

Module (Course Syllabus) Catalogue 2024-2023

College/ Institute	Administrative Technical Institute / Erbil	
Department	Administrative Information System	
Module Name	Web Development	
Module Code	WEB305	
Degree	Technical Diploma <input checked="" type="checkbox"/>	Bachelor <input type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> D <input type="checkbox"/>
Semester	3	
Qualification	Master's degree in Computer and Communications Engineering	
Scientific Title	Assistant Lecturer	
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/>	Core <input type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours	4 hours	
Weekly hours (Theory)	(1)hr Class	(3)Total hrs Workload
Weekly hours (Practical)	(3)hr Class	(5)Total hrs Workload
Number of Weeks	15 Weeks	
Lecturer (Theory)	Ali Hasan Husien	
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Lecturer (Practical)	Raed Muhammad Kaki	
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Websites		

Course Book

Course Description	<p>Web Development is a course designed to guide students in a project-based environment in the development of up-to-date concepts and skills that are used in the development of today's websites. Students will learn the fundamentals of how the Internet works. They will learn and use the basic building blocks of the World Wide Web: HTML coding. They follow the steps to create a website by planning, designing, developing, deploying, and maintaining website projects. They will learn about careers in Web Development.</p>
Course objectives	<p>Course Objectives for a web development course: Introduction to Web Technologies, Understand the fundamental technologies that power the web, including HTML, and PHP. Also HTML (Hypertext Markup Language), Learn to create well-structured and semantically meaningful web pages using HTML. Understand the use of HTML tags, attributes, and elements. Explore the latest HTML standards and best practices.</p>
Student's obligation	<p>As a student in a web development course, you have certain obligations and responsibilities to make the most of your learning experience and to contribute positively to the class. Here are some key obligations for students in a web development course:</p> <p>Attendance and Participation: Attend classes regularly and be punctual. Actively engage in class discussions, ask questions, and contribute to the learning environment.</p> <p>Preparation: Review the course syllabus and materials before each class. Complete assigned readings, exercises, and homework on time.</p>

	<p>Time Management: Manage your time effectively to meet assignment deadlines. Allocate time for self-study and practice beyond class hours.</p> <p>Technical Requirements: Ensure you have access to the necessary hardware and software required for the course. Keep your software and development tools up to date.</p> <p>Collaboration and Teamwork: If team projects are part of the course, actively collaborate with team members. Communicate clearly and contribute your fair share of work to group projects.</p> <p>Problem Solving: Develop problem-solving skills, as web development often involves troubleshooting and debugging code. Seek assistance from instructors or peers when encountering challenges.</p> <p>Homework and Projects: Submit assignments and projects on time. Ensure that your work is well-documented and organized.</p> <p>Final Assessment: Prepare for and perform well in final assessments, exams, or project presentations, depending on the course requirements.</p>				
Required Learning Materials	<p>In a web development course, you'll typically need a set of learning materials and resources to support your studies. These materials can include textbooks, software tools, online resources, and hardware. And a computer or laptop with the necessary hardware specifications to run web development tools and software effectively.</p>				
Evaluation	Task		Weight (Marks)	Due Week	Relevant Learning Outcome
	Paper Review				
	Assi	Homework	5 M		
		Class Activity	2 M		

	Report	10%		
	Seminar	10%		
	Essay			
	Project	10%		
	Quiz	8 M		
	Lab.	10 M		
	Midterm Exam	25 M		
	Final Exam	40 M		
	Total	100 M		
Specific learning outcome:	<p>1- Basic Syntax and Data Types.</p> <p>2- Understand the principles of OOP in PHP, including classes, objects, inheritance, encapsulation, and polymorphism.</p> <p>3- Understand the fundamental syntax of PHP, including variables, data types (e.g., strings, integers, arrays), and operators.</p> <p>4- Control Structures.</p> <p>5- Functions.</p> <p>6- Project Development.</p>			
Course References :	<p>PHP Official Documentation: The PHP documentation is a valuable resource for learning PHP. It provides detailed information on functions, syntax, and usage. You can find it at php.net.</p> <p>W3Schools PHP Tutorial: W3Schools offers an interactive PHP tutorial that covers the basics and more advanced PHP topics. Visit W3Schools PHP Tutorial.</p> <p>PHP: The Right Way: An online guide that promotes best practices and provides a curated list of PHP resources. It can be found at phptherightway.com.</p> <p>PHP.net Manual on MySQLi: This is a section of the official PHP documentation that covers the MySQLi extension for working with databases. It's a great resource if you're working with MySQL databases. Visit MySQLi Manual.</p>			
Course topics (Theory)	Week	Learning Outcome		

Introduction to PHP	1	Understanding what PHP is and its role in web development. Setting up a development environment.
Basic Syntax	2	Variables and data types. Operators and expressions. Control structures (if statements, loops).
Functions and Objects	3	Creating and using functions. Object-oriented programming in PHP.
Arrays and Data Structures	4	Arrays and their manipulation. Associative arrays. Using data structures in PHP.
File Handling	5	Reading and writing to files. Working with directories.
Error Handling and Debugging	6	Handling errors and exceptions. Debugging techniques.
Web Development with PHP	7	Creating web pages with PHP. Form handling and data validation. Session management and cookies.
Security in PHP	8	Common security vulnerabilities (e.g., SQL injection, XSS). Best practices for securing PHP applications.
Performance Optimization	9	Techniques for optimizing PHP code and web applications.
PHP features	10	Building real-time applications with PHP and WebSockets.
Projects and Practical Work	11	Hands-on projects to apply what you've learned in real-world scenarios.
Best Practices and Coding Standards	12	Adhering to coding standards and best practices in PHP development.
Practical Topics	Week	Learning Outcome
Hello World in PHP	1,2	Start with a simple "Hello World" program in PHP to ensure your development environment is set up correctly.
Variable Manipulation	2,3	Create PHP scripts to declare and manipulate variables, including arithmetic operations and string concatenation.
Conditional Statements	4,5	Write PHP code to implement if statements, switch statements, and loops (for, while, do-while) for control flow.
User Input and Forms	6,7	Create a PHP script that takes user input through an HTML form and displays the input data.
Arrays and Looping	8,9	Practice working with arrays and use loops to iterate through array elements.

Functions	9,10	Write and call PHP functions to perform specific tasks or calculations.
File Handling	11,12	Create PHP scripts to read from and write to files, such as reading a text file or writing data to a CSV file.

Questions Example Design

Here are some example questions related to PHP language:

Q1: What is PHP, and what does the acronym PHP stand for?

Q2: How do you embed PHP code within an HTML document?

Q3: Variables and Data Types:

Q4: How do you declare a variable in PHP, and what are the naming rules for variables?

Q5: What are the main data types in PHP, and how do you determine the data type of a variable?

Q6: Operators and Expressions:

Discuss the various types of operators in PHP, such as arithmetic, comparison, and logical operators.

Q7: Control Structures:

What is the purpose of conditional statements in PHP, and how do you write an if-else statement?

Describe the usage of loops in PHP, including for, while, and foreach loops.

How can you use the switch statement, and what is its role in control flow?

Extra notes:

PHP can generate dynamic page content.

PHP can create, open, read, write, delete, and close files on the server.

PHP can collect form data.

PHP can send and receive cookies.

PHP can add, delete, and modify data in your database.

PHP can be used to control user-access.

PHP can encrypt data.

External Evaluator

M. Gaylan Ghazi Hamshin