Federal Democratic Republic of Ethiopia
Ministry of Education

Information Communication Technology
Syllabus Grade 10

2009

Participants

Addis Ababa and other Regions ICT (Teacher)

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Coordinator

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Unit 1: Introduction to ICT *(6 periods)*

Unit Outcome: Students will be able to

- Understand the components of ICT
- Recognize the major system unit components
- Recognize the Major mother board components

Competencies	*Content*	*Suggested Activities*
Students will be able to: • Identify ICT components	**1.1 Basics of ICT** • **Revision** • Components of ICT	• Students should identify the components of Information and communication technology such as computer, Communications networks, and Know-how
• List characteristics of valuable information	• Characteristics of valuable information	• Students should discuss in group about the characteristics of valuable information
• Name major components of system unit • Identify function of the system unit. components	**1.2 Computer system** • Major system unit components - Motherboard, power supply, Hard disc, CD drive and Floppy drive	• Demonstrate and explain the function of major components of the system unit.
• Name components of motherboard • Identify function of the motherboard components	• Major mother board components - CPU, RAM, ROM, Slots, Chips and CMOS battery	• Demonstrate and explain the function of major components of a motherboard. • Students should understand about the memory capacity such as hard disk, secondary storage device, RAM and computer speed etc.
• Identify memory and speed of computer equipments	• Memory capacity and computer speed	

Assessment

The teacher should assess each student's work continuously over the whole unit and compare it with the following description, based on the specific objectives, to determine whether the student has achieved the minimum required level.

A student working at the minimum requirement level will be able to: Identify ICT components, List characteristics of valuable information, name major components of system unit, identify functions of system unit and motherboard components and name components of motherboard

Students working above the minimum requirement level should be praised and their achievements recognized. They should be encouraged to continue working hard and not become complacent.

Students working below the minimum requirement level will require extra help if they are to catch up with the rest of the class. They should be given extra attention in class and additional lesson time during breaks or at the end of the day.

Unit 2: Application software *(14 periods)*

Unit Outcome: Students will be able to:

- Understand the application of word processing, and presentation software;
- Apply word processing, and presentation software packages for different purposes;
- Recognize the major features of desktop publishing
- Know how to organize, format and publish various type of publication

Competencies	*Content*	*Suggested Activities*
Students will be able to: • Apply what they have learned in grade 9 to real activities uncounted in the study of other curriculum subjects in grade10	**2.1 Key features of word processing** • Revision • Tables and pictures in word processing • Word processing activities	• Students should do the following activities e.g. • Writing a letter to a prospective employs • Creating a personal C.V • Keeping a logo of personal performance in physical education • Producing a descriptive article on photo synthesis's or similar biological process • Writing a report on a chemical experiment • Writing a report no a Physics experiment • Writing a piece about irrigation and water distribution in Ethiopia
• Apply what they have learned in grade 9 to real activities uncounted in the study of other curriculum subjects in grade10	**2.2 Key features of presentation software and Techniques** • Revision • presentation software and Techniques activities	• Produce a time –line for important events in the history of Ethiopia • Students should do the following activities. IT teacher will liaise with subject teachers to promote active learning en groups e.g. in geography ,groups of students will prepare a presentation on a geographical topic such as global warming or land erosion in Ethiopia • Students should preparing and presenting a slideshow
• Open the desktop publishing program • Identify screen elements of desktop publishing • identify the major features of desktop publishing • Organize, format and publish various type of publication • Create brochure	**2.3 Desktop publishing** • Load publisher and Starting new document • Exploring the publisher window • Editing a page • Brochure Building	• Students should loading, open, and saving files the same way to other application • Explain and demonstrate the main screen elements of desktop publishing program • Students should create textbox and edit content, insert word art and edit style, insert picture, insert auto shapes, and formatting objects • Explain the purpose of brochure and demonstrate the steps in designing an A5 size brochure with 4 sides of text/images • Creating or opening brochure, Adding text, format text , Inserting picture and choosing text flow around the picture, Copying, moving, rotating, resizing, filling with color, or deleting an object , Inserting and deleting pages, Creating page boarder and Print preview and printing • Explain and demonstrate the purpose of a business card. The business card contains essential

Competencies	*Content*	*Suggested Activities*
effectively • Format brochure as required • Create a business card effectively Print the card in appropriate paper size • Create a Greeting or Invitation card	• Business Cards • Folded Card Publishing	information. The information on a business card needs to be clear and precise. The fonts should be clear and large enough to read. • Explain and demonstrate how to create or open business card, add a Logo, and design a business card • Explain and demonstrate designing Greetings and Invitation Cards. • Students should Creating or opening the greeting card or invitation

Assessment

The teacher should assess each student's work continuously over the whole unit and compare it with the following description, based on the specific objectives, to determine whether the student has achieved the minimum required level.

A student working at the minimum requirement level will be able to: Apply Word processing for different document preparation , Apply presentation software and Techniques for presenting with slid show, identify the major features of desktop publishing, Organize, format and publish various type of publication, Create brochure effectively, Format brochure as required, Create a business card effectively and Create a Greeting or Invitation card

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Unit 3: Information and computer security *(4 periods)*
Unit Outcomes: Students will be able to:

- Understand and aware of copyright issues
- Recognize national and international laws on copyright

Competencies	*Content*	*Suggested Activities*
Students will be able to: • Explain about copyright issues • Recognizes the use of others in not proper • Describe the dangers of copying others • Recognize the social impact like misuse of e-mail, unauthorized intrusion and deleting and manipulating others' data	**3 Information and computer security** • Software copyright • National and international laws on copyright • Protection - Use of password	• Students should understand why software needs to have a copyright law • Discuss how copying affect the right of others and the development of countries in terms of different aspects social and economical • Work collectively with others and use password appropriately • Discuss rights and wrongs of indiscriminate copying and software piracy • Students should identify the impact of unauthorized intrusion, manipulating or deleting others' data and prevent misuse of e-mail and its social impact

Assessment:

The teacher should assess each student's work continuously over the whole unit and compare it with the following description, based on the specific objectives, to determine whether the student has achieved the minimum required level.

A student working at the minimum requirement level will be able to: Explain about copyright issues, Describe the dangers of copying others and Recognizes the use of others is not proper and how to protect.

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Unit 4: Application software *(22 periods)*

Unit Outcome: Students will be able to:

- Know how to create chart and graphs in spread sheet
- Apply spreadsheet for different application
- Understand some common uses of database
- Recognize Query, Form in and Report in a database application

Competencies	***Content***	***Suggested Activities***
Students will be able to:: • Use the function of the Fill handle • Apply different effects to a cell and its contents • Explain the use of a chart • Create different types of charts • Identify the difference between absolute and relative cell reference. • Use some built-in functions to calculate totals and averages • identify that computations using built in functions can be done accurately and quickly • Compute rank. • Format text and numbers in the cell of a worksheet • Apply what they have learned about spread sheet in grade 9 to real activities	**4.1 Key features of spread sheets** • Revision of spread sheet - Definition of a chart Creating charts, Column chart, Bar chart, and- Pie chart - Change data in a cell • presenting data by chart • Using spread sheet to process data - using custom formula - using if condition - using built- in functions (Calculating using Spreadsheets, Auto sum ∑, and other Functions) - More complex exercises using +, -, *, / • Formatting worksheet	• Students should master introductory parts of spreadsheet by revising the grade 9 main contents • Explain the use of charts • Demonstrate how to create the listed charts by using the chart wizard • Explain and demonstrate how to compute rank using the rank function taking a given numerical item as an example • Students should do the following activates IT Teacher will liaise with subject teachers particularly mathematics the sciences and geography to promote active learning in groups E.g. in mathematics compare the growth of an arithmetic progression with a geometric progression

Competencies	*Content*	*Suggested Activities*
uncounted in the study of other curriculum subjects in grade10 • Explain what database is and some common uses of data base • Define the key terms in a data base system • Create different types of Query Using Query design view • Explain the use of a form • List & explain options for creating a form • Identify the difference between methods of creating a form • Create a form using design view • Identify sections of a form • Identify Access controls and explain their usage • Manipulate Access Controls • Perform Calculation in a from • Create sub form • Prepare a report	**4.2 Database Application** • Introduction to database • Uses of Data base • Common data base application • Data base Terminology • Designing a data base structure • Open and exiting data base • Overview of a table • Creating a table • Add, edit, delete and sort records • Overview of query • Creating a Query • Overview of a form • Creating a form • Section of a form • Adding data using form • Formatting a form • Main/ sub Forms • Overview of a Report • Sections of a Report • Adding controls to a report • Formatting a Report	• Students should identify some uses of data base and define the key terms • Explain and demonstrate common database applications and terminology used in data base like table, records, fields, Data type and primary key • Students should decide three own data base structure • Students should add, edit and delete and sort records • Explain about query in general and the different types of query and demonstrate methods of creating query • Demonstrate the steps required to create different types of Query using Query design view • Ask students to create a table named student in design view having id, name, father name ,sex , age and phone number as fields. Based on the table let them create a select query based on a given criterion • Explain about the database object form, its primary use, and demonstrate the steps required in creating form in design view. • Students should identify the options for creating a form such as Auto form , Form Wizard and Form design view • Explain and demonstrate sections of a form in database • Students should perform calculation in a form and able to create sub form • Students should perform report by formatting

Assessment:

The teacher should assess each student's work continuously over the whole unit and compare it with the following description, based on the specific objectives, to determine whether the student has achieved the minimum required level.

A student working at the minimum requirement level will be able to: Explain the use of a chart, Create different types of charts, Apply spreadsheet for different purposes, Explain what database is and some common uses of data base, Define the key terms in a data base system, Create different types of Query Using Query design view, Explain the use of a form, Create a form using design view , Manipulate Access Controls, Perform Calculation in a from and Create sub form

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Unit 5 Using Internet *(6 periods)*

***Unit Outcomes*:** Students will be able to:

- Understand the history and advantages of the internet
- Recognize the use of browsers and search engines
- Know Downloading and uploading files
- Understand how to Design a simple web page

Competencies	*Content*	*Suggested Activities*
Students will be able to: • Describe the development of the internet • List the advantages of the internet	**5 Using Internet** **5.1 Overview of the internet** • Advantages and disadvantages	• Explain the brief history of the internet • Advantages of the internet considering how it affects our lives today
• Use keywords and connectors in a search	• Keywords and connectors: • Downloading and uploading files	• Describe, with examples, how to select a keyword • Describe, with examples, the use of connectors for searching and demonstrate how to search for information using keyword(s)
• Explain the differences between Webpage and Website	**5.2 Definition of WWW** • Webpage • Website: - Static and dynamic website • Web Server • Web technology:	• Explain how pages belong to a person, organization or government. One day they might have their own web page!
• List some uses of the WWW • Locate information contents	**5.3 Planning and developing WebPages**	• Definition of a URL • Demonstrate locating information contents
• Plan and develop a WebPages	• Web design Guides (eg. Color, text, image, etc) • Purpose of a website • Designing a web architecture • Identify contents for the website	• Explain and demonstrate how to incorporate the features of the designs into a webpage • They should describe how the internet can be searched to find information and should comment on how this information could be used by people.

Assessment:

The teacher should assess each student's work continuously over the whole unit and compare it with the following description, based on the specific objectives, to determine whether the student has achieved the minimum required level.

A student working at the minimum requirement level will be able to: Describe the development of the internet, List the advantages of the internet, Use keywords and connectors in a search, List some uses of the WWW, Design a simple Webpage and Implement the webpage

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Unit 6 control and learning with logo (6 periods)

Unit Outcomes: Students will be able to:

- Understand the logo language
- Recognize techniques in programming using the logo language

Competencies	*Content*	*Suggested Activities*
Students will be able to: • Use variables in writing procedures • Create a recursive procedure	**6 Control and learning with logo** • Using variables • Using Recursive procedures	• Students should create circles with a variety of radii • Students should create rectangles with varying lengths of side • Students should produce a simple snow flake out line • Students should have full version of logo language

Assessment:

The teacher should assess each student's work continuously over the whole unit and compare it with the following description, based on the specific objectives, to determine whether the student has achieved the minimum required level.

A student working at the minimum requirement level will be able to: Use variables in writing procedures and Create a recursive procedure

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