Course Specification
(Bachelor)

Course Title:	Web Programming
Course Code:	COMP-315
Program:	Bachelor in Computer Science
Department:	Computer Science
College:	College of Engineering and Computer Science
Institution:	Jazan University
Version:	V2
Last Revision Date:	07 January 2023

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (03)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (Level 05 / Year 03)					
4. Course General Description:					
This course aims to provide fundamental concepts of designing a web page and developing static as well dynamic web sites for UG level students. Some of the most popular web related techniques such as HTML, CSS and PHP are included in order to design and develop real world web applications.					
5. Pre-requirements for this course (if any)**:**					
Nil					
6. Pre-requirements for this course (if any)**:**					
Nil					
7. Course Main Objective(s):					
• Define various web technologies used to create web applications. • Describe how to write scripts that validate form input on the server. • Illustrate how to design static web pages, dynamic web applications and interactive web applications. • Describe how to apply markup languages for processing and presenting information in web pages. • Demonstrate how to develop web pages that interact with databases performing simple CRUD (Create, Read, Update, and Delete) operations. • Explain how to demonstrate the ability to design and develop application in a team with distributed responsibilities.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning (Self-Learning)		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	28
2.	**Laboratory/Studio**	28
3.	**Field**	--
4.	**Tutorial**	--
5.	**Others (specify)**	4
Total		60

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**Define** various web technologies used to create web applications.	**K1**	• Lectures/Presentations • Media Lectures • Lab Demonstrations	• Exam-1 • Assignment • Final Theory Exam
1.2	**Write** scripts that validate form input on the server.	**K1**	• Lectures/Presentations • Media Lectures • Lab Demonstrations	• Exam-1 • Assignment • Mini Project • Final Theory Exam
2.0	**Skills**			
2.1	**Design** static web pages, dynamic web applications and interactive web applications.	**S3**	• Lectures/Presentations • Media Lectures • Tutorials	• Exam-1 • Assignment • Mini Project

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
			• Lab Demonstrations	• Lab Exam • Final Theory Exam
2.2	**Apply** markup languages for processing and presenting information in web pages.	**S4**	• Lectures/Presentations • Media Lectures • Tutorials • Lab Demonstrations	• Exam-1 • Assignment • Mini Project • Lab Exam • Final Theory Exam
2.3	**Develop** web pages that interact with databases performing simple CRUD (Create, Read, Update, and Delete) operations.	**S4**	• Lectures/Presentations • Media Lectures • Tutorials • Lab Demonstrations	• Exam-1 • Assignment • Mini Project • Lab Exam • Final Theory Exam
3.0	**Values, autonomy, and responsibility**			
3.1	**Demonstrate** the ability to design and develop application in a team with distributed responsibilities.	**V2**	• Group Discussion • Team Work Demo • Presentation	• Assignment • Mini Project • Lab Exam

C. Course Content

No	List of Topics	Contact Hours
1.	**Internet, Web, HTML and JavaScript:** The Internet, Network Overview, Components of a network, Client/Server Model, Web Client, Web Server, Internet Protocol, HTTP, TCP, IP, URI, URL, Domain Names, Domain Name System. **HTML**, HTML Element, Head Element, Title Element, Body Element, Paragraph Element, Form Element, Text Box, Submit Button, Reset Button, Check Box, Radio Button, Password Box, Label Element. **Cascading Style Sheets**, Inline CSS, Internal CSS, External CSS. **JavaScript:** What is JavaScript? Your First JavaScript Code, Limitations of JavaScript, How to run a script program, JavaScript Statements, HTML Forms and JavaScript, Using Form Data	4T + 4P
2.	**PHP Basics**: Introduction, Strengths of PHP, Creating a Sample Application, Embedding PHP in HTML, Basic PHP Syntax, Comments, Adding Dynamic Content, Accessing Form Variables, String Concatenation, Variables and Literals, Identifiers, Data Types, Type Strength, Type Casting, Variable	4T + 4P

	Variables, Declaring and Using Constants, Variable Scope, Arithmetic Operators, String Operators, Assignment Operators, Logical Operators, Ternary Operator, Array Operators, Type Operator, Precedence and Associativity	
3.	**Making Decisions with Conditionals:** if Statements, Code Blocks, else Statements, elseif Statements, switch Statements, Comparing the Different Conditionals **Repeating Actions Through Iteration:** while Loops, for and foreach Loops, do...while Loops, Breaking Out of a Control Structure or Script, declare.	4T + 4P
4.	**Arrays:** Introduction, Indexed Array, Assiciative Array, Multidimensional Array, print_r function, Sorting Arrays. **String and Constants**: Introduction, String variables, Concatenation Operator, Predefined String Functions, Constants, Array Functions.	4T + 4P
5.	**Functions:** Using ***require*** and ***include*** Statements, Function Definition, Calling Functions, Defining Your Own Functions, Naming Your Function, Using Parameters, Using the ***return*** Keyword. **Exception Handling**: try block, throw, catch block, Exception Class, User Define Exceptions.	4T + 4P
6.	**MySQL**: Introduction, Creating Connection, Closing Connection, Creating Database, Selecting Database, Deleting Database, Create MySQL Table, Delete My SQL Table, Insert data into MySQL Table, Retrieve data from MYSQL Table, Update data in MySQL table, Delete data from MySQL table. **Cookies and Sessions:** Cookies Introduction, Setting Cookies, Accessing Cookies, Deleting Cookies, Session Introduction, Starting a Session, Destroying a Session.	4T + 4P
7	**File and I/O:** Creating, Opening and Closing Files, Reading a File, Writing a File, File Upload.	2T + 2P
Total		**26T + 26P**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm Exam	7th-8th week	15%
2.	Assignment I	9th week	10%
3.	Mini Project	12th week	15%
4.	Lab Exam	14th Week	20%
5.	Final Theory Exam	15th Week	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	• Terry Felke-Morris, "Basics of Web Design", 5nd Edition, Pearson Publications, ISBN-13: 978-0135225486, 2019. • Luke Welling, Laura Thomson, "PHP and MySQL Web Development", 5th Edition, Addison- Wesley, ISBN-13: 978-0-321-83389-1, 2017
Supportive References	• Terry Felke-Morris, "Web Development and Design Foundations with XHTML", 5th Edition, Pearson Publications, ISBN-13: 978-0132122702, 2010. • Larry Ullman, "PHP and MySql for Dynamic Web Sites", 4th Edition, Peachpit Press, ISBN-13: 978-0-321-78407-0, 2012.
Electronic Materials	• Blackboard, Media Lectures • https://www.tutorialspoint.com/php/index.htm • https://www.phptutorial.net/ • https://www.php.net/manual/en/tutorial.php
Other Learning Materials	• Handouts

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• Classroom equipped with projector, whiteboard, and sufficient seating arrangements. • Lab with software installed and an individual computer terminal for each student.
Technology equipment (projector, smart board, software)	Whiteboard and projector for classroom and lab. **Following software for lab work:** Computer Lab having 30 PCs equipped with following software's: **XAMPP WEB SERVER (For PHP + MYSQL)** An active internet connection.

Items	Resources
Other equipment (depending on the nature of the specialty)	**None**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect (Course evaluation survey form)
Effectiveness of Students assessment	CRC / QAU / HoD	Direct (Course reports/result analysis)
Quality of learning resources	Track leaders / CRC	Indirect (Review, meetings, and star rating with suggestions for further modification and improvements)
The extent to which CLOs have been achieved	CRC / QAU	Direct (CLO assessment template further verified at course coordinator, Track leader and QAU level)
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	DEPARTMENT COUNCIL
REFERENCE NO.	
DATE	15/10/2022