

**Federal Democratic Republic of Ethiopia
Ministry of Education**

**Information Communication Technology
Syllabus Grade 12**

2009

Participants

Addis Ababa and other Regions ICT (Teacher)

International Adviser: Mr. Mike Aston

Coordinator

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Development
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Unit 1 Information Systems (15 periods)

Unit Outcome: Students will be able to

- Understand the concept of E-learning, E-commerce, E- government, E- banking and E- Libraries

<i>Competencies</i>	<i>Content</i>	<i>Suggested Activities</i>
<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Define E-learning • Describe the advantages and disadvantages of E-learning • List the necessary technologies for E-learning • Explain how E-learning works <ul style="list-style-type: none"> • listed some of the electronic systems • Define E-government • Explain the advantage of E-government • Explain the different services by E-government <ul style="list-style-type: none"> • Explain how E- banking works 	<p>1.1 Social and Economic implications of ICT</p> <ul style="list-style-type: none"> • Basics of E-learning • Define electronic learning • Advantages and Disadvantages of E-learning • Technology necessary for E-learning <ul style="list-style-type: none"> - Information Technology - Telecommunication Technology - Internet Connection • How E-learning works <p>1.2 Basics of E-Government</p> <ul style="list-style-type: none"> ○ Definition of E-government ○ Advantage of E-government ○ Application of E-government ○ Services delivered by E-government ○ Status of E-government in Ethiopia Similarly for <p>1.3 Basics of E-Banking</p>	<ul style="list-style-type: none"> • Explain the meaning of E-learning • Let the teacher demonstrate the concept E-learning with analogy to traditional face to face learning • Learning management system (example Moodle) <ul style="list-style-type: none"> • Describe in some detail the main elements of at least some of the electronic systems • Let the teacher explain the definition of E-government and its application • Teacher will organize a visit to one of the affrications listed above e.g. a bank or arrange for a speaker to visit the class groups 4/5 students will offer a presentation of the affrications to the rest of the class all areas should be covered <ul style="list-style-type: none"> • Additionally teacher will demonstrate same sample E-government sites from the Internet.

<i>Competencies</i>	<i>Content</i>	<i>Suggested Activities</i>
<ul style="list-style-type: none"> • Explain how E-libraries works • Explain how E-commerce works • Identifying system problem • Recognize functional and non-functional system requirements 	<p>1.4 Basics of E-Libraries</p> <p>1.5 Basics of E-Commerce</p> <p>1.6 System Analysis - Overview - System problems</p>	<ul style="list-style-type: none"> • Students should explain about E- banking, E- libraries and E- commerce and others • The students work in groups. They must choose a topic which they have studied in this unit, and design a presentation which gives full information on the topic. The presentation should be at least 15 slides long, and all students in the group must participate in making the slides and providing information • Use recourses like PCs Internet ,LCD projector ,List of useful illustrate sites • Students should Identifying system problem • Collects facts for existing system (e.g. interview, observation) • Student should identify functional and non-functional system requirements

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: Define E-learning, Describe the advantages and disadvantages of E-learning, List the necessary technologies for E-learning, Explain how E-learning works, listed some of the electronic systems, Define E-government, Explain the advantage of E-government, Explain the different services by E-government,

Explain how E- banking works, Explain how E-libraries works and Explain how E- commerce works

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 Enhancing the Use of Software (24 periods)

Unit Outcomes: Students will be able to

- Choose appropriate software tools to solve problems illustrate ideas clarify thinking in the other subjects chosen for study in grade 11

<i>Competencies</i>	<i>Contents</i>	<i>Suggested Activities</i>
<p>Students will be able to:</p> <ul style="list-style-type: none"> • Problem solving by specific software • Illustrating their ideas • Organising their contents • Querying their database • Testing hypotheses 	<p>2. Using application software</p> <ul style="list-style-type: none"> • Continue by revision use of <ul style="list-style-type: none"> ○ Word processing ○ Presentation Software, ○ Spreadsheets ○ Publishing Software • Databases 	<ul style="list-style-type: none"> • Using the correct software tool will enhance knowledge of iT the same time as the chosen subject • : Joint assessment by It teacher and subject teacher to do the following • Design a project where students can apply the knowledge of word, excel, database and presentation SW. • Creating a report in word which has header & footer, section break, formats, etc. • Create a database project that is used to create student database or customer above etc. • They can prepare a presentation for their project • Prepare a brochure for their school to apply disk top publishing Knowledge

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 Solve problems by specific software, Illustrate their ideas, Organising their contents, Querying their database and Testing their hypotheses

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Unit 3 Exploiting The Internet (21 periods)

Unit Outcome: Students will be able to

- Understand the concept of webpage design
- Understand and differentiate between the different kinds of websites
- Recognize the steps required for website design
- Design a simple and attractive website

<i>Competencies</i>	<i>Contents</i>	<i>Suggested Activities</i>
<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Define website • Explain the different types of websites • List some well – established websites • Identify the type of website to be developed • Describe website planning • Explain how to design a web page • Explain how to hyper links in a website 	<p>3.1 General Concept of Website Design</p> <ul style="list-style-type: none"> • Definition of website • Definition of webpage <ul style="list-style-type: none"> ○ Home page • Types of website <ul style="list-style-type: none"> - Static and Dynamic • Application of website <p>3.2 Planning a website</p> <ul style="list-style-type: none"> • Determining the purpose of the website. • Content Identification • Knowing the Audience <p>3.3 Website Design Considerations</p> <ul style="list-style-type: none"> • Page layout of the website • Create content <ul style="list-style-type: none"> - Use of images - Page size (Creating & formatting tables) • Fonts (Adding design Elements) 	<ul style="list-style-type: none"> • Explain terminologies like website, webpage and homepage • Explain the types of website with examples. • Demonstrate the difference between static and dynamic website. • Explain the different application of websites. such as educational, Commercial, Governmental and Entertainment • Students should identify the following <ul style="list-style-type: none"> ○ Knowing the audiences ○ Selecting technology to use ○ Design of the web architecture ○ Web content development ○ Hosting the website to a web sector • Discuss about the points to consider in planning a website • Explain the steps involved in website design with practical examples • Discuss the ways of adding different effects to a website • Students write a report discussing what must be considered when designing a website (<i>Twelve periods in the computer room are allowed for this assignment</i>) The students will develop their draft design into a website. The site should have at least three pages, and should include the design elements noted in the contents <ul style="list-style-type: none"> -Adding & modifying graphics elements

<i>Competencies</i>	<i>Contents</i>	<i>Suggested Activities</i>
<ul style="list-style-type: none"> • Insert images, buttons and animations in to a webpage • Develop content for a website with uniform formatting 	<p>3.4 Website development</p> <ul style="list-style-type: none"> - Adding Text - Adding Image - Creating hyperlinks - Inserting Table - Inserting Frames <ul style="list-style-type: none"> ○ Adding Web effects ○ Inserting animations ○ Using scripts ○ Using Java applets. 	<ul style="list-style-type: none"> - Adding Navigational Elements - Adding links - Creating image maps and hotspots - Creating navigational structure - Adding Web effects - Inserting animations Inserting interactive buttons <ul style="list-style-type: none"> • Resources: PCs access to the internet, web design software • Students should demonstrate skill using a java script and java applets in their website

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 Define website, Explain the different types of websites, List some well – established websites, Identify the type of website to be developed, Describe website planning, Explain how to design a web page, Explain how to hyper links in a website, insert images, buttons and animations in to a webpage, Develop content for a website with uniform formatting

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Unit 4 Image Processing and multimedia Systems (27 periods)

Unit Outcome: Students will be able to:

- Recognise components of multimedia and work with these components effectively
- Understand the meaning and use of multimedia production
- Create interactive applications using Multimedia applications

<i>Competencies</i>	<i>Contents</i>	<i>Suggested Activities</i>
<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> • Define multimedia • Explain importance of multimedia • List components of multimedia • Identify hardware and software necessary to run a multimedia package • Differentiate multimedia from hypermedia • List the stages of multimedia authoring • Explain each stage of multimedia authoring • Give examples of authoring multimedia tools • Identify sound, image and video file formats • Identify screen elements of Multimedia application 	<p>4.1 Basics Of Multimedia</p> <ul style="list-style-type: none"> • Definition of multimedia • Importance of multimedia • Components of multimedia • Hardware and software requirements for multimedia • Multimedia and hypermedia <p>4.2 Multimedia authoring</p> <ul style="list-style-type: none"> • Stages of multimedia authoring • Authoring tools examples • File formats of sound, image and video <p>4.3 Introduction To Multimedia authoring tools</p> <ul style="list-style-type: none"> • Screen elements of multimedia application • Creating a new project • Building a basic piece 	<ul style="list-style-type: none"> • The teacher will explain the basic concepts mentioned under the content • The students will participate in the discussion • Students should differentiate Multimedia and hypermedia • The teacher will explain and demonstrate stages of multimedia authoring The teacher will explain and demonstrate Authoring tools examples like Macromedia Author ware, Adobe premier, Macromedia Flash and the students will practice • Explain and demonstrate the steps involved in importing, pasting, defining styles, editing and formatting text and The students will practice

<i>Competencies</i>	<i>Contents</i>	<i>Suggested Activities</i>
<ul style="list-style-type: none"> • Identify icons and their properties • Build a piece • Edit icons • Enter text in the presentation window • Import or paste text from another application to Multimedia application • Edit and format text as required • Import and paste images and graphics from other applications • Resize images properly • Draw different shapes • Fill the drawings with colour • Set the duration before a content on the presentation window is erased • Erase the contents of a presentation window • Apply different transitions as required • Position objects on the presentation window 	<ul style="list-style-type: none"> • Editing an icon: 4.4 Inserting and Editing Text • Inserting display icon • Inserting text into a text field • Importing and pasting text • Defining and applying text style • Editing and formatting text as required 4.5 Working with Images and Graphics • Importing an image or graphic; pasting an image or graphic • Modifying an image or graphic • Drawing an image • Filling colour • Wait icon • Erase icon 4.6 Page Transitions, Positioning and Motion Icon • Transitions • Selecting transitions 	<ul style="list-style-type: none"> • Students should apply Editing an icon: like Modifying properties, Displaying contents, Running and pausing a piece, and Saving and opening • Explain and demonstrate the steps involved in importing, pasting, images and graphics; drawing, colouring; erase and wait • The students will practice • Explain and demonstrate the steps involved in transitions, positioning and different types of motion • The students will practice

<i>Competencies</i>	<i>Contents</i>	<i>Suggested Activities</i>
<ul style="list-style-type: none"> • Set different types of motions using the motion icon • Use pre-stored libraries • Create custom libraries • Add and use icons to a library as required • Insert sound icons • Import sound files • Set the property of sound files • Insert digital movie icons • Set the property of digital movie icons • Identify the format of digital movies • Import movie files • Identify basics of film editing 	<ul style="list-style-type: none"> • Positioning objects • Types of positions • Using motion icon • Types of motion <p>4.7 Libraries</p> <ul style="list-style-type: none"> • Creating • Saving • Closing and opening • Selecting a library • Adding icons to the library • Using an icon from a library <p>4.8 Working with Sound and Digital Movies</p> <ul style="list-style-type: none"> • Sound icon • Importing sound • Changing the sound's play speed • Working with digital movies • File formats • Importing a digital movie • Setting playback conditions • Turning the sound off <p>4.9 Overview of Film Editing</p> <ul style="list-style-type: none"> • Basics of Film Editing 	<ul style="list-style-type: none"> • Explain and demonstrate the steps involved in using pre-stored libraries, creating libraries and adding and using icons • The students will practice • Explain and demonstrate the steps involved in transitions, positioning and different types of motion • The students will practice • Explain and demonstrate the steps involved in using pre-stored libraries, creating libraries and adding and using icons • Explain and demonstrate the steps involved in using sound and in working with digital movies • The students will practice <p>(Fourteen periods in the computer room are allowed for this assignment)</p> <p>The students will design and produce a multimedia presentation on an idea or theme of their own which has relevance to the work that they are doing in Grade 11. Resource: Multimedia package, Authoring tools: Macromedia Authorware, Adobe premier, Macromedia Flash, scanner, digital camera, sound recorder.</p>

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 Define multimedia, Explain importance of multimedia, List components of multimedia, Identify hardware and software necessary to run a multimedia package, Differentiate multimedia from hypermedia, List the stages of multimedia authoring, Explain each stage of multimedia authoring, Give examples of authoring multimedia tools, Identify sound, image and video file formats, Identify screen elements of Multimedia application, Edit icons, Enter text in the presentation window, Edit and format text as required, Import and paste images and graphics from other applications, Set the duration before a content on the

presentation window is erased, erase the contents of a presentation window, Apply different transitions as required, Create custom libraries, Add and use icons to a library as required, Insert digital movie icons, Identify the format of digital movies and Import movie files

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