the workplace.

e) By studying computer literacy in high school, learners can discover more computer functions that are very useful in the job market.

f) The World Economic Forum found that only twenty five percent of citizens in the underdeveloped world which include Africa know how to use a computer. Only thirty percent of users pass as moderate to strong computer users. Studying computer literacy in high school would provide students with employable skills in a modern society.

g) A computer literate workforce increases work performance.

h) Computer literacy is essential in the workplace as it improves communication interpersonal skills.

i) The need for computer literacy is that computers is in use so extensively today and is expected to be pervasive in the workplace of the future.

j) Great computer skills which usually list computer literacy as a prerequisite means that you as a graduate can perform tasks that may position you above competing candidates.

k) Computer literacy and tech skills have proven to be uttermost important for entrepreneurships as the business world goes digital.

l) Being computer literate creates space for new ideas, enables self-confidence and helps to be innovative.

m) Computer literacy is well involved in communication, which plays an essential role in the business world – both interpersonally and electronically.

n) It has become imperative for every student to possess computer skills which endorses them with the norms and algorithms of the business world.

o) Students with computer literacy background would have mastered word processing, spreadsheet programs, and retrieving and sharing information on a computer through the world wide web.

p) Being computer literate enables you to use the computer to do personnel/business letters, view information on Internet (the web), sending mails, using internet banking services etc.

q) Small business owners and those who work with organization will be able to create their simple websites without having to spend money.

Subject Description

The course covers basic digital technology, word processing, spreadsheet, presentation, and web authoring.

Learning Computer Basics
- Computer system
- Central processing unit
- Input / Output unit
- Computer application
- Operating computer using graphics user interface (GUI)

Understanding Word Processing
- Working with Word documents
- Understanding the basics of word processing
- Creating document
- Editing document
- Formatting
- Doing spell check

Understanding Presentation
- Using application
- Developing a presentation
- Graphical objects
- Prepare outputs

Understanding Databases
- Using application tables
- Retrieving information
- Objects

Advancing Word Processing
- Advance word processing
- Formatting
- Referencing
- Enhance productivity
- Collaborative editing
- Prepare outputs

Understand Advanced Presentation
- Using Application
- Developing a presentation
- Graphical Objects
- Prepare Outputs

Understanding Databases
- Using application tables
- Retrieving information
- Objects

Advance Spreadsheet
- Formatting
- Functions and formulas
- Charts
- Analysis
- Validating and auditing
- Collaborative editing

Web Editing
- What is the internet?
- Creating websites with HTML
- CSS
- Web Hosting
- Using word

Structure of the Syllabus Over the Three Year Senior Secondary Cycle

It must be noted that rapid changes in technology make it necessary to visit computer literacy curriculum quite often.

	SSS 1	SSS 2	SSS 3
Term 1	**Learning the Basics of Computer** • Computer development • History behind computer • Types of computers • Understand the difference between computer hardware and software **Computer Systems** • Computer hardware systems • Power Supply • Overview on different operating systems • Application software • Concept of computing, data and information • viewing information on Internet (the web) • sending mails, using internet banking services **Word Processing** • Working with word documents • Understanding the basics of word processing • Creating document • Editing document • Formatting • Doing spell check • Preview and print documents	**Advance Word Processing** • Text rapping for graphical objects • Find and replace • Paragraphs and line spacing **Multiple Level List** • Textbook • Apply and modify outline numbering in multi-level lists • Table of contents • Index entry and bookmarks **Macros** • Textbook • Apply automatic text formatting • Record a simple Macro • Run a macro • Referencing **Templates** • Using fields Create and modifies forms • Using templates • Insert and edit hyperlinks • Apply automatic text formatting • Record a simple Macro • Run a macro • Change page setup • Insert tables • Run macros	**Basic Networking Concept** • Understanding basic networking concept • View the internet as a network of computers which spans the entire world • Understand the role of servers in the internet network of computers **How does the Browser Work?** • Textbook • Understanding how web browsers work? • How browsers make requests to servers hosting requested websites and get back different content based on requests • Learn about HTML, a datatype returned by web servers to our computers

	• Mail merge • Learn how to merge mailing lists with letters or documents		
Term 2	**Understanding Presentation** • Textbook • Using presentation default template • Understanding presentation views • Good practice in creating slide contents • Formatting text **Manipulation of Objects** • Understanding lists and tables • Understanding charts • Manipulation of objects • Understanding • grouping and arrangement • Presentations slide transitions **Animation** • Animation effects • Hide show slides • Spell check • Print • Slide show	**Advance Presentation** • Understand how to prepare a presentation based for a • particular audience and environment. • Learn how to design the content and layout. • Insert and edit slide master **Using Templates** • Using templates based on theme • Learn how to format drawn objects • Learn how to select and use chats • Learn how to use diagrams in your presentation • Learn how to change custom animation and in a slide **Hyperlink** • Learn how to insert, edit and remove hyperlink and buttons • Learn the two ways of embedding data into an impress presentation • Learn how to merge two presentations by adding one to another • Learn slide show control • Learn how to add, erase pen annotations during a slide show	**Web Pages** • Understand basic HTML • Learn how to add links and images to our web page • Learn how to navigate between web pages **CSS in Building Websites** • Learn about CSS in building websites. • Understanding CSS as a list of rules which tells the browser how to display to display our HTML **CSS Styles** • Learn new CSS styles • Learn CSS styles for positioning the webpage • Learn how to load external CSS files using tags
Term 3	**Introduction to Internet** • WWW and Web browsers • Basic of computer networks • LAN, WAN; concept of internet • Applications of internet	**Advance Spread Sheet** • Mathematical functions • Statistical functions • Financial functions • Lookup functions	**Web Hosting** • Learn the basics of web hosting • Understand better, how servers create the responses to requests form browsers

- Connecting to internet
- internet service providers (ISP)
- Knowing the Internet
- Basics of internet connectivity related troubleshooting

World Wide Web (WWW)
- World Wide Web; Web browsing software
- Search engines
- Understanding URL
- Domain name IP address
- Using governance website

Understanding Databases
- Introduction to spreadsheets
- Open spreadsheet
- Understand glossary of terms using queries
- Common database tasks
- Using forms

Reports
- Database reports
- Grouping reports
- Presenting specific fields
- Understand database reports, headers, and footers
- Learning how to export to spreadsheet or text

- Database functions
- Nested functions

Customization
- Using pivot tables
- Learning how to create customized lists and perform custom sorts
- Filters
- Learning to use sub-totalling features
- Using Scenarios
- Validation
- Auditing
- Trace precedent, dependent cells
- Using comments and notes in your spread sheet

Collaborative Editing
- Run a macro
- Collaborative editing
- Learn how to format changes using past special
- Use spreadsheet based on existing templates
- Using hyperlinks
- Linking data between different sheets within spreadsheets
- Automation Learning to use security by adding and removing password protestation to open and modify a spreadsheet

- Learning how to choose the correct web host for your need

Dynamic Name Server (DNS)
- Textbook
- DNS and domain names Understand the DNS "Domain name system"
- Understand better how web addresses work on the internet
- How computers know how to find the correct server when you type it in

Teaching Syllabus

	Topic/Theme/Unit	Expected learning outcomes	Recommended teaching methods	Suggested resources	Assessment of learning outcomes
	Learning Computer Basics • Computer system • Central processing unit • Input / Output unit • Computer application • Operating Computer using graphics user interface (GUI)	At the end of this topic, students are expected to have learned about computer hardware and software systems. They should be able to setup and operate a computer in the absence of an IT specialist.	The course will take the form of: • Lecture format and structured lab • Hands on. Structure lab experience	• Textbook • Picture and chart • Computers • Overhead projector with white board+ • Internet access • Software packages	Students are expected to be able to: • Identify the basic part of a computer, memory, impute output units, peripherals and describe their functions • Name types of operating Systems • Setup a computer system • Connect keyboard, mouse, monitor and printer to CPU • Checking power supply
	Word Processing • Word processing • Formatting • Referencing • Enhanced productivity • Prepare outputs	Students will be able to: • Open and close documents • Create and manipulate text • Format text • Set up and manage tables	The course will take the form of lecture and lab format. • Setting up and manipulating folders • Witting and editing letters	• Textbook (to be determined) • Picture and chart • Computer and internet availability	• Students will be tested on creating folders, writing, and formatting a word document • Creating a folder

	- Run a spell check - Use language setting and thesaurus - Print a word document	Writing and editing compositions		- Storing the document in the folder - Retrieving the document for printing
Introduction to Internet Browse the web and compare different web hosts and the types of services they offer.	Students will be able to: - Access the Web - Explain the web hosting - Explain how to choose the correct web host for your needs - Use internet services as a source of information as a research tool	The methodology: - The course will take lecture format and structured lab - Hands on in surfing the internet	- Textbook (to be determined) - Picture and chart - Computer and Internet availability	Students would be required to use the web to do research on some major assignment or project given by another class subject Students will be assessed on: - Various search engines - How to use the smart phones as a powerful tool for research and finding solutions to problems
Understanding Databases - Using application tables - Retrieving information - Objects - Open data bases - Understand glossary of terms using queries - Common database tasks - Using forms	Students will be able to: - Set up a simple spreadsheet - Use terminologies about spreadsheets - Open an existing database	The course will take the form of lecture and lab format in working with spreadsheets. - Opening and existing database - Manage and update a shop's stock inventory	- Textbook - Picture and chart - Computers - Overhead projector - Software package	Students should be able to show clear understanding of how to: - Keep records of employees for small business - Do basic accounting for small business

	• Perform common database tasks • Use forms			
Advancing Word Processing • Advance word processing • Formatting • Referencing • Enhance productivity • Collaborative editing • Prepare outputs	Students will be able to: • Use variety of fields in a document • Write reports on research projects done in some other class	The course will take lecture format and structured lab. Hands on include: • Using templates • Writing exercises • Writing reports on projects done in classes	• Textbook • Picture and chart • Computers • Overhead projector • Software package	**Students are expected to** • Open a report in design view and add test to a header and footer • Do a detailed report on a novel last read
Understand Presentation • Presentation planning • Slide Masters and Templates • Graphical objects • Charts and diagrams • Multimedia • Using Application • Developing a presentation • Graphical • Objects • Presentation planning • Slide Masters and Templates • Multimedia • Managing presentations	Students will be able to: • Use notes to provide a convenient way to create reminders or add extra information to slides for a smooth presentation • Make a presentation to impress their audience. • Enhancing productivity	The methodology The course will take lecture format and structured lab. Hands on include: • Managing presentations • Graphical objects • Charts and Diagrams	• Textbook • Picture and chart • Computers • Overhead projector • Software package	Students should be able to show clear understanding of and create the following presentation: • Create presentation using built in options like flowcharts, pyramid, etc. • Insert an action button and hyperlink into your presentation • Link an image to your presentation from a file

					• Save some specified slide as a file format: gif, jpeg, bmp
	Advance Spreadsheet • Formatting • Functions and formulas • Charts • Analysis. • Validating and auditing • Enhance productivity • Collaborative editing	Students will be able to: • Manage and update a shop's stock inventory • Manage and update an airline booking system • Open data bases • Understand glossary of terms using queries • Database reports • Grouping reports • Presenting specific fields	The teaching methods will include will use lecture to show how to • Open a table or query output in a spreadsheet for exporting • Open a report in design view and add test to a header and footer • Open a table or query output in a spreadsheet for exporting	• Textbook • Picture and chart • Computers • Overhead projector • Software package	Students should be able to demonstrate full understanding of how to: • Keep proper inventory for small business • Demonstrate mastery by setting up: • Open a table or query output in a spreadsheet for exporting • Database for employees • Inventory system for small business • payroll system for a small business