

WEB DEVELOPMENT COURSE SYLLABUS

HTML Syllabus

Introduction

- Overview of Web and Internet
- Difference between Languages and Scripts
- Client side and Server side Programming
- What is HTML?
- Versions of HTML
- Structure Of HTML
- How html content is transferring data between browser and server
- Types of Webpages
- Introduction To Doctypes

HTML Tags

- Types of tags
- Explanation about html, head and body tags
- Input controls and attributes
- How to divide web page with div tag
- Formating Tags
- Link Tags
- How to create order list and unordered list
- Table tag
- Form tag
- Frame Tag
- How to provide Meta key words
- What is Meta Description?

Attributes

- What is attribute?
- Attributes of html controls

Events

- What is event and how to use?
- Dynamic html with events

Styling

- What is style object?
- Properties of style
- Applying styles to elements
- Changing style properties with events

Advanced HTML

- How to embed the external plug-in in html document
- How can we display videos on browsers using html tags?
- How to embed external web pages in html page
- Resolving cross browser issues.
- What is new in HTML5?

CSS Syllabus

Introduction

- What is CSS?
- Advantages of CSS
- Why CSS?
- Syntax and Anatomy of CSS

Types of Stylesheets

- External style sheet
- Internal style sheet
- Inline style

Types of Selectors

- Global
- Class
- Id
- Grouped
- Descendant

Div's & Span tags

- Background
- background-color
- background-image
- background-repeat
- background-attachment
- background-position

Font

- font-family
- color
- font-size
- font-style
- font-variant
- font-weight

Text

- letter-spacing
- Word-spacing
- line-height
- text-decoration
- text-transform
- vertical-align

HTML5 Syllabus

HTML5 Introduction

- HTML5 HISTORY
- New Features and groups
- Backward Compatibility
- Why HTML5?
- Power of HTML5:
- m or mobi or touch domains
- Common Terms in HTML5

HTML5 Syntax

- The DOCTYPE:
- Character Encoding:

Obsolete Elements/Deprecated Elements

- <acronym>
- <applet>
- <basefont>
- <big>
- <center>
- <dir>
-
- <frame>
- <frameset>
- <isindex>
- <noframes>
- <s>
- <strike>
- <tt>
- <u>
- <xmp>

HTML5 New Elements

- New Semantic/Structural Elements
- <article>
- <aside>
- <bdi>
- <command>
- <details>
- <dialog>
- <summary>
- <figure>
- <figcaption>
- <footer>
- <header>
- <mark>
- <meter>
- <nav>
- <progress>
- <ruby>
- <rt>
- <rp>
- <section>
- <time>
- <wbr>

HTML5 Canvas

- What is Canvas?
- Create a Canvas
- Canvas Coordinates
- Canvas – Paths
- Canvas – Text
- Canvas – Gradients
- Canvas – Images

HTML5 SVG

- What is SVG?
- SVG Advantages

- Differences Between SVG and Canvas
- Comparison of Canvas and SVG

HTML5 Drag/Drop

- Introduction
- Make an Element Draggable
- What to Drag? Where to Drop?

HTML5 Geo location

- Introduction
- Locate the User's Position+
- Handling Errors and Rejections
- The `getCurrentPosition()`
- Geolocation object

HTML5 Video

- Introduction
- Video on the Web
- How It Works?
- Video Formats and Browser Support
- HTML5 Video Tags

HTML5 Audio

- Introduction
- Audio on the Web
- How It Works?
- Audio Formats and Browser Support
- HTML5 Audio Tags

HTML5 Input Types

- Introduction
- color
- date
- datetime
- datetime-local

- email
- month
- number
- range
- search
- tel
- time
- url
- week

HTML5 Form Elements

- <datalist>
- <keygen>
- <output>

HTML5 Form Attributes

- New attributes for <form> and <input>New attributes for <form>:
- autocomplete
- novalidate

New attributes for <input>

- autocomplete
- autofocus
- form, formaction
- formenctype,formmethod
- formnovalidate
- formtarget
- height and width
- list, min and max
- multiple
- pattern (regexp)
- placeholder
- required, step

HTML5 Semantic

- Introduction
- What are Semantic Elements?
- non-semantic elements: <div> and
- semantic elements: <form>, <table>, and
- New Semantic Elements in HTML5
- <header>
- <nav>
- <section>
- <article>
- <aside>
- <figcaption>
- <figure>
- <footer>

PHP Syllabus

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

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

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
- Mysql with Sqlserver (Optional)

SPECIAL DELIVERY

- Protocols
- HTTP Headers and types
- Sending Mails using PHP
- Email with Attachment
- File Uploading and Downloading using Headers
- Implementing Chating Applications using PHP and Ajax
- SMS Gateways and sending SMS to Mobiles
- Payments gateways and How to Integrate them

JAVASCRIPT Syllabus

Introduction to JavaScript

- Introduction of client side script
- Introduction of javascript
- Cross browser issues.
- Declaration syntax of javascript
- Statements
- Comments
- Popup Boxes
- Alert
- Confirm
- Prompt
- Variables, Arrays and Operators
- Variables
- Operators
- Arithmetic
- Assignment
- Comparison
- Logical

Document object model

- Functions and types
- Conversion functions

Conditional statements

- if
- if...else
- if...else if...else
- Switch

Loops

- while
- do...while
- for
- for...in Statement
- Break
- Continue

Window object Document object Arrays

- Associative Arrays
- Array Properties and Methods

Advanced JavaScript

- Date object
- This object
- Event object
- State management
- Cookie
- Form validation
- Expressions
- Email validation
- Dynamic functionalities of html controls

ANGULARJS Syllabus

AngularJS Introduction

- Introduction To Client Side Scripting Languages
- Basics of Javascript and jQuery
- Introduction to AngularJS and Its History
- Why should we use AngularJS?

Execution flow

Controllers

- Properties, Methods
- Binding controllers with views
- Controller hierarchy

- Sharing data between controllers

Bootstrapping Angular APPS

- Auto bootstrap
- Custom bootstrap

Data Binding

- Binding Model Objects
- Model Objects Visibility
- \$scope
- \$rootScope
- Difference between \$scope & \$rootScope
- Using \$emit and \$broadcast
- JSON advantages
- Using JSON in Angularjs
- Use of \$watch, \$digest & \$apply

Understanding AngularJS Architecture

Dependency Injection

- What is Dependency Injection?
- Implicit DI
- Inline Array Annotated DI
- \$inject Array Annotated DI

Expressions

- AngularJs Expressions, AngularJS Numbers
- AngularJS Strings, AngularJS Arrays
- AngularJS Objects

Directives

- Power of directives
- Working with built in directives
 - ng-app, ng-init
 - ng-model, ng-repeat

- ng-class, ng-template
- ng-include
- Working with custom directives

Filters

- Adding Filters to Expressions, Directives
- Working with built in filters
- Creating custom filters

Events

- ng-click
- Hiding HTML Elements
- ng-disabled
- ng-show, ng-hide

Modules

- Controllers Pollute the Global Namespace
- AngularJS Application Files

AngularJS XMLHttpRequest (AJAX)

- AngularJS \$http

AngularJS Forms & Input Validation

AngularJS Service Types

- Constants and Values, Factories
- Services, Providers

Single Page Applications

- What is SPA?
- How to work with SPA in angular
- Working with routes
- Static & dynamic routing

REST API Calls

- Overview of REST API
- Use of angular resource module

Animations

- Overview of transitions
- Use of angular animate module

Angular with UI Frameworks

- ui bootstrap
- angular-material

NODEJS Syllabus

Introduction to Node.js

- RAM vs. I/O latency
- Blocking vs. Non-Blocking
- Event-driven Programming
- Event Loop
- Blocking The Event Loop
- Node.js Philosophy

Node.js Platform Setup

- Download and Install
- Node REPL
- First Hello World

Modules and npm

- Anatomy of a module
- Private code
- Accessing and using modules
- npm commands

- package.json

The Callback Pattern

- What are callbacks
- Callback-last
- Error-first

Events

- When to use Event Emitters
- Binding Functions to Events
- Event Requests and Listening

Error Handling

- Callbacks: Error-first
- Errors in Event Emitters
- Uncaught Exceptions
- Using Domains

Buffers

- Why Buffers exist
- Creating Buffers
- Reading and Writing Buffers
- Manipulating Buffers

Streams

- What are streams
- Read and Write Stream API
- Flow Control
- Piping
- Duplex Stream
- Transform Stream

Express.js

- Intro and Installing Express.js

- Building a Hello Express application
- Creating routes
- Rendering Layouts
- Using templates
- Adding partials
- Using locals and conditional templates
- Modularizing routes

Socket.io

- Listening for
- Broadcasting
- Answering questions

Connecting to Databases

- No SQL and Document Stores
- Relational DBs
- Configuration and platform setup
- CRUD Operations

REACTJS Syllabus

Introduction to React

- Introduction to React
- Original DOM vs Virtual DOM
- React Components
- React Components with JSX
- React Components with ES6
- Props and state

Node

- Basics of Node and Installation.
- Introduction to Npm
- Adding and removing modules

React with Node

- Creating an application using Create React App.
- Life Cycle
- Debugging
- Default values
- SetState in depth
- Creating Forms
- Creating Table
- Handling Events
- Applying Filters
- JSX in depth
- Validations
- Applying Styles
- Backend calls
- Stateful Components
- Stateless Components
- Local Storage
- Routing
 - Basic Routing and Passing Params
 - Hyperlinks
- Master Pages
- Reconciliation
- Creating Reusable Components
- React.Component vs React.pure Component
- Composition vs Inheritance
- Code Reusability and Optimization
- Fragments
- Bundling
- Deploying

Integration of 3rd party Modules

- Google Maps
- Bootstrap Controls
- Material UI
- Toast Messages for notifications

Others

- Other Debugging Options
- Developer Tools
- Current Applications developed in React
- Future of React.
- Introduction to Starter Kits
- Integration with other libraries