

Web Design & Web Development Syllabus | MGTI Training Institute

DETAILS

With the advent of "Digital India" initiative taken up by our Honorable Prime Minister Shri. Narendra Modi; most companies are encouraged to go digital that is "Go Online". This has led to an increase in the number of websites being developed and thereby the need for qualified Website Designers in India. A web designer's sole task is to make stunningly eye-catching visuals that entice the user to explore more of the website and the offering's within.

Students who have completed their course in web design can learn the advanced concepts of web development. In web development students learn to apply complex codes to the designed website; thereby allowing complex tasks like data processing, analysis and content management to take place. This is done using languages like PHP, ASP, JSP, Perl, Python or Ruby. PHP being open-source is the preferred choice for most web developers. MySQL databases are used in conjunction with PHP coding. As a part of the Web Development course at SourceKode, PHP & MySQL training will comprise of the major part of our training program.

MGTI Institute

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Importance of Web Design

- Why Web Design?
- Scope of Web Design
- Usability
- Web Standards and its benefits
- How Web pages work
- What is the Internet
- What is a Domain
- What is Hosting
- Who are Hosting Service providers
- Web page content
- History of the Internet

Planning Process

- Planning
- Wireframing
- Storyboarding
- Information Architecture
- UX design considerations

Web design tools

- Text editors
- Visual editors
- Root folders

Defining HTML5

- History and overview
- New markup and elements (header, footer, nav elements)
- Form Elements
- Video and Audio tags
- Canvas Element
- Styling with CSS3
- Other aspects (Geolocation, Offline support, Web Forms)
- HTML5 Examples
- HTML5 and web browsers, the roadmap

HTML5 Markup

- Using the HTML5 Doctype and character encoding
- Using the <header> element
- Using the <nav> element
- Understanding the <article> element
- Working with <section> element
- Working with dates and caption
- Understanding the Role attribute

Creating HTML5 Forms

- Working with new input types
- URL
- Range and number
- Search Fields
- Date Pickers
- Placeholder text
- Autofocus
- HTML 4 fallbacks for forms

Working with the video and audio tags

- Video basics (Codecs and browser support)
- Working with the video element
- Video attributes (autoplay, preloading, looping)
- Using the audio element
- Audio MIME types and fallbacks
- Improving Accessibility

Working with the Canvas element

- The role (and limitations) of the canvas element
- Creating fallbacks (browser support)
- Understanding the coordinate system
- Paths
- Fills and Strokes
- Text
- Images
- Transforms
- Compositing
- A Drawing Loop
- Adding Interactivity
- PNG-based sprite animation

Styling HTML5 elements

- Working with CSS
- Styling with CSS 2 versus CSS 3 features
- Browser support and testing
- Borders
- Backgrounds
- Colors
- Text Effects
- Sizing and Positioning
- Selectors
- Web fonts

HTML5 Applications and Interactivity

- Understanding HTML5's offline capabilities
- HTML Storage
- Working with the revised JavaScript API
- Geolocation API
- Web Sockets

CSS Training Course: overview of course topics

- Fundamentals of CSS
- Advantages of Using CSS
- How to Write CSS
- Your First CSS-Enabled Document

Understanding CSS Anatomy

- Rules
- Selectors
- Declarations
- Values
- Keywords
- Strings
- Length and Measurement
- Number
- Colors
- Including CSS in a Document
- Including an Embedded Style Sheet
- Linking to External Style Sheets

- The Importance of Good HTML
- Doctypes and Quirks Mode

Understanding CSS Selectors

- Class and ID Selectors
- Class Selectors
- ID Selectors
- The Universal Selector
- Descendant Selectors
- Pseudo-Classes 5
- Dynamic Pseudo-Classes

Working with CSS: Cascading and Inheritance

- The Cascade in Cascading Style Sheets (CSS)
- The Specificity of a Selector
- !important Rules
- Inheritance

Styling Text with CSS

- Setting Font Faces
- Font Families
- Italic Text
- Bold Text
- Small Caps Text
- The font-size Property
- Absolute Font Sizes
- Relative Font Sizes
- Length and Percentage Font Sizes
- The font Shorthand Property
- The font Properties
- Line Height
- Controlling Spacing between Letters
- Controlling Spacing between Words
- Indenting Text
- Horizontally Aligning Text
- Decorating Text
- Transforming CASE
- Controlling White Space

Styling backgrounds using CSS

- Background Colors
- Background Images
- How Background Images Repeat
- Positioning Background Images
- Mixing Background Position Values
- Controlling Position
- Using the Center Keyword
- Fixing a Background Image in Place
- Background Shorthand

Using CSS to Position Content

- Margins
- Margins with multiple values
- Margin Collapsing
- Horizontally Aligning Elements
- border-width
- border-style
- border-color
- Border Shorthand Properties
- Padding
- Setting Dimensions
- width
- height
- auto Values for width and height
- Percentage Measurements
- Quirks Mode in Internet Explorer
- Minimum and Maximum Dimensions
- Overflowing Content
- Floating Content
- Floating Box Model
- Canceling Floated Content
- Float Bugs in IE 6
- Vertically Aligning Content
- Subscript and Superscript Text
- The top, middle, and bottom Keywords
- Percentage and Length Value
- Vertically Aligning Table Content
- Absolute Positioning
- Relative Positioning
- Fixed Positioning
- The z-axis and the z-index Property
- Addressing IE version specific problems

Creating Complete Layouts with CSS and HTML

- Creating the Page with HTML
- Styling Text and Custom Fonts
- Building the Layout
- Gradient Backgrounds

Responsive Web Design Overview

- Foundations of Responsive Design
- Defining Responsive Web Design
- The User Experience Challenges of a Responsive Design

Creating the Basic Structure of a Responsive Web Design

- Using HTML5 for Structure
- Styling with Web Fonts
- Styling Text with Ems
- Defining the Basic Text Styles
- Styling a Single-Column Layout for a Responsive Layout
- Working with the CSS3 Text-Shadow Property
- Working with CSS3 Selectors
- Adding Responsive Images

Navigation for a Responsive Design

- An Overview of Mobile Navigation
- Introduction to Media Queries
- Adding a Toggle Menu

Optimizing Responsive Designs

- Adding Mobile and Older Browser Support
- Testing your Responsive Design
- Improving Page Performance

Introduction to Bootstrap (Bonus)

- What is Bootstrap?
- Adding the Bootstrap and JQuery library
- Integrating Bootstrap and JQuery
- Using the grid design pattern
- Using Bootstrap's custom classes
- Using Bootstrap's typography
- Using Glyphicon icons
- Using Styled Buttons

JAVASCRIPT

Introduction

- JavaScript Overview
- JavaScript Syntax
- Type of JavaScript
- Embedding Script In HTML File
- Variable

Operators

- Arithmetic
- Logical
- Comparison
- Assignment
- Conditional

Conditional Statement & Looping Statement

- If
- If. Else
- Switch
- While
- Do/while
- For

Function & Object

- Passing Parameter to function
- Returning a value from function
- Creating Object
- Accessing Object Properties &

Method

- Array Object
- String Object
- Date Object
- Math Object
- Window Object
- Navigator Object

Event Type

- Mouse Events
- Frame/Object Events
- Form Events

Introduction to jQuery

- Basics of JavaScript
- What is JQuery
- JQuery Syntax
- Basics: Objects, Arrays, Functions, Scope, Built-in functions etc

Selectors

- Types of selectors [name,id,class, types, etc]
- How to use JQuery selectors

HTML Manipulation

- Adding new elements, replacing elements and content, removing elements and content, manipulating the elements attribute and properties
- Modifying the CSS properties, managing CSS classes, Changing content of element
- Animations
- Effects
- Events
- Keyboard Events
- Form Events

Ajax

Introduction to Ajax

- Overview of Ajax
- What can be achieved by Ajax

- Why is Ajax used
- jQuery vs Ajax

How to use Ajax

- Synchronous Communication
- Asynchronous communication
- Introduction to Ajax
- Classic web applications Architecture
- Ajax based web applications architecture

Ajax Engine Creation

- Properties of Ajax engine
- readyState
- onreadystatechange
- status
- responseText
- responsseXML

Methods of Ajax engine

- open(-,-,-)
- Send()/send(String)
- setRequestHeader(-,-)
- Ajax application flow

PHP

An Introduction to PHP

- History of PHP
- Versions and Differences between them
- Practicality
- Power
- Installation and configuring Apache and PHP

PHP Basics

Default Syntax

- Styles of PHP Tags
- Comments in PHP
- Output functions in PHP
- Datatypes in PHP
- Configuration Settings
- Error Types

Variables in PHP

- Variable Declarations
- Variable Scope
- PHP's Superglobal Variables
- Variable Variables

Constants in PHP

- Magic Constants
- Standard Pre-defined Constants
- Core Pre-defined Languages
- User-defined Constants

Control Structures

- Execution Control Statements
- Conditional Statements
- Looping Statements with Real-time Examples

Functions

- Creating Functions
- Passing Arguments by Value and Reference
- Recursive Functions

Arrays

- What is an Array?
- How to create an Array
- Traversing Arrays
- Array Functions

Include Functions

- Include, Include_once
- Require, Require_once

Regular Expressions

- Validating text boxes, emails, phone number, etc
- Creating custom regular expressions

Object-Oriented Programming in PHP

- Classes, Objects, Fields, Properties, _set(), Constants, Methods
- Encapsulation
- Inheritance and types
- Polymorphism
- Constructor and Destructor
- Static Class Members, Instance of Keyword, Helper Functions
- Object Cloning and Copy
- Reflections

PHP with MySQL

- What is MySQL
- Integration with MySQL
- MySQL functions
- Gmail Data Grid options
- SQL Injection
- Uploading and downloading images in Database
- Registration and Login forms with validations
- Paging, Sorting

Strings and Regular Expressions

- Declarations styles of String Variables
- Heredoc style
- String Functions
- Regular Expression Syntax(POSIX)
- PHP's Regular Expression Functions(POSIX Extended)

Working with the Files and Operating System

- File Functions
- Open, Create and Delete files
- Create Directories and Manipulate them
- Information about Hard Disk
- Directory Functions
- Calculating File, Directory and Disk Sizes

Error and Exception Handling

- Error Logging
- Configuration Directives
- PHP's Exception Class
- Throw New Exception
- Custom Exceptions

Date and Time Functions Authentication

- HTTP Authentication
- PHP Authentication
- Authentication Methodologies

Cookies

- Why Cookies
- Types of Cookies
- How to Create and Access Cookies

Sessions

- Session Variables
- Creating and Destroying a Session
- Retrieving and Setting the Session ID
- Encoding and Decoding Session Data
- Auto-Login
- Recently Viewed Document Index

MySQL Concepts

- Introduction
- Storage Engines
- Functions
- Operators
- Constraints
- DDL commands
- DML Commands
- DCL Command
- TCL Commands
- Views
- Joins
- Cursors
- Indexing
- Stored Procedures
- Mysql with PHP Programming

Syllabus Updates : Since each new technologies of Web Development has new features, we keep adding upgrading our syllabus every 6-12 months to accommodate for advancement. Some topics can be omitted from syllabus without prior notice as they might be redundant or not relevant to the batch being trained. You can request any Web Topic.

Bonus (On Request) Web Services

- Why Web Services
- RSS Syntax
- SOAP
- How to Access Web Services

XML Integration

- What is XML
- Create a XML file from PHP with Database records
- Reading Information from XML File