Trainer's Manual for

PHP

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Version 1.1

Amendment Record

Version No.	Effective Date	Content	Note	Author
1.0	Now 28, 2017	New		Diep Huynh
1.1	Jan 11, 2018	Updated		Diep Huynh

Table of Contents

1. Course Objectives

PHP is the most popular server-side language used to build dynamic websites, and though it is a very extensive language, this class will take it step-by-step.

The stateless web (HTML, CSS and JavaScript) can only do so much without a dynamic language such as PHP to add the ability to interact with the web server.

You will learn how to make your pages dynamic based upon user interaction, interacting with HTML forms and store and retrieve information from local data sources which include a database.

At the end of this course, students will be able to:

- Understand how server-side programming works on the web
- Know PHP Basic syntax for variable types and calculations
- Creating conditional structures
- Store data in arrays
- Use PHP built-in functions and creating custom functions
- Understand POST and GET in form submission.
- How to receive and process form submission data.
- Read and write cookies.
- Know some security tips (i.e. SQL Injection)
- Create a database in phpMyAdmin.
- Read and process data in a MySQL database.

2. Session Allocation and Coverage

Session No.	Content	Details	Duration	Note
1	Lesson 1: Overview of PHP Web Applications	1. Dynamic website 2. LAMP 3. Embed PHP code into HTML 4. Declare variable 5. Output Variables 6. HTTP Methods 7. PHP 5 Form Handling 8. Exercise 9. Project	2h	

	Lesson 2: PHP language syntax	1. Dynamic website 2. Data types 3. Types of operators 4. Conditional statements 5. Loops 6. Arrays 7. Exercise 8. Project	2h	
2	Lesson 3: PHP Functions	1. Function 2. Include files 3. Logs in PHP 4. Exercise 5. Project	2h	
	Lesson 4: Relational database	1. Data saving 2. Relational database 3. Table 4. Database management system 5. Mysql 6. Sql 6.1. Syntax of SQL 6.2. Create and delete database 7. Use PhpMyAdmin or Workbench 8. Exercise 9. Project	2h	
3	Lesson 5: Analysis and Design Database	1. Constraint 2. Common data types 3. Analysis and Design Database 4. Exercise 5. Project	2h	

	Lesson 6: Common SQL statements	1. CRUD 2. Basic management application 3. CRUD statements in SQL 4. Connect to the database 5. Connect PHP application to MySQL 6. Introduce two extensions of PHP is PDO mysqli 7. Connecting DSN 8. PDO::query 9. Prepared statements. 10. Placeholder binding methods 11. Get a single line from statement: fetch() 12. Get data from statement: fetchColumn() 13. Retrieving the data list: fetchAll() 14. Counts the number of rows affected 15. Prepared Statement and LIKE clause 16. Prepared Statement and IN clause 17. Error handling 18. Exercise 19. Project	2h	
4	Lesson 7: Advanced query commands	1. AND operator 2. OR operator 3. Matches AND, OR and NOT 4. NOT operator 5. JOIN statement 6. Exercise 7. Project	2h	

	Lesson 8: Common SQL Functions	1. AVG() 2. COUNT() 3. MAX() 4. MIN() 5. SUM() 6. UCASE() 7. LCASE() 8. AVG() 9. COUNT() 10. MAX() 11. MIN() 12. SUM() 13. UCASE() 14. LCASE()	2h	
5	Lesson 9: Object Oriented Programming	1. Programming language 2. Machine languages 3. Assembly language 4. High-level languages 5. Procedural language 6. Object Oriented Programming (OOP) 7. Programming procedures and OOP 8. The concept Object 9. Attributes and Behaviors 10. Class diagram description 11. Encapsulation 12. Use attribute of object	2h	
	Object Oriented Programming (part 2)	1. Access modifier 2. The life cycle of an object 3. __construct() vs __destruct() 4. The order of execution of the object's methods Inherit 5. Overriding Methods 6. Overloading 7. Methods 8. Exercise	2h	

		9. Project		
6	Lesson 11: Interface and Abstract class	1. Interface 2. Interface properties 3. Use Interface 4. Abstract Class 5. Inherit the abstract class 6. Example 7. Exercise 8. Project	2h	
	Lesson 12: Exception handling and transactions	1. Exception handling error 2. try{} catch{} 3. Example of error handling with try catch 4. Finally 5. Throw 6. Example using finally and throw 7. Exception nested 8. Transaction 9. Example 10. Transaction in MySQL 11. Handling transactions in MySQL 12. Example Transaction	2h	
7	Lesson 13: MVC model	1. What is MVC 2. Demo MVC	2h	
	Total		**26h**	

3. Evaluation Strategy

Online Test: **>=25/30** qualifies for **PASS**

4. Coursebook and References

4.1. Coursebook

- Murach's PHP & Mysql http://gg.gg/7uhht

4.2. References

- PHP Manual from http://php.net

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