



# Course Specification

— (Bachelor)

**Course Title:** Web Technologies 2

**Course Code:** CS1501

**Program:** Computer Science

**Department:** Computer Science & Engineering

**College:** Computer Science and information technology

**Institution:** Albaha University

**Version:** v2

**Last Revision Date:** 09/10/2023



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## A. General information about the course:

### 1. Course Identification

1. Credit hours: ( 3 )

#### 2. Course type

A.  University  College  Department  Track  Others  
 B.  Required  Elective

3. Level/year at which this course is offered: ( Level 7 / 3<sup>rd</sup> Year)

#### 4. Course general Description:

##### Lecture:

This course describes a solid introduction to the latest trends and best programming practices with PHP5(x) and the skills needed for practical programming applications and learn how to put these skills to use in real world scenarios, also give a solid introduction to using MySQL database with PHP programming language to build database driven websites. Learn the SQL language and master database design principles. How to create three-tiered data applications such as websites that require user login/authentication, websites with automated web content, interactive websites, simple shopping carts, and a whole lot more.

##### LAB

The lab is planned to give students practical experiments on WEB Page Development. Students will also learn how to:

- Build Dynamic web site.
- WEB Server Configuration.
- My SQL.
- Sever Side Program such as PHP

PHP Function used to connect with web site and MySQL

#### 5. Pre-requirements for this course (if any):

Web Technologies 1 (CS1008)

#### 6. Pre-requirements for this course (if any):

None

#### 7. Course Main Objective(s):

The main purpose for this course is to teach students how to:

- Describe the PHP language and web server configurations.
- Implementation of Functions and control structures of PHP Language.
- Explain PHP data types and operators.
- Implementation of MySQL database
- Interact MySQL database with PHP
- Interact in groups collaboratively.

Communicate concepts and techniques in oral presentations.





## 2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	55	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> <li>• Traditional classroom</li> <li>• E-learning</li> </ul>		
4	Distance learning		

## 3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	33
2.	Laboratory/Studio	22
3.	Field	
4.	Tutorial	
5.	Others (specify)	
<b>Total</b>		<b>55</b>

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

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and understanding</b>			
1.1	Demonstrate understanding of the TCP/IP Models and Protocols with emphasis on the application layers and transport layers	K1	<ul style="list-style-type: none"> <li>- Lectures</li> <li>- Assignments</li> <li>- lab project</li> </ul>	<ul style="list-style-type: none"> <li>• Rubrics for assignments</li> <li>• Midterm exams</li> <li>• Project (rubric)</li> <li>• Final Exam</li> </ul>
1.2	Describe web services and Request, Response Message Format, caching and cookies concept	K2	<ul style="list-style-type: none"> <li>- Lectures</li> <li>- Assignments</li> <li>- lab project</li> </ul>	<ul style="list-style-type: none"> <li>• Rubrics for assignments</li> <li>• Midterm exams</li> <li>• Project (rubric)</li> <li>• Final Exam</li> </ul>
1.3	Describe the PHP language and web server configurations.	K3	<ul style="list-style-type: none"> <li>- Lectures</li> <li>- Assignments</li> </ul>	<ul style="list-style-type: none"> <li>• Rubric for assignments</li> <li>• Midterm exams</li> </ul>





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
				<ul style="list-style-type: none"> <li>Final Exam</li> </ul>
<b>2.0</b>	<b>Skills</b>			
2.1	Define Functions and control structures of PHP Language.	S1	<ul style="list-style-type: none"> <li>Lectures</li> <li>Assignments</li> <li>Lab Exercises</li> <li>Lab project</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes</li> <li>Midterm exams</li> <li>Final Exam</li> <li>Project (rubric)</li> </ul>
2.2	Explain PHP data types and operators.	S2	<ul style="list-style-type: none"> <li>Lectures</li> <li>Assignments</li> <li>Lab Exercises</li> <li>lab project</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes</li> <li>Midterm exams</li> <li>Final Exam</li> <li>Project (rubric)</li> </ul>
2.3	Apply MySQL database with PHP	S4	<ul style="list-style-type: none"> <li>Lectures</li> <li>Assignments</li> <li>Lab Exercises</li> <li>lab project</li> </ul>	<ul style="list-style-type: none"> <li>Quizzes</li> <li>Midterm exams</li> <li>Final Exam</li> <li>Project (rubric)</li> </ul>
<b>3.0</b>	<b>Values, autonomy, and responsibility</b>			
3.1	Initiate groups collaboratively	V1	<ul style="list-style-type: none"> <li>Small groups</li> </ul>	<ul style="list-style-type: none"> <li>Project (rubric)</li> </ul>
3.2	Plan concepts and techniques in oral presentations	V2	<ul style="list-style-type: none"> <li>Oral Presentations</li> </ul>	<ul style="list-style-type: none"> <li>Project (rubric)</li> </ul>

### C. Course Content

No	List of Topics	Contact Hours
1.	Dynamic Web Site Design Principles	3
2.	Persistent Connection and Nonpersistent Connection	3
3	Connection Oriented and Connectionless	3
4	Web Services including Request Message and Response Message Format, cache and Cookies Concept	3
5	Introduction to PHP, server side of scripting language Download a server Handling form input with PHP. User authentication.	3
6	PHP Basic Constructs Variables and data types, Expressions and operators, Conditional statements	3
7	PHP Basic Constructs. Iteration statements while loops, for loops switch statements	3
8	PHP Basic Constructs. Functions Arrays and Objects PHP \$_GET o PHP \$_POST	3
9	What's a database and what's an RDBMS? Introduction to SQL. Using MySQL. Relational Database concepts. Designing your web database. Creating a database in PHP MyAdmin. Accessing a database through PHP.	3





10	Accessing MYSQL database from the web with PHP. Web database architecture. Querying the database from the web. Putting new information in the database.	3
11	Inserting data into the Database. Retrieving data from the Database. Using sub queries. Updating, adding and deleting records.	3
<b>Total</b>		<b>33</b>

No	List of Topics (Lab)	Contact Hours
1	Introduction to PHP	2
2	Creating (Declaring) PHP Variables	2
3	PHP Operators	2
4	PHP Conditional Statements	2
5	PHP Loops	2
6	PHP User Defined Functions	2
7	PHP WEB Forms	2
8	Connect WEB with MySQL.	2
9	Insert Data into MySQL Using MySQL and PDO	2
10	Select Data from a MySQL Database	2
11	Limit Data Selections from a MySQL Database	2
<b>Total</b>		<b>22</b>

#### D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Weekly assignments exercises/ programming assignments	Every Two Weeks	10%
2.	Quizzes	Week 8	10%
3.	Mid Term 1	Week 6	20%
4	Lab Report	Every Two Weeks	5%
5	LAB Project	Week 11	15%
6	Final Exam	Week 12-13	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

<b>Essential References</b>	Learning PHP, MySQL, JavaScript, CSS WITH JQUERY, CSS & HTML5 (5th edition) Copyright c 2018 Robin Nixon. Printed in the United States of America. Published by O'Reilly Media, Inc., 1005 Gravenstein Highway North, Sebastopol, CA 95472
<b>Supportive References</b>	Computer Science Curriculum 2013 – <a href="http://cs2013.org">http://cs2013.org</a> - ACM (Association for Computer Machinery) Curricula Recommendations - <a href="http://www.acm.org/education/curricula-recommendations">http://www.acm.org/education/curricula-recommendations</a>
<b>Electronic Materials</b>	ACM (Association for Computer Machinery) web site - <a href="http://www.acm.org/">http://www.acm.org/</a> • IEEE Computer Society web site - <a href="http://www.computer.org/portal/web/guest/home">http://www.computer.org/portal/web/guest/home</a> • Access to the Saudi Digital Library (SDL). Using the learning management system of the university – Rafid System ( <a href="https://lms.bu.edu.sa/">https://lms.bu.edu.sa/</a> ).
<b>Other Learning Materials</b>	<ul style="list-style-type: none"> <li>• Apache Server,</li> <li>• DBMS (MySQL)</li> <li>• HTML. Java Scrip, PHP</li> </ul>

### 2. Required Facilities and equipment

Items	Resources
<b>facilities</b> (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> <li>• A classroom or lecture hall with whiteboard for 25 students.</li> <li>• A laboratory with 25 computers.</li> </ul>
<b>Technology equipment</b> (projector, smart board, software)	<ul style="list-style-type: none"> <li>• All students shall have: <ul style="list-style-type: none"> <li>○ A computer with Server Software, other common programming languages installed such as Dreamweaver 8.0 or Komodo IDE 12</li> </ul> </li> </ul>
<b>Other equipment</b> (depending on the nature of the specialty)	The laboratory should have computers with Apache Server programming.

## F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Exams Evaluation Committee Students	Direct: Exam Review Indirect: Survey
Effectiveness of Students assessment	Faculty	Direct: Exams
Quality of learning resources	Faculty	Direct: Survey



Assessment Areas/Issues	Assessor	Assessment Methods
	Students	Indirect: Survey
The extent to which CLOs have been achieved	Faculty	Direct: Exams
Other		

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

**Assessment Methods** (Direct, Indirect)

### G. Specification Approval

<b>COUNCIL /COMMITTEE</b>	
<b>REFERENCE NO.</b>	
<b>DATE</b>	

