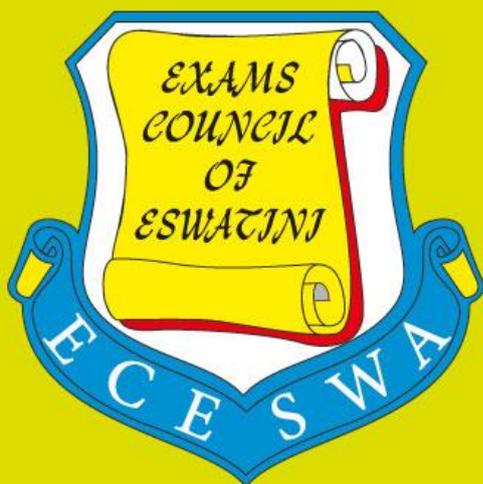# Eswatini Prevocational Certificate of Secondary Education

INFORMATION AND COMMUNICATION TECHNOLOGY

SYLLABUS

Subject Code: 5924

For Examination in 2021 - 2024

EPCSE

CONTENT

THE ESWATINI PREVOCATIONAL EDUCATION PROGRAMME

Broad Guidelines

The Ministry of Education and Training is committed to strengthen and reform the Prevocational Education Programme (National Vocational Education and Training and Skills Development, 2010) in order to provide equitable access for all students of appropriate age to qualify secondary education (Form 4 and 5). The Programme and its assessment system prepares the students for:

- their role in the socio-economic life of Eswatini and the world of work, and
- further vocational, technical and tertiary education

Eswatini National Education and Training Policy Directives

The Eswatini Prevocational Education Programme in Form 4 and Form 5 offers all students important learning opportunities regardless of their particular chosen programme area. Students in the programme:

- develop skills that can be applied now and in their future activities;
- refine career planning skills;
- improve entrepreneurial potential;
- acquire technology-related competence;
- enhance employability opportunities;
- demonstrate increased self-confidence and independence;
- apply and reinforce competencies developed in other study areas.

The National Curriculum for Form 4 and Form 5

Leaners are exposed to learning experiences that catalyse the development of basic competencies in all programme areas. These competences include:

- Managing learning
- Independent learning
- Managing resources
- Problem solving and innovation
- Effective communication
- Working with others
- Responsibility
- Critical thinking
- Technology application

To enhance the development of these skills, students must enrol for the **five academic** core subjects, **two prevocational** core subjects and one **prevocational elective** chosen from four subjects.

Academic Core	Prevocational Core	Prevocational Electives
• SiSwati	• Entrepreneurship	• Agricultural Technology
• English language	• Information and Communications Technology	• Business Accounting
• Mathematics		• Food and Textiles Technology
• Sciences		• Technical Studies
• Religious Education		

INFORMATION AND COMMUNICATION TECHNOLOGY

The Eswatini Prevocational Education Programme is designed as a two-year course for examination after completion of the 12th year of senior secondary level. The syllabus is designed to meet the requirements of the Prevocational Curriculum Guides developed by the National Curriculum Centre (NCC).

The overall goal of the programme is to improve the effectiveness of the education system in Eswatini to equip students with IT related career competency skills. This is to create a holistic individual with appropriate competencies for self-employment, employment and further training. The programme will produce a learner who is adequately competent in academic and vocational skills.

The PREVOC programme for Form 4 and Form 5 students is designed to respond to the many challenges of an evolving modern society. This curriculum will assist students to develop personal daily living skills and entry-level career competencies of IT by providing a nurturing and flexible learning environment that supports the development of responsible citizenship and acceptable work-force qualifications.

These assessment guidelines for the Prevocational programme provide a detailed structure to the curriculum and explain how assessment should be developed and carried out as an integral part of classroom teaching and learning. The National Curriculum Guidelines are applicable in Form 4 and Form 5

RATIONALE

Information and Communications Technology (ICT) is an applied subject and all Prevocational students will require frequent access to computer and internet facilities to develop the requisite skills. The syllabus aims to provide students with the knowledge, understanding and skills to adapt to variety of situations using ICT to emerging technologies. It will help students to be creative in starting and organising an enterprise and be able to further their education.

AIMS

The aims of the syllabus are the same for all students. These aims are set out below and describe the educational purposes of the course in Information and Communication Technology examination. They are not listed in order of priority.
The aims are to enable students to:

1. Find and select authentic and relevant information (AO1)
2. Process information (AO2)
3. Analyse processed information(AO3)
4. Communicate information using appropriate presentation media (AO2)
5. Understand the components of computer systems used to tackle problems in a business environment (AO4)
6. Understand the different types of Networks and Networking technologies (AO2)
7. Effectively use the internet (AO4)

PRIOR KNOWLEDGE

The programme is designed for students who have successfully completed Eswatini Junior Secondary Education or its equivalence.

PROGRESSION

The Prevocational Information and Communication Technology qualification enables candidates to progress directly to gainful employment, self-employment. or further education,

TEACHING HOURS

The size of the qualification is described in terms of Guided Learning Hours (GLH) and Total Qualification Time (TQT). The GHL is 180 hours (230 hours TQT) over 2 years.

GLH is teacher student contact hours which includes time spent on teaching and learning.

TQT includes GLH, supervising, invigilating, summative assessments and unsupervised learning (personal study, independent investigation) activities.

ASSESSMENT

This section details the assessment objectives, the specification grid, description of the papers, scheme of assessment and weighting of papers.

The assessment for the PREVOC ICT programme follows the Depth of Knowledge (DoK) model developed by Norman Web. This model is preferred over others because it is applied to learning expectations and aligns itself well with the assessment of the Prevocational objectives.

The DoK model is more applicable to the assessment of Prevocational tasks and cognitive demands as it categorises the tasks according to complexity of thinking required to successfully complete them. It extends beyond what is done to how it is done.

ASSESMENT OBJECTIVES (AO)

The Assessment Objectives in ICT are categorised as follows:

AO1 Recall and reproduction

AO2 Skills and concepts

AO3 Strategic thinking

AO4 Extended thinking

A brief description of the Assessment Objectives

AO1 Recall and reproduction

Involves the recall of information and /or rote application of simple procedures. Students are required to demonstrate routine responses, e.g. recall a formula, facts, principles, properties; perform routine tasks etc.

These are some of the verbs which may be used:

arrange, define, identify, state, etc.

AO2 Skills and concepts

This level involves some mental processing beyond simply recalling or reproducing a response. It requires two or more steps in processing of texts or part of texts. Students will be required to make observations, basic analysis or interpretation of information.

These are some of the verbs which may be used:

apply, label, classify, compare, distinguish, estimate, draw, interpret, observe, modify, organise, predict, sketch, etc.

AO3 Strategic thinking

This will involve coming up with plans in line with business's objectives within a particular context. It helps to perform long term planning, set goals and determine priorities, as well as identifying potential risks and opportunities.

These are some of the verbs which may be used:

explain, analyse, assess, critique, develop, differentiate, justify, hypothesise, investigate, review, solve, etc.

AO4 Extended thinking

At this level the reasoning is more complex. Students are required to use extended or integrated higher order thinking processes such as critical and creative reproductive thinking, reflection and adjustments of plans over time.

These are some of the verbs which may be used:

compose, create, design, evaluate, judge, propose, formulate, synthesize, etc.

> NB**: the verbs listed (AO1 - AO4) are meant to enhance understanding of the DoK model. However, the command words that will be used in this syllabus are stated in Appendix 3**

SPECIFICATION GRID

The approximate weightings allocated to each of these assessment objectives are summarised in the table below.

Assessment Objectives	Weighting (%)
AO1 Recall and reproduction	30
AO2 Skills and concepts	28
AO3 Strategic thinking	26
AO4 Extended thinking	16

The Assessment Objectives are weighted to give an indication of their relative importance. The percentages are not intended to provide a precise statement of the number of marks allocated to particular assessment objectives

The table below shows the further percentage break down of the assessment objectives for each examination paper.

Paper	Assessment Objectives				Total
	Recall and reproduction	Skills and concepts	Strategic thinking	Extended thinking	
1	20% [32 marks]	5% [8 marks]	0% [0 marks]		25% [40 marks]
2	10%[29 marks]	15%[42 marks]	10%[29 marks]		35% [100 marks]
3		8%[20 marks]	16%[40 marks]	16%[40 marks]	40% [100 marks]
Total	30%	28%	26%	16%	100

SCHEME OF ASSESSMENT

The examination will consist of three papers: Paper 1, 2 and 3. Paper 1 will consist of multiple choice questions, Paper 2 will be divided into two part: A and B. Part A will be short and structured constructed questions and Part B will be a Practical. Paper 3 will be a project. All three papers are compulsory. Candidates in this syllabus are eligible for Grades A* to G.

DESCRIPTION OF PAPERS

Paper 1:

This paper consists of 40 multiple choice questions worth 40 marks, assessing AO1 and

AO2. The duration of the paper is 1 hour. This paper contributes 25% towards the overall

mark.

Paper 2:

This paper consists of two sections, worth **100** marks, assessing AO1, AO2 and AO3. Duration is 3 hours. This paper contributes **35%** towards the overall mark.

Section A:

This is a theory section of the paper eliciting short constructed responses worth **40** marks, assessing AO1 and AO2. Duration is 1 hour.

Section B:

This section of the paper is a practical worth **60** marks, assessing AO2 and AO3. Duration is 2 hours. ECESWA will provide guidelines on how to conduct the practical exams.

The theory papers contribute 60% of the overall mark.

Paper 3

This paper requires students to complete a school based project and marks are allocated in **three** stages which are: developmental written proposal stage and evaluation. This paper is worth 100 marks assessing objectives AO2, AO3 and AO4. The duration of the project is 26 hours from February to August. The candidate's work consists of a portfolio of evidence of school-based assessment covering the three stages.

The project will be externally assessed by an Examiner who will be appointed by ECESWA. The External Examiner will be a specialist in the subject area who will not be a classroom teacher. The external Examiner will assess each stage of the project using a confidential assessment criteria developed by ECESWA. This will contribute 100% towards the overall mark of the project.

Centres will submit candidates' proposals to ECESWA by 31st March each year for external assessment

The practical (Paper 3) contribute 40% towards the overall syllabus mark.

Contents of a Portfolio

The portfolio must include sufficient evidence e.g. photographs and write-ups of all the stages of the project and any other relevant information to prove originality.

The portfolio must include the candidate's name, Centre name and candidate's number for identification purposes

CURRICULUM CONTENT

The abbreviations i.e. and e.g. have contextual meanings in this syllabus. Content which follows an i.e. must be taught and content which follows an e.g. indicates that students must know and be able use as examples.

1. SYSTEMS TECHNOLOGIES		
GENERAL OBJECTIVES **At the end of the programme students can:**	**Content (C)** **Students learn about:**	**Outcome (O)** **Students learn to:**

1.1 demonstrate knowledge and understanding of the use of ICT in business	C1.1.1. Computer systems i.e.:
	(a) Types
	   (i) Laptops
	   (ii) Tablets
	   (iii) Desktops
	   (iv) Smartphones
	(b) Advantages and disadvantages
	
	C1.1.2 Uses of computer applications in business contexts
	(a) Finance .i.e.:
	   (i) Electronic Funds Transfer (EFT)
	   (ii) Internet Banking
	   (iii) Mobile Banking
	   (iv) Electronic Funds Transfer at Point of Sales (EFTPOS)
	(b) Marketing
	   (i) Promotion
	   (ii) Brochures
	   (iii) Newsletters
	   (iv) Websites
		O1.1.1.1 state and describe the types of computer systems
		O1.1.1.2 describe their uses within a variety of business contexts
		O1.1.1.3 state and discuss the advantages and disadvantages of computer systems
		
		O1.1.2.1 select the different types of computer applications for business contexts
		O1.1.2.2 discuss uses of computer systems in business contexts
		O1.1.2.3 explain the advantages and disadvantages of computer systems

	C1.1.3 Emerging technologies i.e.: Robotics, Artificial Intelligence (AI), Internet of Everything (IoE) (a) Uses within a business environment (b) Impact on businesses (c) Impact on society	O1.1.3.1 state the different emerging technologies O1.1.3.2 describe their uses within a business context O1.1.3.3 Discuss the impact of emerging technologies on business O1.1.3.4 discuss the impact of emerging technologies on society

1.2 demonstrate knowledge and understanding of the functions of hardware components of computers	C1.2.1 Main internal components of computers i.e.:
	(a) Processor
	(b) Motherboard
	(c) Random Access Memory(RAM)
	(d) Read Only Memory (ROM)
	(e) Storage
	
	C1.2.2 Types of Input devices i.e.:
	(a) Manual input devices:
	   (i) keyboard
	   (ii) mouse
	   (iii) touchscreen
	   (iv) scanner
	(b) Direct data entry:
	   (i) Magnetic Stripe Reader,
	   (ii) Chip Reader
	   (iii) Bar code Reader
	   (iv) Magnetic Ink Character Recognition (MICR),
	   (v) Optical Mark Recognition (OMR)
	   (vi) Optical Character Reader (OCR)
	   (vii) Radio Frequency Identification Device (RFID) Reader
	   (viii) QR Code Scanner
		O1.2.1.1 identify and describe the internal components of a computer
		O1.2.1.2 describe the function and purpose of the internal components of a computer
		
		O1.2.2.1 state and describe input devices of computers
		
		O1.2.2.2 explain how direct data entry input devices work, including medium of transmission and how transmission takes place.
		
		O1.2.2.2 discuss uses of input devices of a computer
		
		O1.2.2.3 discuss the advantages and disadvantages of each input device

	C1.2.3 Types and uses of output devices i.e.: (a) printer, (b) monitor, (c) speaker, (d) touchscreen	O1.2.3.1 state and describe output devices of computers O1.2.3.2 discuss uses of output devices of a computer O1.2.3.3 discuss the advantages and disadvantages of each output device

	C1.2.4 Storage devices and media i.e.:
	(a) Magnetic i.e.:
	  (i) Fixed hard disk drive,
	  (ii) Portable hard disk drive
	(b) Solid-State i.e.:
	  (i) 'Solid-state drive' (SSD),
	  (ii) Memory stick,
	  (iii) SD card
	(c) Optical i.e.:
	  (i) CD
	  (ii) DVD
	  (iii) Blu-ray disc
		O1.2.4.1 state and describe types of storage devices and associated media
		
		O.1.2.4.2 explain uses of the different types storage devices and associated media in a business environment

	C1.2.5 trouble shooting i.e.: (a) Process of troubleshooting (b) Common hardware problems	O1.2.5.1 state and explain the process of troubleshooting O1.2.5.2 State and discuss common hardware problems
1.3 demonstrate knowledge and understanding of software	C1.3.1 Types and uses of software (a) Off the shelf (b) bespoke, (c) 'open-source' (d) freeware	O1.3.1.1 state and describe the types of software O1.3.1.2 discuss the uses of software in a business

	C1.3.2 Classes of system software i.e.
	(a) System software
	  (i) Operating Systems i.e:
	  (Linux, Windows, Android, etc.)
	(b) Application software
	  (i) Word Processor
	  (ii) Spreadsheet
	  (iii) Database
	  (iv) Presentation
		O1.3.2.1 state and describe the classes of software: system, application and utilities
		O1.3.2.2 explain the uses of different software classes in business environment

	(c) Utilities (i) Drivers (ii) Disk Cleaner (iii) Defragmenters	
	C1.3.3 System software requirements and compatibility i.e.: (a) Memory (b) Storage (c) Speed	O1.3.3.1 State and discuss system requirements, installation and compatibility O1.3.3.2 explain why a system may cause glitches and fail

1.4 Demonstrate knowledge and understanding of computer system management	C1.4.1 computer system management
	(a) System maintenance
	  (i) Hardware processes
	    • Disk Defragmentation
	    • Disk Scanning
	    • Printer Maintenance
	  (ii) Software processes
	    • Updating Antivirus
	    • System Restore
	    • Installation of software
	(b) Importance of system maintenance
		O1.4.1.1 state and describe system maintenance of hardware processes i.e.:
		  • Disk defragmentation,
		  • scanning
		  • printer maintenance)
		O1.4.1.2 state and describe system maintenance of software processes i.e.:
		  • Updating antivirus
		  • System restore
		O1.4.1.3 explain the importance of system maintenance (hardware and software processes) in business

2. COMMUNICATION TECHNOLOGIES		
GENERAL OBJECTIVES At the end of the programme students can:	**Students will learn about:**	**Students will learn to:**
2.1 Demonstrate knowledge and understanding of network technologies	C2.1.1 Types of networks (a) Local Area Network(LAN), (b) Wide Area Network(WAN), (c) Wireless Local Area Network (WLAN)	O2.1.1.1 describe types of networks O2.1.1.2 state the uses of different types of networks O2.1.1.2 explain the advantages and disadvantages of networking in a business context
	C2.1 .2 Basic network devices in a business environment (a) Router (b) Switch (c) Hub (d) Network Interface Card(NIC) (e) Bridge	O2.1.2.1 state and describe the uses of basic network devices in a business environment
	C2.1.3 Wireless connections (a) types (i) Wi-Fi (ii) Li-Fi (iii) bluetooth (b) Uses (c) Security	O.2.1.3.1 state and describe types of wireless connections in computer devices O2.1.3.2 state and discuss uses and security issues of wireless connections in business context
2.2 Demonstrate knowledge and understanding of the Internet	C2.2.1 The Internet (a) Types (i) internet (ii) intranet (iii) extranet (b) uses	O2.2.1.1 state, describe and distinguish types of the Internet O2.2.1.2 Discuss uses of the Internet, intranet and extranet in a business environment
	C2.2.2 Internet Service Providers (ISP)	O2.2.1.1 Discuss the role of the ISP to access the internet

	C2.2.3 Browsing and searching techniques (a) Uniform Resource Locator (URL) (b) Browsers (c) search engines e.g. (advanced searches)	O2.2.3.1 explain how browsers and searching techniques access the internet.

2.3 demonstrate understanding and knowledge Internet communication methods	C2.3.1 Internet communication
	
	(a) methods i.e:
	
	   (i) emails
	
	   (ii) websites
	
	   (iii) blogs
	
	   (iv) video conferencing
	
	   (v) facsimile
	
	   (vi) audio conferencing
	
	   (vii) cloud technologies
	
	(b) advantages and disadvantages
		O2.3.1.1 state and describe internet communication methods in business context
		
		O2.3.1.2 state and discuss advantages and disadvantages of internet communication methods

3. SECURITY

GENERAL OBJECTIVES At the end of the programme students can:	Students will learn about:	Students will learn to:

3.1 Demonstrate understanding and knowledge of security	C3.1.1 cyber security:
	(a) Types of security breaches:
	   (i) denial of service (DOS)
	   (ii) botnet
	   (iii) malware
	   (iv) spyware
	   (v) key logging
	   (vi) viruses
	(b) types of hackers
	   (i) white hat
	   (ii) grey hat
	   (iii) black hat
	(c) types of cyber attacks
	   (i) pharming
	   (ii) phishing
	   (iii) smishing
	   (iv) vishing
		O3.1.1.1 describe the need for cyber security
		O3.1.1.2 state, describe and distinguish types of security breaches, hackers and cyber-attacks.
		O3.1.1.3 state and discuss methods used to prevent security breaches, hackers and cyber-attacks

3.2 Demonstrate understanding and knowledge of data security	C3.2.1 Security measures
	(a) Physical
	   (i) Installing fences
	   (ii) Security guards and dogs
	   (iii) Intrusion detection
	   (iv) Administrative access control
	   (v) Electronic access control
	   (vi) Alarms
	   (vii) Cameras
	(b) Logical
	   (i) User identification
	   (ii) Passwords
	   (iii) authentication
	   (iv) Biometrics (fingerprints, iris scan, face recognition, voice control)
	   (v) Smart cards
		O3.2.1.1 state and describe the difference between physical and logical security
		O3.2.1.2 allocate each security measure to the correct category of security
		O3.2.1.2 state and describe the effectiveness of security measures to increase security and cost implications

4. THE SYSTEMS LIFE CYCLE		
GENERAL OBJECTIVES **At the end of the programme students can:**	**Students will learn about:**	**Students will learn to:**
4.1 Demonstrate skills of producing a feasibility report	C4.1.1 Feasibility study (a) Identify the main problems with existing system (b) Investigate technical possibility and cost effectiveness to solve problem	O4.1.1.1 Describe the existing system O4.1.1.2 Describe the problems with the existing system O4.4.1.3 Describe what the new system must be able to do O4.4.1.4 Describe alternative solutions O4.4.1.5 describe technical, economical, legal and social factors that have been considered O4.4.1.6 Recommend course of action
4.2 Demonstrate skills of analysing a system	C4.2.1 Methods of analysing a system (a) observation (b) interviews (c) questionnaires (d) examination of existing documents	O4.2.1.1 Identify and describe methods of research O4.1.1.2 state and discuss advantages and disadvantages of analysis methods
4.3 Demonstrate skills of designing a system	C4.3.1 Design specification (a) input (b) output (c) data storage (d) user interface (e) back-up and recovery procedures (f) security procedures	O4.3.1.1 describe input, output and data storage O4.3.1.2 design user interfaces O4.3.1.3 describe security, backup and recovery procedures
4.4 Demonstrate understanding and skills of implementing a system	C4.4.1 Implementation C4.4.2 Testing strategies (a) normal test data (b) extreme test data (c) erroneous test data	O4.4.1.1 Set up the system so that it matches the design specification O4.4.2.1 Test the system to make sure that all the parts work correctly normal, extreme and erroneous data

	C4.4.3 Installation	O4.4.3.1 install new hardware and software
		O4.4.3.2 transfer data from existing system to new one
		O4.4.3.3 train users how to use system

	C4.4.4 Documentation
	  (a) technical documentation
	  (b) user documentation
		O4.4.4.1 explain the need for user and technical documentation for information system

		O4.4.4.2 identify the components of user and technical documentation
		O4.4.4.3 produce user and technical document
4.5 Demonstrate knowledge and understanding of the system and evaluate it	C4.5.1 Post implementation review	O4.5.1.1 compare solution with the original task requirements
		O4.5.1.2 identify any limitations and necessary improvements
		O4.5.1.3 evaluate users' responses to the results of testing the system

4.6 Demonstrate knowledge and understanding of maintaining a system	C4.6.1 Maintenance	O4.6.1 change the new system according to:
		  (a) Needs of the user changing
		  (b) Problems arising that were not found during testing
		  (c) Improvements required in the way the system works

5. SOLUTION DEVELOPMENT		
GENERAL OBJECTIVES **At the end of the programme students can:**	**Students will learn about:**	**Students will learn to:**
5.1 Plan, create and develop ICT solutions	C5.1.1 target audience consideration (a) location (b) age range (c) gender (d) accessibility	O5.1.1.1 plan, create and develop ICT solutions appropriate to purpose and target audience O5.1.1.2 Create ICT solutions using appropriate software
5.2 Design and create business documents	C5.2.1 Document layout i.e.: (a) Newsletters, (b) booklets, (c) posters, (d) invoices, (e) quotations, (f) business cards	O5.2.1.1 Plan and create business documents with different layouts appropriate for business
	C5.2.2 document styles i.e.: (a) colour schemes, (b) logos, (c) font style (d) sizes	O5.2.2.1 develop and use house styles in a business document
	C5.2.3 headers and footers i.e.: (a) file name, (b) file path, (c) personal details, (d) automated date and time, (e) automated page numbers	O5.2.3.1 format documents to include headers and footers
	C5.2.4 Page layout i.e.: (a) orientations, (b) margins, (c) columns, (d) sizes,	O5.2.4.1 Format the page layout to suite the purpose of the document

	(e) page breaks,	
	(f) watermarks,	
	(g) borders,	
	(h) page colours,	
	(i) table of contents,	
	(j) table of figures	
	C5.2.5 Text e.g.:	C5.2.5.1 Format and edit text
	(a) drop caps,	
	(b) text flow control,	
	(c) text wrapping,	
	(d) text direction,	
	(e) line spacing,	
	(f) indentations	
	C5.2.6 Import and export	O5.2.6.1 Import files from different sources i.e.: (.xlsx, .csv)
		C5.2.6.2 Export documents to different file formats i.e. (.csv, .txt, .rtf, .pdf, .css, .htm, .docx, .xlsx, .pptx)
	C5.2.7 Tables	O5.2.7.1 Create or import a table with a specific number of rows and columns
		O5.2.7.2 Place text or object in a table
		O5.2.7.3 Format the design and layout of a table
	C5.2.8 Mail merge	O5.2.8.1 Explain why mail merged documents are created
		O5.2.8.2 Edit master documents to insert appropriate fields from a data source
		O5.2.8.3 Insert special fields i.e. date
		O5.2.8.4 Select records to merge
		O5.2.8.5 Save and print merged documents

	C5.2.9 Proofing	O5.2.9.1 use automated tools to remove errors in a document
5.3 design and create spreadsheets	C5.3.1 Cells (a) Name, (b) Merge, (c) Align, (d) change colour resize, (e) change text direction, (f) validation, (g) relative referencing, absolute referencing, protecting (h) Enter text and values	O5.3.1.1 Name cells, and define cells including a named range O5.3.1.2 Edit the structure of an existing data model including inserting, deleting cells rows and columns O5.3.1.3 Use absolute and relative referencing O5.3.1.4 use validation and conditional formatting to restrict data in cells
	C5.3.2 Rows/Columns (a) Resize, (b) hide/unhide, (c) freezing panes	O5.3.2.1 Adjust row height, column width and cell sizes so that all data, labels and formula are fully visible O5.3.2.2 hide and display rows or columns
	C5.3.3 Borders and shading	O5.3.3.1 Add borders and apply shadings in selected areas. i.e. cells, rows and column
	C5.3.4 format cell content (a) text, (b) number, (c) currency, (d) percentage, (e) date, (f) custom	O5.3.4.1 format numeric data to display the number of decimal places, a variety of different currency values, percentages and date

	C5.3.5 sheets	O5.3.5.1 linking sheets within the same spreadsheet
		O5.3.5.2 set the spreadsheet to display formula and values
		O5.3.5.3 set the page orientation to portrait or landscape
	C5.3.6 Functions and Formulae (a) SUMIF, (b) COUNTIF, (c) IF, (d) Nested IF, (e) VLOOKUP, (f) HLOOKUP, CONCATENATE, (g) LEFT, (h) RIGHT, (i) MID, (j) NOW, (k) What-IF analysis (goal seek) (l) TODAY	O5.3.6.1 Define the terms formula, functions and nested functions O5.3.6.2 Use functions and formulae
	C5.3.7 charts and graphs	O5.3.7.1 select data to produce a graph or chart
		O5.3.7.2 label the graph or chart including: title, legend, axis, scales
		O5.3.7.3 change the maximum and minimum values of the axis scale
		O5.3.7.4 enhance the appearance of a graph or chart
5.4 Design and create databases	C5.4.1 Database record structures (a) entities (b) relational databases (c) attributes (d) entity Relation diagrams	O5.4.1.1 define the terms flat file database and relational database and explain where it would be appropriate to use them O5.4.1.2 define and understand the terms primary key and

	(e) primary and foreign keys (f) data dictionary	foreign key and their role in a relational database
	C5.4.2 Import/export data e.g. (to .csv file or to other packages)	O5.4.2.1 identify the structure of external data with different file types, including: .csv, .txt, .rtf O5.4.2.2 locate, open and import data from an existing file O5.4.2.3 export data for use in another application
	C5.4.3 tables (a) Data structures (b) Relationships (c) Validation	O5.4.3.1 Design the required data/file structures i.e: field length, field name, data type O5.4.3.2 assign appropriate data types to fields, including: text, numeric (integer, decimal, percentage, currency), date/time, Boolean/logical ($-1/0$, yes/no, true/false) O5.4.3.3 create a relationship between two or three tables O5.4.3.4 Design validation routines i.e.: length check, format check, presence check
	C5.4.4 Queries	O5.4.4.1 create a calculated field that do calculations at run time O5.4.4.2 perform calculations at run time using formulae and functions, including: addition, subtraction, multiplication, division, sum, average, maximum, minimum, count O5.4.4.3 sort data into ascending or descending order O5.4.4.4 perform searches using a variety of operators including: AND, OR, NOT, LIKE, >, <, =, >=, <=, <>

		O5.4.4.5 perform searches using wildcards
	C5.4.5 data entry forms	O5.4.5.1 Design and create a data entry form with the required fields, including: appropriate font styles and sizes, use of white space, radio buttons, drop down menus, labels, navigation buttons
	C5.4.6 reports	O5.4.6.1 Produce reports to display all the required data and labels in full where required
		O5.4.6.2 use appropriate headers and footers within a database report, including: report header, report footer, page header, page footer
		O5.4.6.3 set report titles
		O5.4.6.4 produce different output layouts as required, including: tabular format, labels

5.5 designing and creating dynamic websites for business context	C5.5.1 Web development layers (a) Content: the content layer of a web page to meet the needs of the audience (b) Presentation (c) Behaviour	O5.5.1.1 identify and describe the three web development layers O5.5.1.2 Explain function of the content layer, presentation layer and behaviour layer

	C5.5.2 Web authoring	O5.5.2.1 place appropriate elements in the head section of a web page, including: page title, attached stylesheets
	(a) inserting appropriate objects into a web page including.:	
	(i) text,	O5.5.2.2 place appropriate elements in the body section of a web page
	(ii) still images,	O5.5.2.3 insert a table, including: table header, table rows, table data
	(iii) moving images,	O5.5.2.4 use appropriate table attributes, including: to adjust cells to span more than one row/column, to set table and cell sizes in terms of pixels and/or % values, to apply styles to tables
	(iv) sound clips	
	(b) apply styles to text within a web page	
	(c) inserting images into a web page	O5.5.2.5 insert appropriate objects into a web page including: text, still images, moving images, sound clips
	(d) creating navigation within a web page and between web pages	
		5.5.2.6 apply styles to text within a web page
	(e) creating generic external styles and inline style attributes	5.5.2.7 apply styles to a list, including: ordered list, unordered list
		5.5.2.8 insert an appropriate image into a web page
		5.5.2.9 use appropriate image attributes, including: to adjust its size, aspect ratio and alternate text
		5.5.2.10 create generic external styles and inline style attributes, including: background properties, font properties, table properties (i.e:. background colour, horizontal and vertical alignment, spacing, padding, borders: including collapsed, border thickness, visible/invisible)

		O5.5.2.11 create external styles to be tagged in a web page including: h1, h2, h3, p, li, as required
		O5.5.2.12 specify the font appearance for each style, including features such as: font family, size, colour, alignment, bold and italic
		O5.5.2.13 attach an external stylesheet to a web page using a relative file path
5.6 Designing and creating presentations	C5.6.1 Master slide (a) colour schemes (b) font styles and sizes (c) logos (d) headers and footers (e) automated slide numbering (f) personal details (g) automated date (h) setting text style levels	O5.6.1.1 use the master slide to place objects appropriately, including: images, text, logos, slide footers, automated slide numbering O5.6.1.2 use the master slide to set font styles, heading styles and colour schemes O5.6.1.3 manipulate and use specified areas for headings, subheadings, bullets, images, charts, colours, text boxes, presenter notes, audience notes
	C5.6.2 Presentation (a) Integration of dynamic information from other sources e.g. (charts from a spreadsheet) (b) Adding presenter and/or audience notes (c) Adding content e.g. (shapes, images, videos, audio, text) (d) Apply transitions and/or animations (e) Adding hyperlinks	O5.6.2.1 insert a new slide by selecting the appropriate slide type for the purpose O5.6.2.2 place text on the slides including: headings, subheadings, bulleted lists O5.6.2.3 place appropriate images on the slides, including: still images, video clips, animated images O5.6.2.4 place sound within a slide O5.6.2.5 place charts imported from a spread sheet O5.6.2.6 place other objects including: symbols, lines, arrows, call out boxes

		O5.6.2.7 create consistent transitions between pages
		O5.6.2.8 create consistent animation facilities on text, images and other objects
	C5.6.3 Slide enhancement (a) Printing (b) Showing audience and/or presenter/speaker notes, slight sorter (c) Changing default printer settings e.g. (i) print without the date, (ii) slides layout (iii) colour)	O5.6.3.1 use suitable software tools to display the presentation in a variety of formats, including: looped on-screen carousel, controlled presentation, presenter notes, audience notes, taking into account the needs of the audience

COMPETENCIES

Candidates can:

➢ Demonstrate a sound knowledge and understanding of the range and scope of information processing applications and the techniques and systems needed to support them, some of which are outside everyday experiences;
➢ Have good grasp of terms and definitions and be able to contrast and compare related ideas;
➢ Be able to apply general principles of information processing to given situations and to be able to abstract general principles from given examples.
➢ Identify a range of needs and opportunities and analyse, design and evaluate the most appropriate ways of addressing these using information systems;
➢ Be able to discuss methods of detecting the loss or corruption of electronic information and describe steps that minimise the like hood of abuse of personal information;
➢ Be able to use competently a broad range of software packages to successfully complete a wide variety of practical work-related tasks.
➢ Demonstrate knowledge and understanding of the range and scope of information processing application and the of the techniques and systems needed to support them;
➢ Have a good grasp of basic terms and definitions and be able to contrast and compare related ideas;
➢ Identify some needs and opportunities and analyse, design and evaluate appropriate ways addressing these using information systems;
➢ Be able to control Information Technology devices showing an awareness of efficiency and economy;
➢ Demonstrate a clear sense of audience and purpose in their presentations;
➢ Be able to use a range of software packages to complete a variety of practical work-related tasks;
➢ Demonstrate a basic knowledge and understanding of familiar, simple information processing applications and of the techniques and systems needed to support them;
➢ Have some knowledge of some of the basic terms and definitions;
➢ Respond to needs and opportunities and evaluate ways of addressing these using information systems
➢ Manipulate interrogate previously stored information;
➢ Use Information Technology to present work and demonstrate how it contributes to the development of their ideas;

GRADE DESCRIPTIONS

Grades A*, A, B, C, D, E, F or G indicate the standard a candidate achieved.

A* is the highest and G is the lowest. 'Ungraded' means that the candidate's performance did not meet the standard required for grade G. 'Ungraded' is reported on the statement of results but not on the certificate. In specific circumstances your candidates may see one of the following letters on their statement of results:
- Q (result pending)
- X (no result)
- Y (to be issued)

These letters do not appear on the certificate.

Grades	Description
A	Students recall, select and communicate a thorough knowledge and understanding of a broad range of ICT including the impact of its social and commercial use. They apply knowledge, understanding and skills to a variety of situations, selecting and using a range of ICT tools efficiently to solve problems and produce effective ICT-based solutions. They manipulate and process data efficiently and effectively. They effectively model situations, sequence instructions, interpret information and creatively explore and develop ideas. They work systematically and understand and adopt safe, secure and responsible practices. They systematically analyse problems, identifying needs and opportunities. They critically analyse and evaluate the way they and others use ICT. They iteratively review their work and make improvements where appropriate. They use ICT to communicate effectively, demonstrating a clear sense of purpose and audience.
C	Students recall, select and communicate a good knowledge and understanding of ICT, including the impact of its social and commercial use. They apply knowledge, understanding and skills in a range of situations, applying ICT tools appropriately to address problems and provide ICT-based solutions. They select information and process data. They model situations, sequence instructions, select and use information, and explore ideas. They work using safe, secure and responsible practices. They analyse ways of addressing needs using ICT. They review and evaluate the way they and others use ICT. They review their work and make improvements where appropriate. They use ICT to communicate, demonstrating consideration of purpose and audience.

Grades	Description
E	Students recall, select and communicate a basic knowledge and understanding of aspects of ICT, including its use in the wider world. They apply limited knowledge, understanding and skills to address simple problems and create basic solutions using ICT tools. They select and present data and information, and use simple models and instructions. They demonstrate some awareness of the need for safe, secure and responsible practices. They respond to needs using ICT. They sometimes review and provide comments on the way they and others use ICT. They make simple modifications to their work in the light of progress. They use ICT to communicate, demonstrating limited awareness of purpose and audience.
G	Minimum Knowledge on ICT

INCLUSION

The standard assessment arrangement may present unnecessary barriers for the candidates with disabilities or learning difficulties. Arrangements may be put in place for these candidates to enable them to access the assessments and receive recognition of their attainment.

Note:

Access arrangement will not be agreed if they give candidates an unfair advantage over others or if they compromise the assessment standards.

More info on:

http://www.examscouncil.org.sz/

LANGUAGE

This syllabus and associated material are available in English.

TEACHER SUPPORT

Training
The Ministry of Education and Training conducts workshops for teachers to provide guidance and professional development so that they can give students the best possible preparation for Prevocational Programme

Support Material & Endorsed Resources
Examination Council of Eswatini offers the following to support the programme;
- – Assessment Syllabus
- – Exam preparation resources (Question Papers and Mark Schemes)
- – Examiner reports to improve future teaching

APPENDIX 1 GUIDELINES FOR THE PROJECT

The assessment that will contribute to the final grade will begin in Form 5. Information on the assessment will be sent by ECESWA at the beginning of the first term. Thereafter, candidates will begin the first stage of the project.

The nature of the project is a practical experience for candidate. The candidate is required to use ICT skills to solve a given situation.

The Project will be assessed in three (3) stages as follows:

Stage 1- Proposal - 15 marks

Each candidate will produce a proposal on how to for solve a given situation using ICT solutions between 800 and 1000 words. The proposal will be submitted in soft copy (pdf) and hard copy by 31st March each year. Candidates should not wait for submission before they begin implementation of the project.

The proposal should include:

- Introduction – background and purpose of the project
- Problem statement – identification of ICT solutions that would be used to solve the situation given. i.e. identify suitable hardware and software for the solution
- Justification – why use the particular ICT solution to solve the problem? i.e. Analysis of research leading to a justified reason for using ICT solution
- Methodology – outline of the steps to follow to achieve the final solution.
- Time frame – anticipated completion dates for each stage of project
- References – list of sources of information

Stage 2 - Development stages (of ICT solution) - 75 marks
Design   (30 marks)
Produce a system design document of the system which should details of the design to solve a given problem. This must include:

- The of design data capture forms and screen layouts
- Data flow diagrams/algorithms
- hardware and software requirements
- input format, output format,
- design validation routines
- design the required data/file structures and list of variables

Testing (10 marks)

This is the detailed test plan that will be carried out in each stage of development of the ICT solution and of the final product. It should also include the test results and improvements or changes made to the system as a result of testing

Implementation and Product realisation (25 marks)

Develop the ICT solution based on the design specification.

Product realisation will be the completed ICT solution (software) which should be completed to a high standard, made with precision and accuracy. It should meet all that was set in the design specification and system requirements.

Documentation (10 marks)

Produce a user document. This must include:

- purpose of the system,
- hardware and software requirements,
- how the system works,
- how to load/run/install software,
- error messages, error handling,
- troubleshooting guide/helpline,
- frequently asked questions,

Stage 3 - Evaluation - 10 marks

You are required to evaluate your completed ICT solution against the original tasks requirements. The evaluation should include:

- How the completed ICT solution meets your business requirements
- The analysis of your test results
- Issues you identified and how you overcame them
- Limitations of the system and improvements that can be made

Report/Portfolio Submission mode

Report should be submitted as a softcopy in pdf format and as a hard copy booklet. This document must be presented in Arial font style, size12, single line spacing.

All reports should be submitted electronically in pdf format and as a hard copy booklet.

Checklist:

Items to be submitted to ECESWA

ITEM	DATE SUBMITTED
Formal proposal document	
Design specification document	
Test plan containing iterative tests of iterative test during development of website and final testing	
Completed ICT solution (software)	
User documentation	
Final evaluation report	

The Project is assessed by the subject teacher and the external examiner over the duration of the project.

The teacher's assessment will be on the degree of supervision (e.g. close supervision or minimal supervision) of the candidate. This will contribute 5% to the overall mark.

The external examiner will assess each stage of the project.

Submission Dates

- Proposal by 31st March each calendar year
- Project Report and Portfolio by 31st October each calendar year

APPENDIX 2 - PROJECT ASSESSMENT CRITERIA

Introduction

The Assessment Criteria is derived from the specification set outcomes. It outlines clearly the expected outcomes, so that teachers and assessors can all make reasonably objective judgement with respect to student achievement or non-achievement. It is essential that the chosen project should test their design and making skills, but also include aspects of planning and evaluation. The Project has a maximum of 100 marks and is assessed by the teacher and an External Assessor.

NOTE: All records and supporting written work should be retained at the school until the publication of results.

Marks submitted for the project must be based completely on the candidates own work and not that of others

The Portfolio must include sufficient evidence of the ICT solution showing an overall view together with detailed views of evidence to support the award of marks.

Stage 1		
Proposal	Introduction Problem statement Justification Methodology Time frame References	15 marks
Stage 2		
Design	The of design data capture forms and screen layouts Data flow diagrams/algorithms hardware and software requirements input format, output format, design validation routines design the required data/file structures and list of variables	30 marks
Test plan	detailed test plan module testing final product testing and improvements	10 marks
Implementation and Product realisation	Develop the ICT solution based on the design specification and system requirements Product realisation will be the completed ICT solution (software) which should be completed to a high standard, made with precision and accuracy. It should meet all that was set in the design specification and system requirements.	25 marks
Documentation	purpose of the system, hardware and software requirements, how the system works, how to load/run/install software, error messages, error handling, troubleshooting guide/helpline, frequently asked questions,	10 marks
Stage 3		
Evaluation	How the completed ICT solution meets your business requirements? The analysis of your test results. Issues you identified and how you overcame them. Limitations of the system and improvements that can be made.	10 marks

APPENDIX 3 - COMMAND WORDS

COMPARE	Write about what is similar and different about two things. For a comparison, two elements or themes are required. Two separate descriptions do not make a comparison.
COMPLETE	To add the remaining detail or details required.
CONTRAST	Write about the different between two things.
CALCULATE	Work out…/ Marks are usually awarded for both the functions (formulas) and outcome (values).
DEFINE	Give the meaning or definition of a word of phrase.
DESCRIBE	Write what something is like or where it is. Describe may be used for questions about resources in the question paper (describe the trend of a graph, the location of a settlement on a map, etc.), it may also be used when you need to describe something from memory (describe a meander, etc.)
EXPLAIN ACCOUNT FOR / GIVE REASONS FOR	Write about why something occurs or happens.
GIVING YOUR VIEWS	Say what you think about something.
HOW	In what way? To what extent? By what means/method? May be coupled with show how (prove how, demonstrate how).
IDENTIFY	Pick out something from information you have been given.
NAME	To state or specify or identify. To give the word or words by which a specific feature is known or to give examples which illustrate a particular feature.
STATE	Set down in brief detail. To refer to an aspect of a particular feature by a short statement or by words or by a single word.
WHAT	Used to form a question are shown between …….. Use comparative statements to describe the changes involved as a changes to b.

APPENDIX 4 ROLE OF EXTERNAL ASSESSOR

In competence based assessments, the role of assessor is essential. A very close monitoring is essential in view of ensuring that reliability and comparability of standards can be maintained to the levels of external examinations, through external moderation.

It is the role of ECESWA to ensure the reliability, credibility and validity of awards by appointing external assessors to monitor the standard of all assessments being carried out at Centres.

External assessors will be sent out by ECESWA to assess the Practical Examination (Project) soon after it has been sent to schools. Schools will be notified of the dates, for each subject area.

It is essential for the success of this exercise that there is regular and open communication between the Centre and the visiting assessor and that a good working relationship is established.

The main duties of the visiting assessor are to approve, monitor and evaluate practical examination assessments.

Assessors will ensure that: proper procedures have been followed by examining centres' assessment records and observing practical assessments taking place; practical exam assessments have been correctly administered; all candidates who have met the required standard are recorded as successful.

Appendix 5: Declaration Form

A: Student

I……………………………………………………………confirm that the material is all my own work. I have not copied or based my work on any samples or exemplars to which I have had access. Any work taken from another source has been appropriately referenced and acknowledge. I am not submitting previously submitted work.

Signature:…………………………………………….   Date………………………

B: Teacher

I…………………………………………………………verify that I have supervised sufficient work to enable me to say with confidence that this is the candidate's own work. The work has been fully checked and these checks included looking for: copying from any samples/exemplar materials; copying from other students; the possibility of a third person preparing the work; resubmission of previously submitted work.

Supervisor Name:…………………………………………..

Supervisor Signature:…………………………………….   Date………………………

Appendix 6

EXAMINATIONS COUNCIL OF ESWATINI
ESWATINI PREVOCATIONAL CRTIFICATE OF SECONDARY EDUCATION

ICT Paper 3 - Summary Assessment Sheet.

Name of Centre		Centre Number	S	Z			Year	D	D	M	M	Y	Y	Y	Y

Candidate's		Stage 1	Stage 2				Stage 3	Final Grade (out of 100)
			Development				Evaluation 10	
Number	Name	Proposal Written 15	Design 30	Testing 10	Implementation and Product Realisation 25	Documentation 10		

Teacher's Name		Date	D	D	M	M	Y	Y	Y	Y	Signature	
External Examiner Name		Date	D	D	M	M	Y	Y	Y	Y	Signature	