

Course Title: Web and multimedia programming

Course Code: CSE222

Program: Master Degree In Computer Engineering

Department: Computer Engineering

Course coordinator: Rim Afdhal

Institution: Private Higher School of Engineers of Gafsa (ESIP)

A. Course Identification

1. Credit hours:	3 (0-0-3)
2. Course type	
a. College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>	
b. Fundamental <input checked="" type="checkbox"/> Transversal <input type="checkbox"/> Optional <input type="checkbox"/>	
3. Level/year at which this course is offered:	1.2/3
4. Pre-requisites for this course (if any):	
5. Co-requisites for this course (if any):	Basic Programming & Scripting, Basic Understanding of Web Technologies, Basic SQL & Database Concepts

1. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Self-study	Total workload
1	Traditional classroom	30	75
2	Blended	22.5		
3	E-learning		
4	Distance learning		
5	Other (Project)	22.5		

2. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	11
2	Laboratory/Studio	11.5
3	Tutorial	-
4	Others (Project)	22.5

Total	45
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B. Course Objectives and Learning Outcomes

Course Description

This course provides a comprehensive introduction to web and multimedia programming, covering the essentials of website creation, design, and interactivity. Students will learn how to structure web pages using HTML, style them with CSS, and enhance functionality with JavaScript and PHP. The course emphasizes practical skills, enabling students to design, build, and deploy interactive, responsive, and fully functional websites using modern front-end and back-end technologies.

Course Main Objective

This course aims to:

- ✓ Introduce fundamental web technologies, including HTML, CSS, JavaScript, and PHP.
- ✓ Develop proficiency in web page structuring and styling.
- ✓ Teach JavaScript for client-side interactivity and dynamic content.
- ✓ Train students in PHP server-side scripting for dynamic and database-driven websites.
- ✓ Enhance problem-solving skills through the integration of front-end and back-end web technologies in practical projects.
- ✓ Promote best practices in web development, focusing on accessibility, SEO, and performance optimization.

1. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	✓ Understand essential web technologies (HTML, CSS, JavaScript, and PHP) and their role in building dynamic and interactive web applications.	PLOK.1
1.2	✓ Master HTML structure, tags, and semantic principles to create well-structured and accessible web pages	
1.3	✓ Understand core JavaScript programming concepts, including variables, functions, loops, and conditional statements, for interactive web development.	
2	Skills	
2.1	✓ Develop problem-solving skills to debug and resolve common web development issues, including HTML, CSS, JavaScript, and multimedia integration errors	PLOS2
	✓ Design and implement visually appealing and well-structured static web pages using HTML and CSS to create engaging user experiences.	
2.2	✓ Create and integrate multimedia elements into web pages, leveraging graphic design tools and web technologies to enhance interactivity and aesthetics.	PLO.S7

C. Course Content

No	List of Topics	Contact Hours
1	General Concepts and Basic Notions: Introduction, History, Internet Services, File Formats, Website Creation, SEO, and Website Management.	1
2	HTML Basics	2
3	Advanced HTML Concepts	2
2	CSS Basics	2
3	JavaScript Fundamentals	2
4	PHP Fundamentals	2
Total		11

Practical work Content

No	List of Topics	Contact Hours
1	Lab 1: HTML Development – Creating structured web pages with HTML elements and forms.	3
2	Lab 2: CSS Styling – Designing responsive layouts and applying styles with CSS.	2
3	Lab 3: JavaScript Basics – Implementing dynamic behaviors and DOM manipulation.	3
4	Lab 4: PHP Programming – Server-side scripting and form handling with PHP.	3.5
Total		11.5

Project Content

No	List of Topics	Contact Hours
1	Develop a Full Website integrating HTML, CSS, JavaScript, and PHP.	--
Total		22.5

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
PLO.K1	✓ Understand essential web technologies (HTML, CSS, JavaScript, and PHP) and their	<ul style="list-style-type: none"> - Lecturing - Class discussions - projects 	<ul style="list-style-type: none"> - Assignments, Quizzes - Report

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	<p>role in building dynamic and interactive web applications.</p> <ul style="list-style-type: none"> ✓ Master HTML structure, tags, and semantic principles to create well-structured and accessible web pages ✓ Understand core JavaScript programming concepts, including variables, functions, loops, and conditional statements, for interactive web development. 		- Exam
2.0	Skills		
PLO.S2	<ul style="list-style-type: none"> ✓ Develop problem-solving skills to debug and resolve common web development issues, including HTML, CSS, JavaScript, and multimedia integration errors. ✓ Design and implement visually appealing and well-structured static web pages using HTML and CSS to create engaging user experiences. 	<ul style="list-style-type: none"> - Lecturing - Class discussions - projects 	<ul style="list-style-type: none"> - Assignments, Quizzes - Report - Exam
PLO.S7	<ul style="list-style-type: none"> ✓ Create and integrate multimedia elements into web pages, leveraging graphic design tools and web technologies to enhance interactivity and aesthetics. 		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical Work (written or oral)	Monthly	25%
2	Quizzes, Homework assignments	Random	25%
3	First mid Term	-	00%
5	Final Exam(Project)	16	50%

E. Student Academic Counselling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Office hours

- Blackboard interface
- Academic advisor
- Bibliotic

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<ol style="list-style-type: none"> 1. Duckett, Jon. <i>HTML & CSS: Design and Build Websites.</i> Wiley, 2011. 2. Christophe Porteneuve, <i>Bien developpers pour le Web 2.0,</i> ©Groupe Eyrolles, 2007. 3. R. Moseley. <i>Developing web applications,</i> Wiley Editions, 2006 4. J. Teague. <i>DHTML ET CSS.</i> ED. Peachpitt, 2001 5. Hoffman. <i>Javascript.</i> Editions Dunod, 2001 6. Duckett, Jon. <i>JavaScript & JQuery: Interactive Front-End Web Development.</i> Wiley, 2014
Essential References Materials	<ol style="list-style-type: none"> 1. Mozilla Developer Network (MDN) – Web Docs <ul style="list-style-type: none"> ▪ https://developer.mozilla.org/en-US/ 2. W3Schools – Web Development Tutorials <ul style="list-style-type: none"> ▪ https://www.w3schools.com/ 3. Eloquent JavaScript – Marijn Haverbeke <ul style="list-style-type: none"> ▪ https://eloquentjavascript.net/ 4. PHP Manual – Official PHP Documentation <ul style="list-style-type: none"> ▪ https://www.php.net/manual/en/
Electronic Materials	<ol style="list-style-type: none"> 1. Harvard CS50 Web Development Course <ul style="list-style-type: none"> ▪ https://cs50.harvard.edu/web/ 2. freeCodeCamp – Web Development Certifications <ul style="list-style-type: none"> ▪ https://www.freecodecamp.org/ 3. YouTube Channels for Web Development <ul style="list-style-type: none"> ▪ Traversy Media – Beginner to advanced web development tutorials. ▪ The Net Ninja – In-depth courses on JavaScript, PHP, and front-end frameworks.
Other Learning Materials	- NA

2. Facilities Required

Item	Resources
Accommodation	Classroom board Computer lab with the necessary software Internet access
Technology Resources	Data projector

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment.	Students, course coordinator, Alumni, Employers	Direct/Indirect
Extent of achievement of course learning outcomes.	Faculty, Program Leaders, quality department	Direct
Quality of Learning resources	Faculty, Program Leaders,	Direct, Indirect
Teaching and learning quality and effectiveness.	Students, Faculty Program Leaders,	Direct, Indirect

H. Specification Approval Data

Council / Committee	Computer Engineering Council
Date	07/02/2024

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