Wollo University

Kombolcha Institute of Technology

College of Informatics

Course Information	Instructor Information
Course Title: Web Programming	**Name:** Mr. Abel Teshome
Course Code: CoSc 3081	**Email:** abelteshome@kito.edu.et
Credit Hrs.: 4 ECTS: 7 Lecture Hrs.: 3 Lab Hrs.: 3 Tutorial Hrs. 1	**Phone:** +251-935 4449 40
Prerequisite: None	**Address:** KIoT
	Office Number: 2132 @ Bank block
Course Category: Compulsory	
Year: III **Semester:** I **Acc. Year :**2014	

Course Description

Client-server Architecture: Web page Design and development; information Architecture & visualization; static & dynamic pages, client-side programming using scripting languages (JavaScript), OOP programming using PHP, File manipulation and Management using PHP. Multimedia web programming, dynamic web content creation; session tracking; Internet protocols, PHP Web controls, connecting web page to data base, loading, and manipulating XML documents, web security; cryptography theory.

Objectives

The objective of this module is to familiarize students:

➢ The concepts, principles, and methods in programming for web and Internet environment and the services and technologies available and used on Internet. Specifically, at the completion of this module the student is able to

➢ Provide fundamental concepts and skills for the understanding and development of web- based applications.

➢ Construct Web sites using HTML and Server-Side scripting Languages.

➢ Implement client-side interactivity

➢ Use CSS to manage Web site presentation and maintenance

➢ Select and customize existing technologies to set up and maintain web servers

➢ Specify, build, and manage form and content of information-rich web sites

➢ Design, implement and evaluate client-server systems following specific protocol specifications, taking into account concurrency issue.

Course Outline

Chapter 1: The world Wide Web (4hr)   1 week

    1.1. Course overview

    1.2. The Internet and World Wide Web

    1.3. Web Hosting and Domain Name Registration

Chapter 2: Hyper Text Markup Language (HTML) (10hr)   3 weeks

    2.1. Introduction to HTML

    2.2. HTML tags

        2.2.1. Basic HTML tags (HTML, HEAD, BODY, TITLE)

        2.2.2. Meta tag

        2.2.3. HTML Comments

        2.2.4. HTML Link

        2.2.4. HTML Text Formatting tags

        2.2.5. HTML image inserting tag

            2.2.5.1. IMG tag and its attribute

            2.2.5.2. Inserting Image Map

        2.2.6. HTML Table

        2.2.7. Ordered and Unordered List in HTML

        2.2.8. HTML Frames

            2.2.8.1. Frame Set

            2.2.8.2. Internal Frame

        2.2.9. HTML Form and Form Controls

        2.2.9. Inserting Multimedia in HTML

            2.2.9.1. Embed vs Video and Audio tags

        2.2.10. HTML Graphics

            2.2.10.1. HTML Canvas

            2.2.10.2. HTML SVG

Chapter 3: Cascading Style Sheet (CSS) (10hr)   **2 weeks**

    3.1. CSS Basics

        3.1.1. Introduction to CSS

        3.1.2. CSS Syntax (CSS Selectors and Declarations)

        3.1.3. Attaching CSS with HTML (External, Embedded, and Inline)

    3.2. Style Sheet Rules

        3.2.1. Style Inheritance

        3.2.2. Style Rules Precedence

    3.3. Style Properties

        3.3.1. Foreground and Background Properties

        3.3.2. Font and Text Properties

        3.3.3. CSS Box Model

        3.3.4. Table Styling Properties

        3.3.5. More On Styling List (Creating Navigation bars)

        3.3.6. Layout and Positioning Properties

    3.4. CSS Measuring Units

Chapter 4: Client-Side Scripting (JavaScript) (8hr)   **4 weeks**

    4.1. Introduction to JavaScript

    4.2. JavaScript Basic

        4.2.1. JavaScript Syntax

        4.2.2. Attaching JavaScript to HTML (External, Embedded, Inline)

    4.3. JavaScript Comments

    4.4. Basic JavaScript Input Output

    4.5. JavaScript Data Types and Variables

        4.5.1. JavaScript Data types

        4.5.2. Variable declaration in JavaScript

        4.5.3. Data Type Conversion

    4.6.   Arithmetic and Logical Operators in JavaScript

    4.7.   Control Structures (Conditional and Looping Statements)

    4.8.   Array in JavaScript

5.13.4. Processing Query Result.

5.14. PHP File Input-Output

5.15. PHP Date and Time

5.16. PHP Mathematical Functions

5.17. **PHP OOP**

Chapter 6: Advanced JavaScript and XML (AJAX) (4hr)   1 week

6.1. Introduction to AJAX

6.2. XML Http Request Object

6.3. Sending Request to PHP server

6.4. Handling Response from Server

Chapter 7: Introduction to web development frameworks (4hr)   1 week

a. Bootstrap & jQuery
b. Node.js
c. Angular.js
d. React.js

Assessment method

Mid Exam   20%

Project   30%   -- Individual

Final Exam   50%

Total   100%

Teaching materials

Reference books:

➢ Fundamental Concepts for Web Development: HTML5, CSS3, JavaScript and much more! by Roxane Anquetil

➢ Web Design with HTML, CSS, JavaScript, and jQuery Set 1st Edition by Jon Duckett (Author)

➢ W3Schools, https://www.w3schools.com

Web programming Laboratory outline

Week 1	Lab environment set up (installing text editor software, web browser, server software) Introduction to HTML Basic HTML tags and their attribute HTML, HEAD, TITLE, BODY HTML comment		Basic Input output in JavaScript JavaScript variables Arithmetic and assignment operators in JavaScript Comparison and logical operators in JavaScript Data type conversion in JavaScript
	Meta tag Creating link Text formatting tags Headings, Paragraphs Font Text styling tags	**Week 8**	Conditional Statements If, if..else,if...elseif..else ad switch statement Looping statements For, while and do..while Break and continue statements
Week 2	Image in HTML Inserting Image Using Image as a link Image map	**Week 9**	Array in JavaScript Manipulating elements of an array Function in JavaScript
Week 3	HTML Table Table row, Table header and Table data Attributes of table Attributes of table row and cell Using header, body, and footer in HTML table HTML Lists Unordered list Ordered List	**Week 10**	JavaScript DOM Accessing Document elements CSS in JavaScript
			Event Handling JavaScript BOM (Window, Location, History, Cookies) Form processing and validation in JavaScript
Week 4	Frames in HTML Frameset, Nested frame, Internal frame HTML form Form attributes Input elements Inserting multimedia in HTML Inserting video Inserting audio	**Week11**	PHP Syntax Output statements Comments PHP Variable and Data type conversion Control structures (Conditional and Looping statements)
Week 5	CSS Linking CSS with HTML (embedded, inline, and external CSS) Styling background, text, font, Styling Link, Table CSS class and ID	**Week12**	Array Function Form Processing File uploading
		Week13	Session and Cookie Database programming
Week 6	CSS box model (margin, padding and boarder) CSS display, visibility, position, and z-index	**Week14**	File management in PHP Date and Time Math functions
		Week15	Ajax programming
Week 7	JavaScript syntax Linking JavaScript with HTML (embedded, inline, external) The first code in JavaScript "Hello, World" JavaScript comments	**Week16**	Introduction to Web development frameworks Bootstrap, node.js, angular.js