



# Course Brochure

## Web Application Development

### Overview

- To make you ready to develop a web site / web application using the latest client side web technologies and web standards.

### Pre-requisites

- Any one programming language

### Applications

## COURSE CONTENTS

### Intro to Web UI Development

- ❖ Introduction
- ❖ Client-side programming (vs) Server-side programming

### HTML 4

- ❖ Intro to html
- ❖ Syntax of html
- ❖ Creating simple web page using html
- ❖ Intro to html elements / html tags
- ❖ Syntax of Tag
- ❖ <html>, <head>, <title>, <body>
- ❖ <h1>, <h2>, <h3>, <h4>, <h5>, <h6>
- ❖ <b>, <i>, <u>, <strike>, <strong>, <em>, <sup>, <sub>
- ❖ <abbr>, <bdo>, <br>, <hr>, <img>, <a>
- ❖ <head>, <title>, <meta>
- ❖ <ul>, <ol>, <li>, <dl>, <dt>, <dd>
- ❖ <table>, <tr>, <td>, <th>, <caption>
- ❖ <div>, <span>
- ❖ <form>, <input>, All input types and attributes
- ❖ <textarea>, <select>, <option>, <optgroup>
- ❖ <button>, <fieldset>, <legend>, <label>
- ❖ <iframe>
- ❖ Deprecated tags
- ❖ HTML Entities
- ❖ DOCTYPE
- ❖ XHTML
- ❖ Intro to XHTML
- ❖ Need of XHTML
- ❖ XHTML in real web sites
- ❖ XHTML rules

### CSS 2.1

- ❖ Intro to CSS 2.1
- ❖ Need of CSS in real web sites
- ❖ Syntax of CSS
- ❖ Color, background-color, background-image, background-repeat, background-position, background-attachment, types of colors
- ❖ Font-family, font-size, font-weight, font-style, letter-spacing, word-spacing
- ❖ Line-height, text-decoration, text-transform, text-align, text-indent, span tag
- ❖ List-style-type, list-style-image
- ❖ DIV tag, width, height, float, clear, border, margin, padding, opacity

- ❖ Box model
- ❖ Block level tags (vs) Inline tags
- ❖ Introduction to CSS selectors
- ❖ Tag selector, ID selector, class selector, compound selector, grouping selector, child selector, direct child selector, adjacent siblings selector, attribute selector, hover, focus, universal selector
- ❖ First-child, last-child, nth-child, even, odd, before, after, selection,
- ❖ position, static, absolute, relative, float, z-index
- ❖ display, visibility, overflow, a:link, a:hover, a:visited, a:active
- ❖ Overflow, visibility
- ❖ Internal, inline, external style sheets
- ❖ Style precedence

### Static Web Design

- ❖ DIV-based Static Page Template
- ❖ Header, nav, container, leftcol, pagecontent, footer

### Responsive Web Design

- ❖ Intro to responsive web design
- ❖ Need of RWD in real web sites
- ❖ Extra-small, small, medium, large devices
- ❖ Media queries in CSS @media
- ❖ Viewport meta tag

### JavaScript

- ❖ Intro to JavaScript
- ❖ Need of JavaScript in real web sites
- ❖ Syntax of JavaScript
- ❖ Variables
- ❖ Operators
- ❖ Control statements
- ❖ NoScript
- ❖ Alert, Confirm
- ❖ Functions, arguments and return
- ❖ What is DOM?
- ❖ Overview of DOM manipulations
- ❖ Getting elements: getElementById, getElementsByName, getElementsByClassName
- ❖ Attributes: setAttribute, getAttribute, removeAttribute, List of attributes
- ❖ Manipulating CSS
- ❖ Introduction to Event handling

## COURSE CONTENTS

- ❖ Click, dblclick, focus, blur
- ❖ Mouseover, mouseout, mousemove
- ❖ Keyup, keypress, change
- ❖ Focus and blur
- ❖ Contextmenu, cut, copy, paste
- ❖ This keyword
- ❖ Adding elements, removing elements
- ❖ Random
- ❖ Important String functions
- ❖ Important Date functions
- ❖ Validations using JavaScript
- ❖ Overview of Regular expressions
- ❖ External JavaScript
- ❖ JSON objects, JSON arrays
- ❖ JavaScript OOP: Classes, Objects, Properties, Methods, Inheritance

### HTML 5

- ❖ Intro to HTML 5
- ❖ Need of HTML 5 in real web sites
- ❖ Removed elements
- ❖ Removed attributes
- ❖ New DOCTYPE for HTML 5
- ❖ New input types: color, date, time, datetime-local, month, week, search, number, range, email, url
- ❖ New input attributes: placeholder, autofocus, required, pattern, min, max, step, novalidate, formaction, formmethod, formtarget, form, autocomplete
- ❖ <audio>, <video>
- ❖ <article>, <header>, <nav>, <section>, <aside>, <footer>
- ❖ <meter>, <progress>, <figure>, <figcaption>
- ❖ <details>, <summary>
- ❖ <datalist>, <output>
- ❖ LocalStorage, sessionStorage
- ❖ Geo location
- ❖ App cache / Offline Apps
- ❖ Web workers
- ❖ Server sent events
- ❖ Drag and drop
- ❖ Introduction to canvas and SVG

### CSS 3

- ❖ Intro to CSS 3
- ❖ Resize
- ❖ Word wrap

- ❖ rgba
- ❖ Border radius
- ❖ Box shadow, text shadow
- ❖ Multiple columns
- ❖ Transitions
- ❖ Animations
- ❖ 2D Transformations
- ❖ Overview of Gradient colors
- ❖ Google Fonts

### Bootstrap

- ❖ Introduction to Bootstrap
- ❖ Need of Bootstrap in real web sites
- ❖ Bootstrap First Example
- ❖ Bootstrap Lead
- ❖ Bootstrap Alignment
- ❖ Bootstrap Text colors
- ❖ Bootstrap Tables
- ❖ Bootstrap Table background colors
- ❖ Bootstrap Buttons
- ❖ Bootstrap Glyphicons
- ❖ Bootstrap Show
- ❖ Bootstrap Hidden
- ❖ Bootstrap Images
- ❖ Bootstrap Jumbotron
- ❖ Bootstrap Paging
- ❖ Bootstrap Panels
- ❖ Bootstrap NavBar
- ❖ Bootstrap Grid system (Responsive Web Design)

### jQuery

- ❖ Intro to jQuery
- ❖ Need of jQuery in real web sites
- ❖ Advantages of jQuery
- ❖ jQuery versions
- ❖ jQuery production vs development
- ❖ Downloading jQuery, CDN
- ❖ val, html, text
- ❖ Bind and Unbind
- ❖ Click, dblclick, focus, blur, change
- ❖ Mousemove, mouseover, mouseout, Keypress, keyup
- ❖ Disabling cut, copy, paste using jQuery
- ❖ Disabling right click using jQuery
- ❖ Filtering characters in a textbox using jQuery
- ❖ Fade in, fade out, fade toggle

## COURSE CONTENTS

- ❖ Show, hide, toggle
- ❖ Slide down, slide up, slide toggle
- ❖ jQuery chaining
- ❖ Manipulating CSS: addClass, removeClass, toggleClass,
- ❖ hasClass, css
- ❖ Manipulating Attributes: set attr, get attr, removeAttr
- ❖ jQuery animations
- ❖ Important jQuery selectors and `jQuery` filters
- ❖ append, prepend, after, before
- ❖ AppendTo, prependTo, insertAfter, insertBefore
- ❖ Wrap, wrapAll, empty, remove, replaceWith

### jQuery UI

- ❖ Intro to jQuery UI
- ❖ Need of jQuery UI in real web sites
- ❖ Downloading jQuery UI
- ❖ Importing jQuery UI
- ❖ Draggable
- ❖ Droppable
- ❖ Resizable
- ❖ Selectable
- ❖ Sortable
- ❖ Accordion
- ❖ Auto Complete
- ❖ Button Set
- ❖ Date Picker
- ❖ Dialog
- ❖ Menu
- ❖ Progress Bar
- ❖ Spinner
- ❖ Tabs
- ❖ Tooltip
- ❖ Color Animation
- ❖ Easing Effects
- ❖ addClass
- ❖ removeClass
- ❖ Effects
- ❖ jQuery UI themes
- ❖ Downloading other third-party plugins
- ❖ jQuery validation plugin

### AJAX

- ❖ Intro to AJAX
- ❖ Need of AJAX in real web sites
- ❖ Need of AJAX in real web sites

- ❖ XMLHttpRequest: properties and events.
- ❖ Understanding GET, POST, PUT, DELETE
- ❖ \$.ajax( essential options )

### AngularJS

- ❖ Intro to AngularJS
- ❖ Need of AngularJS in real web sites
- ❖ Downloading AngularJS
- ❖ AngularJS `index.html` example
- ❖ Expressions
- ❖ AngularJS built-in directives: ng-app, ng-init, ng-bind, ng-model,
- ❖ ng-show, ng-hide, ng-if, ng-disabled, ng-src, ng-class, ng-click,
- ❖ ng-dblclick, ng-focus, ng-blur, ng-keyup, ng-keypress, ng mouseover and ng-mouseout, ng-mousemove, ng-change
- ❖ MVC architecture
- ❖ Understanding model, view, controller
- ❖ Modules and Module architecture
- ❖ Creating multiple AngularJS modules and bootstrapping
- ❖ \$scope (vs) \$rootScope
- ❖ Data bindings
- ❖ Working with forms
- ❖ Login form
- ❖ Pre-defined `jQuery` filters: uppercase, lowercase, number, currency, orderBy
- ❖ ng-repeat
- ❖ AJAX: GET, POST, PUT, DELETE
- ❖ \$watch
- ❖ Animations: ng-enter-, ng-enter-active, ng-leave, ng-leave-active
- ❖ Validations: dirty, pristine, touched, untouched, valid, invalid
- ❖ \$q
- ❖ Custom values
- ❖ Custom factories
- ❖ Custom services and dependency injection
- ❖ Factories (vs) Services
- ❖ Custom `jQuery` filters
- ❖ Custom directives
- ❖ Custom providers
- ❖ AngularJS Routing
- ❖ AngularJS Architecture and Startup Process