

## **PHP Fundamentals**

### **Course Summary**

#### **Description**

This course teaches the fundamentals of the PHP programming language. Industry best practices such as how to create maintainable, secure, efficient code is taught through the 130+ included code examples. At least half the course time is spent in the nearly 50 lab exercises. Lab time is carefully balanced between the skills of: reading code, modifying existing code, creating new code, and debugging code

#### **Topics**

- Introduction
- Variables & Functions
- Numbers & Strings
- Booleans & Branching
- HTML & Templates
- Arrays & Scope
- Looping, Objects, & Exceptions
- Forms & Cookies
- Databases & Sessions
- Next Steps

#### **Prerequisites**

General computing knowledge is required. No programming experience needed.

#### **Duration**

Three days

## PHP Fundamentals

### Course Outline

#### I. Introduction

- A. Course Objectives
- B. Advantages and Disadvantages
- C. Popular PHP Use Cases
- D. Running PHP Scripts
- E. Running PHP Scripts (cont.)
- F. Basic Syntax
- G. Combining Files
- H. Finding Mistakes
- I. Lab Tasks 1.Preparation For Later Labs
- J. Hello, world
- K. Command Line Debugging
- L. Web Page Debugging
- M. Challenge Items

#### II. Variables & Functions

- A. Reading Code
- B. Learning To Read Code
- C. echo & print
- D. Variables
- E. Constants
- F. Functions
- G. Built-in Functions & Extensions
- H. Lab Tasks 1.Groceries: Part One
- I. Groceries: Part Two
- J. Exploring GD
- K. Dancing Squares: Part One
- L. Dancing Squares: Part Two
- M. Drawing Shapes

#### III. Numbers & Strings

- A. Basic Type Conversion
- B. Integers & Floats
- C. Math Operators
- D. Assignment Operators
- E. String Literals
- F. Variable Substitution & Common Escapes
- G. String Concatenation
- H. printf() and sprintf()
- I. Lab Tasks 1.Numbers & Strings
- J. Challenge Items
- K. Math Operators
- L. printf() and sprintf()
- M. Calculating Tax
- N. Collecting Price Quotes

#### IV. Booleans & Branching

- A. NULL
- B. Booleans

- C. Comparison Operators
- D. Logical Operators
- E. If Statements
- F. Switch Statements
- G. Lab Tasks 1.Type Fun
- H. Boolean Fun
- I. Comparison Fun
- J. Float Fun
- K. How To Recognize Comedy
- L. CLI Calculator
- M. Shipping Advisor

#### V. HTML & Templates

- A. Separation of Concerns
- B. HTML Fundamentals
- C. Common Block Elements
- D. Common Inline Elements
- E. CSS Fundamentals
- F. JavaScript Fundamentals
- G. Web Accessibility
- H. Cross-site Scripting (XSS)
- I. Templates Systems
- J. Lab Tasks 1.HTML Demo
- K. CSS Demo
- L. JavaScript Demo
- M. Story Time
- N. Web-based Price Quotes
- O. Attack of the Price Quotes

#### VI. Arrays & Scope

- A. .Arrays As Lists
- B. Arrays As Maps
- C. Arrays As Ordered Maps
- D. JavaScript Object Notation (JSON)
- E. Working With JSON
- F. Variable Scope
- G. Replacing Branching With Arrays
- H. Lab Tasks
- I. Array Fun
- J. Story Time: Part II
- K. Stock Watcher
- L. Rock Paper Scissors
- M. Exploring Scope
- N. Sandwich Shop

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### **Course Outline (cont'd)**

#### **VII. Looping, Objects, & Exceptions**

- A. While & Do Loops
- B. Foreach Loops
- C. For Loops
- D. Loop Gotchas
- E. break, continue, & goto
- F. Working With Objects
- G. Working With Exceptions
- H. Lab Tasks 1. Number Game
- I. Tic Tac Toe
- J. Form Creator

#### **VIII. Forms & Cookies**

- A. HTTP Fundamentals
- B. Request Methods
- C. Status Codes
- D. Representational State Transfer (REST)
- E. Cookies
- F. Accessing Request Data
- G. Setting Cookies
- H. Sending Redirects
- I. Form Fundamentals
- J. Input Element Types
- K. Other Form Elements
- L. Input Validation
- M. Bots and CAPTCHAs
- N. Forms and Redirects
- O. Cookies, Forms, and Arrays
- P. Lab Tasks
- Q. Form Demo
- R. Subverting Forms

- S. Cookie Basics
- T. Subverting Cookies
- U. Protecting Cookies
- V. Contact
- W. Number Game

#### **IX. Databases & Sessions**

- A. Databases
- B. Popular SQL Databases
- C. Tables & Schemas
- D. SELECT Statements
- E. INSERT Statements
- F. UPDATE Statements
- G. DELETE Statements
- H. JOIN Clauses
- I. PHP & Databases
- J. SQL Injection
- K. Parameterized Statements
- L. PDO and Error Handling
- M. Storing Sensitive Data
- N. Sessions
- O. Lab Tasks
- P. Gatekeeper

#### **X. Next Steps**

- A. Practice, Practice, Practice
- B. Related Topics
- C. Frameworks
- D. Choosing a Framework
- E. Popular Frameworks