



**Gyanmanjari**  
Innovative University

Course Syllabus  
Gyanmanjari College of Computer Science  
Semester-5(BSCIT)

**Subject:** Web Development Using PHP – BSCIT15316

**Type of course:** Major Core

**Prerequisite:** A basic understanding of computer programming, Internet, database, HTML.

**Rationale:**

In our day-to-day lives, we use a number of web applications, such as online ticket or hotel booking, e-commerce, social networks, email, etc. All of these web applications are stored on a remote server, delivered over the Internet and accessed through a browser interface. PHP is an open-source, server-side scripting language designed specifically for web applications. PHP is one of the most popular choices among developers to develop dynamic, interactive, secure and database-driven web applications. In the growing field of web technologies, it is essential for diploma-passing students to learn the PHP language to help them build web applications. The goal of this course is to develop web development skills in students using the server-side scripting language-PHP. Students will learn the integration of HTML, CSS, PHP and MySQL database to develop web applications. This course will help students who want to develop web-based applications for their final year project.

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P		C	SEE		CCE		
			Theory		Practical	MSE	LWA	ALA	
3	0	2	4	75	25	30	20	50	200

*Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; SEE - Semester End Evaluation; MSE- Mid Semester Examination; LWA - Lab Work Assessment; V – Viva voce; CCE- Continuous and Comprehensive Evaluation; ALA- Active Learning Activities.*

3 Credits \* 25 Marks = 75 Marks (each credit carries 25 Marks) Theory  
 1 Credits \* 25 Marks = 25 Marks (each credit carries 25 Marks) Practical  
 SEE 100 Marks will be converted in to 50 Marks  
 CCE 100 Marks will be converted in to 50 Marks  
 It is compulsory to pass in each individual component.



**CourseContent:**

Sr. No	Course content	Hrs	% Weightage
1	<p><b>Introduction to PHP</b></p> <ul style="list-style-type: none"> <li>• Introduction to Static andDynamic Websites</li> <li>• Introduction to PHP and it`sHistory</li> <li>• Basic PHP syntax and filestructure</li> <li>• Output statements: echo andprint</li> <li>• PHP variables and value types</li> <li>• PHP Constants and magicconstants</li> <li>• PHP Operators and theirprecedence:                             <ol style="list-style-type: none"> <li>i. Arithmetic operators</li> <li>ii. Increment-decrement operators</li> <li>iii. Assignment operators</li> <li>iv. Logical operators</li> <li>v. Bitwise operators</li> <li>vi. Comparison operators</li> </ol> </li> <li>• Decision-making statements: ifstatement, if-else statement,else-if clause, switch-casestatement, the ? operator</li> <li>• Loops: while loop, for loop,foreach loop, nesting loops</li> <li>• Break and continue statements</li> </ul>	07	15%
2	<p><b>Arrays and Functions in PHP</b></p> <ul style="list-style-type: none"> <li>• Introduction to PHP Arrays and types of arrays: Indexed, Associative and Multidimensional arrays</li> <li>• PHP Strings: single quoted, double quoted, heredoc syntax, nowdoc syntax</li> <li>• Creating, Manipulating and traversing different types of arrays</li> <li>• User defined function: creating a function, calling a function andreturning a value from function</li> <li>• Function with default arguments, passing arguments by value and reference</li> <li>• Variable scope, accessing global variables inside a function</li> <li>• Variable function</li> <li>• Using PHP built-in functions                             <ol style="list-style-type: none"> <li>i. String processing functions: chr(), ord(), strlen(), trim(), ltrim(), rtrim(), join(), substr(), str_replace(), str_split(), str_word_count(), strcmp(), strcasecmp(), stripslashes(), stripos(), strrev(), strtolower(), strtoupper(),str_shuffle()</li> <li>ii. Mathematical functions: abs(), ceil(), floor(), round(), rand(), min(), max(), pi(), pow(), sqrt(), exp(), log(), decbin(), decoct(), dechex(), sin(), cos(), tan(), deg2rad(), rad2deg()</li> <li>iii. Date/time function: getdate(), gettimeofday(), time(),</li> </ol> </li> </ul>	10	20%



	date_create(), mktime(), date_format(), date_diff(), checkdate()		
3	<p><b>Object Oriented Concepts in PHP</b></p> <ul style="list-style-type: none"> <li>• OOP concepts: Class, Object, Properties, Methods, Encapsulation, Access modifiers</li> <li>• Creating Classes, Objects</li> <li>• Constructors and Destructors</li> <li>• Inheritance</li> <li>• Polymorphism: Overloading, Overriding</li> <li>• Interface</li> <li>• Abstract Class</li> <li>• Final keyword</li> <li>• Cloning Objects</li> </ul>	10	25%
4	<p><b>Forms Handling, Session, Cookies</b></p> <ul style="list-style-type: none"> <li>• Form controls: Text Box, Textarea, List Box, Dropdown, Check Box, Radio Box, Buttons, Upload, color, date etc.</li> <li>• Retrieving form data using GET and POST methods</li> <li>• Form Validation using PHP</li> <li>• Working with multiple forms                             <ol style="list-style-type: none"> <li>i. A web page having multiple forms</li> <li>ii. A form having multiple submit buttons</li> </ol> </li> <li>• Session: creating a session, storing and accessing session data and destroying session</li> <li>• Cookies: setting a cookies, accessing cookies data and destroying cookies</li> </ul>	08	15%
5	<p><b>Working with Database in PHP</b></p> <ul style="list-style-type: none"> <li>• Introduction to MySQL Database with PHP</li> <li>• Creating a database using phpMyAdmin &amp; console</li> <li>• Connecting with MySQL database</li> <li>• Executing MySQL queries</li> <li>• Performing database operations                             <ol style="list-style-type: none"> <li>i. Create/delete a table</li> <li>ii. Insert data into the table</li> <li>iii. Update data into the table</li> <li>iv. Retrieve data from the table</li> <li>v. Delete data from the table</li> </ol> </li> <li>• Displaying data from the database in different formats, including tables.</li> </ul>	10	25%

**Continuous Assessment:**

Sr. No	Active Learning Activities	Marks
1	<b>Study Synopsis:</b> Students will Analyze and make report on real-world applications developed in PHP and upload it on GMIU Web Portal.	10
2	<b>Bug Detectives :</b> Students will be provided with PHP code containing intentional errors. They have to identify and debug the issues, correct the code, and upload the fixed version to the GMIU Web Portal.	10
3	<b>Code Refactoring Challenge:</b> Students will be given a lengthy and unorganized PHP script. They have to break the code into smaller, reusable functions, improve readability, and apply best coding practices, and upload optimized code to the GMIU Web Portal.	10
4	<b>Security Audit:</b> Students will analyze and identify common security vulnerabilities in the provided PHP code. Students will upload their secured code to the GMIU Web Portal.	10
5	<b>Skill-Building Task:</b> Mini project definition will be given; Students have to upload the task on GMIU Web Portal.(group of four)	10
Total		50

**Suggested Specification table with Marks (Theory):75**

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	25%	45%	15%	15%	0	0

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

**Course Outcome:**

After learning the course the students should be able to:	
CO1	Create PHP scripts using variables, operators, and control structures.
CO2	Build PHP scripts utilizing arrays and functions.
CO3	Implement PHP scripts by applying object-oriented concepts.
CO4	Design web pages using form controls with validation to gather user inputs in PHP.



CO5	Construct and host interactive websites using PHP and MySQL databases.
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**List of Practical**

Sr. No	Descriptions	Unit No	Hrs																		
1	i. Write a script to create a web page that displays "Hello World." ii. Write a Script to find maximum and minimum number from three number.	1	2																		
2	A company has following payment scheme for their staff: a. Net Salary = Gross Salary – Deduction b. Gross Salary = Basic pay + DA + HRA + Medical c. Deduction = Insurance + PF Where, DA (Dearness Allowance) = 50% of Basic pay HRA (House Rent Allowance) = 10% of Basic pay Medical = 4% of Basic pay Insurance = 7% of Gross salary PF (Provident Fund) = 5% of Gross salary Write a script to take the basic salary of an employee as input and calculate the net payment to any employee.	1	2																		
3	Write a script to read the marks of 4 subjects and display the result as per the below instructions: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Grade</th> <th>Mark-Range</th> </tr> </thead> <tbody> <tr> <td>AA</td> <td>85-100</td> </tr> <tr> <td>AB</td> <td>75-84</td> </tr> <tr> <td>BB</td> <td>65-74</td> </tr> <tr> <td>BC</td> <td>55-64</td> </tr> <tr> <td>CC</td> <td>45-54</td> </tr> <tr> <td>CD</td> <td>40-44</td> </tr> <tr> <td>DD</td> <td>35-39</td> </tr> <tr> <td>FF</td> <td>&lt;35(Fail)</td> </tr> </tbody> </table> a. Each of the four subjects is worth 100 marks. b. If a student gets less than 35 marks in any subject, then he/she will be marked as FAIL, otherwise he/she will be marked as PASS.  The result contains the grade of each individual subject in tabular format as per the above table.	Grade	Mark-Range	AA	85-100	AB	75-84	BB	65-74	BC	55-64	CC	45-54	CD	40-44	DD	35-39	FF	<35(Fail)	1	2
Grade	Mark-Range																				
AA	85-100																				
AB	75-84																				
BB	65-74																				
BC	55-64																				
CC	45-54																				
CD	40-44																				
DD	35-39																				
FF	<35(Fail)																				
4	i. Write a script to calculate the length of a string and count the number of words in the given string without using string functions. ii. Write a script to sort a given indexed array.	2	2																		
5	Write scripts using string functions: a. to check if the given string is lowercase or not. b. to reverse the given string. c. to remove white spaces from the given string. d. to replace the given word from the given string.	2	2																		
6	i. Write a script to: a. Define a class with constructor and destructor. b. Create an object of a class and access its public properties and	3	8																		



	<p>methods.</p> <p>ii. Write a script that uses the set attribute and get attribute methods to access a class's private attributes of a class.</p> <p>iii. Write a script to demonstrate single inheritance.</p> <p>iv. Write a script to demonstrate multiple inheritance.</p> <p>v. Write a script to demonstrate multilevel inheritance.</p> <p>vi. Write a script to demonstrate method overriding.</p> <p>vii. Write a script to demonstrate method overloading based on the number of arguments.</p> <p>viii. Write a script to demonstrate a simple interface.</p> <p>ix. Write a script to demonstrate a simple abstract class.</p> <p>x. Write a script to demonstrate cloning of objects.</p>		
7	<p>i. Create web pages to demonstrate passing information using Session.</p> <p>ii. Write a script to demonstrate storing and retrieving information from cookies.</p>	4	4
8	<p>i. Create a web page that reads employee information using a form and stores it in the database.</p> <p>ii. Create a web page for employee log-in.</p> <p>iii. Write a script to upload an image to the server.</p> <p>iv. After an employee logs in, create a Home web page that displays basic employee information.</p> <p>v. Create a web page to delete employee profiles from the database.</p> <p>vi. Create a web page that allows employees to change their password.</p>	5	8
		Total	30

**Instructional Method:**

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction. Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory etc.

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

**Reference Books:**

- [1] PHP 5.1 for Beginners: Ivan Bayross, Sharanam Shah, Shroff Publishers & Distributors (SPD)
- [2] PHP5& MYSQL Projects:JanetValade, Wiley Dreamtech
- [3] Beginning PHP5: Dave W. Mercer, Wiley India Edition
- [4] The Complete Reference PHP: Steven Holzner, Tata McGRAW – Hill, New Delhi

