

**CODING /
PROGRAMMING**



CODING /WEBSITE DEVELOPMENT COURSE DETAILS

BASIC – EXPERT

WEBCITY COURSE OUTLINE || WEBSITE DEVELOPMENT

A Quick Overview of Web Development

- A. Client-side Programming
 - I. HTML
 - II. Cascading Style Sheets
 - III. JavaScript 1
 - IV. PHP and MySQL
- B. Server-side Programming
 - . ASP.NET
 - I. Python
 - II. PHP
 - III. Node.js

Introduction to Version Control with Git and Github

- A. A complete understanding of what a version control system is, including Git and GitHub theory.
- B. Theoretical and Practical concepts covering the differences between Git & GitHub, and their purposes.
- C. Practical hands on guide to GitHub core concepts.
- D. Learn what a repository is, and the differences between a local and remote repository.
- E. Creating Github repositories and pushing the local repository to the Remote repository.
- F. Learn the basic and advanced Git commands, such as add, remove, commit, and checkout.
- G. Fully understand the Git 'staging area' and how to interact with it.
- H. Learn to create Branches, add, remove and merge branch concepts with practical implementations.

HTML COURSE OUTLINE

1. Introduction to HTML

C. Getting Started

- D. A Simple HTML Document
- E. The HTML Skeleton
 - . The <head> Element
 - I. The <body> Element
 - II. Whitespace
 - F. HTML Elements
- . Attributes
 - I. Empty vs. Container Tags
 - II. Blocks and Inline Elements
 - III. Comments

2. Paragraphs, Headings, and Text

- . Paragraphs
 - A. Breaks and Horizontal Rules
 - B. Creating an HTML Page
 - C. Quoted Text
 - D. Preformatted Text

3. HTML Links

- . Text Links
 - A. Absolute vs. Relative Paths
 - . Absolute Paths
 - I. Relative Paths
 - II. Default Pages
 - B. Targeting New Windows
 - C. Email Links
 - D. Adding Links
 - E. Targeting a Specific Location on the Page

4. HTML Images

- . Inserting Images
 - . Making Images Accessible
 - I. Alternative Text
 - II. Long Descriptions
 - III. Height and Width Attributes
 - A. Image Links

5. HTML Lists

- . Unordered Lists
 - . Nesting Unordered Lists
 - A. Ordered Lists
 - . Nesting Ordered Lists
 - I. The type Attribute
 - II. The start Attribute
 - B. Definition Lists
 - C. Creating Lists

6. HTML Tables

- Creating Tables
- . Adding a Caption
 - A. thead, tbody, and tfoot
 - B. Creating Tables

7. Audio and Video

- Supported Media Types
- A. The audio Element
 - B. video Tag Attributes

CSS COURSE OUTLINE

1. Crash Course in CSS

- A. Benefits of Cascading Style Sheets
- B. CSS Rules
 - I. CSS Comments
- C. Selectors
 - . Type Selectors
 - I. Class Selectors
 - II. ID Selectors
 - III. Attribute Selectors
 - IV. The Universal Selector
 - D. Combinators

- . Descendant Combinators
 - I. Child Combinators
 - II. General Sibling Combinators
 - III. Adjacent Sibling Combinators
 - E. Precedence of Selectors
- F. How Browsers Style Pages
- G. CSS Resets
- H. CSS Normalizers
- I. External Stylesheets, Embedded Stylesheets, and Inline Styles
- . External Stylesheets
 - I. Embedded Stylesheets
 - II. Inline Styles
 - J. Exercise: Creating an External Stylesheet
- K. Exercise: Creating an Embedded Stylesheet
- L. Exercise: Adding Inline Styles
- M. <div> and
- N. Exercise: Divs and Spans
- O. Media Types
- P. Units of Measurement
- . Absolute vs. Relative Units
 - I. Pixels
 - II. Ems and Rems
 - III. Percentages

2. CSS Fonts

- . font-family
 - . Specifying by Font Name
 - I. Specifying Font by Category
 - A. @font-face
 - . Getting Fonts
 - B. font-size
 - . Relative font-size Terms
 - I. Best Practices
 - C. font-style
 - D. font-variant
 - E. font-weight
 - F. line-height
 - G. font

Exercise: Styling Fonts

3. Color and Opacity

- . About Color and Opacity
 - A. Color and Opacity Values
 - . Color Keywords
 - I. RGB Hexadecimal Notation
 - II. RGB Functional Notation
 - III. HSL Functional Notation
 - B. color
 - C. opacity
 - D. Exercise: Adding Color and Opacity to Text

4. CSS Text

- . letter-spacing

- A. text-align
 - B. text-decoration
 - C. text-indent
 - D. text-shadow
 - E. text-transform
 - F. white-space
 - G. word-break
 - H. word-spacing
 - I. Exercise: Text Properties
- 5. Borders, Margins, and Padding**
- . The CSS Basic Box Model
 - A. Introduction to using Google Chrome DevTools with CSS
 - B. Padding
 - C. Margin
 - D. Border
 - . border-width
 - I. border-style
 - II. border-color
 - III. border-radius
 - E. box-sizing
 - F. box-shadow
 - G. Exercise: Borders, Margin, and Padding
- 6. Backgrounds**
- . background-color
 - A. background-image
 - B. background-repeat
 - C. overflow
 - D. background-attachment
 - E. background-position
 - . Keywords
 - I. Coordinates
 - F. Creating a "hint" Class
 - G. background-size
 - H. background-origin
 - I. background-clip
 - J. Modifying the "hint" Class
 - K. background
 - L. Exercise: Backgrounds
- 7. Styling Tables with CSS**
- . A Review of HTML table Elements and Attributes
 - . Spanning Columns and Rows
 - A. CSS Properties and Styling Tables
 - . table-layout
 - I. border-collapse
 - B. Exercise: Styling a Table Exercise
- 8. Layouts**
- . Introduction to Flexible Box Layout Module
 - . Some Flexbox Properties
 - A. Introduction to Grid Layout

- . Some Grid Properties
 - B. Multi-column Layout
 - C. Exercise: Layouts

JAVASCRIPT COURSE OUTLINE

1. Getting started

- a. **Goals and objectives**
- b. **Course outline**
- c. **Computing requirements**
- d. **Prerequisites**
- e. **How do I communicate?**
- f. **How will I learn?**
- g. **How will I be graded?**
- h. **Navigation buttons**
- i. **Menu tree**
- j. **Text input exercises**
- k. **Browser view exercises**
- l. **Browser text input exercises**
- m. **Quiz exercises**

2. The need for scripting

- a. **Scripting overview**
- b. **Where do we use scripting?**
- c. **Scripting in Web browsers**
- d. JavaScript
- e. JScript
- f. ECMAScript
- g. Java
- h. **What can JavaScript do?**
- i. **What can JavaScript not do?**
- j. **Browser wars and JavaScript compatibility**
- k. **Scripting beyond this course**
- l. JavaScript-based languages
- m. Web-based languages

3. Hello world

- a. **Writing Hello World to the screen**
- b. **Another method to write to the screen**
- c. **Adding JavaScript to an HTML page**
- d. Using JavaScript in the head tag
- e. Using JavaScript with an HTML element
- f. Linking to an external script
- g. **Summary**

4. JavaScript basics

- a. **Understanding JavaScript**
- b. **Writing JavaScript**
- c. **Debugging JavaScript**
- d. **Adding comments**
- e. **Understanding JavaScript characteristics**
- f. Case-sensitivity
- g. Reserved words
- h. Variables
- i. Variable types
- j. Quotation marks
- k. Escaping characters
- l. **JavaScript statements**
- m. **JavaScript objects and properties**
- n. **JavaScript methods**
- o. **JavaScript functions**
- p. **JavaScript operators**
- q. Mathematical operators
- r. Assignment operators
- s. Comparison operators
- t. Logical operators
- u. Bitwise and special operators
- v. **JavaScript expressions**
- w. **Review**
- x. **Quiz**
- y. **Summary**

5. Interacting with the user

- a. **Concepts: variables and conditionals**
- b. JavaScript variables
- c. Local versus global variables
- d. If /else statements
- e. **Dialog boxes**
- f. **Asking for confirmation**
- g. **Prompting**
- h. Using variables to store information
- i. Adding variables to strings
- j. **Alerts**
- k. Debugging with alerts
- l. **Quiz**

6. JavaScript events

- a. **Calling JavaScript from HTML: Events**
- b. **Concepts: parameters and the *this* keyword**
- c. Using parameters in a function
- d. The *this* keyword
- e. **Page load events**
- f. Event: onload
- g. Event: onunload

h. Form events

- i. Events: onfocus, onblur
- j. Event: onchange
- k. Events: onsubmit, onreset

l. Mouse events

- m. Event: onclick
- n. Events: onmouseover, onmouseout
- o. Events: onmousedown, onmouseup

p. Combining events and CSS properties

q. Common events and event handlers

7. Working with forms

a. Quick review of forms

b. Concepts: return, parseFloat, Arrays, and isNaN

- c. Return command
- d. Using parseFloat and parseInt
- e. isNaN function
- f. Arrays

g. Referring to forms in JavaScript

h. Changing the value of a field in a form

i. Creating drop-down links

j. Using checkboxes in forms

k. Using radio buttons

l. Reading values entered in a form

m. Doing form calculations

n. Form input validation

- o. Why validate with JavaScript?
- p. Checking user input in a form
- q. Using the return command in validation
- r. Form validation – checking for a minimum number
- s. Checking for an empty field using onblur
- t. Validating an email address

u. Quiz

v. Summary

w. Exercise 4

x. Learners task

y. Goals

z. Description

aa. Grading

bb. Requirements

cc. Tools

dd. Submitting the task

1. PHP Basics

- A. Welcome to the Server-side
 - I. What is a web server?
 - II. Dynamic Websites
- B. Google Chrome DevTools: Network Tab
 - . Status Codes
 - C. How PHP Works
 - . The php.ini File
 - I. PHP Tags
 - II. Hello, World!
 - D. Comments
 - E. PHP Statements and Whitespace
 - F. PHP Functions
 - G. php.net
 - H. Exercise: Using php.net
 - I. Variables
 - . Variable Types
 - I. Variable Names (Identifiers)
 - II. Type Juggling and Casting
 - III. Hello Variables!
 - J. Exercise: First PHP Script
 - K. Variable Scope Superglobals
 - L. Single Quotes vs. Double Quotes
 - M. Concatenation
 - N. Passing Variables on the URL
 - O. Exercise: Passing Variables via the Query String
 - P. User-defined Functions (UDFs)
 - . Defining and Calling Functions
 - I. Default Values
 - II. Variable Scope
 - III. By Reference vs. By Value
 - Q. Introduction to the Poet Tree Club
 - R. Including Files
 - . require
 - I. require_once

- S. Exercise: Using Header and Footer Includes
- T. Constants
- U. Error Reporting
- V. Exercise: Displaying Errors
- W. Including a Secure Configuration File
- X. Exercise: Including a Configuration File

2. Flow Control

- . if / if-else / if-elseif-else
 - . Simple if Condition
 - I. if-else Condition
 - II. if-elseif-else statement
 - III. False Equivalents: Falsy Values
 - A. switch/case
 - B. Ternary Operator
 - C. Exercise: Working with Conditions
 - D. Loops
- . while
 - I. dowhile
 - II. for
 - III. break and continue
 - E. Exercise: Working with Loops

3. Arrays

- . Indexed Arrays
 - . Initializing Arrays
 - I. Appending to an Array
 - II. Reading from Arrays
 - III. Looping through Arrays
 - A. Exercise: Working with Indexed Array
 - B.

4. PHP and HTML Forms

- HTML Forms

- How HTML Forms Work

- A. Form Submissions

- B. Sanitizing Form Data

- htmlspecialchars()

- I. htmlentities()

- II. filter_var()

- III. filter_input()

- C. Validating Form Data

- Was the Field Filled In?

- I. Is the Entered Value an Integer?

- II. Is it an Email?

- III. Is it a Valid Password and Do the Passwords Match?

- IV. Do the Combined Values Create a Valid Date?

- V. Did the User Check the Box?

- D. Exercise: Processing Form Input

5. Select, Inserting, Updating and Deleting Records

- INSERT

- A. Exercise: Inserting Records

- B. UPDATE

- C. DELETE

- D. SELECT

- E. Exercise: Updating and Deleting Records

6. Managing Data

- Querying a Database

- mysqli() Overview

- I. mysqli Methods and Properties

- II. Inserting and Updating Records

- A. Exercise: Inserting Records

- B. mysqli Prepared Statements

CLASS PROJECT

- A. The Student is to work on a live website and deploy at the end of this course to be supervised by course instructor.



Partners and Affiliates

