Bright Star Institute

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Website Development with HTML5, CSS and Bootstrap

Duration: 90 hours

Prerequisites: Basic personal computer skills and basic Internet knowledge.

Description: This hands on course provides a thorough introduction into the creation of a Website using HTML, CSS and Bootstrap. The course starts with thorough coverage of HTML and Cascading Style Sheets (CSS) and progresses to using the Bootstrap framework to create mobile-friendly websites.

Topics include use of HTML5 semantic tags, block-level and inline elements, creating links, ordered and unordered lists, creation of tables and forms. Students will learn to attach CSS to a page using several different techniques, CSS selectors and pseudo-classes, CSS box model, and a variety of CSS properties.

Students will learn how to create a Bootstrap page utilizing the grid system, implement commonly used components (such as dropdowns and navigation bars), use Bootstraps CSS classes to format page elements and use Bootstrap's plugins to add tabs, modals and accordions to a page.

Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

Course Overview

HTML Fundamentals

- HTTP Requests and Responses
- Static vs. Dynamic Pages
- Tag and Attribute Fundamentals
- Document Structure
  - Understanding `<DOCTYPE>`
  - Creating a Page Title
  - Indicating the Character Set

Structuring an HTML Document

- Adding Headings
- Adding Paragraphs
- Working with the `<div>` Tag
- Adding Quotes to a Page
- HTML5 Semantic Tags
  - `<header>`, `<footer>`, `<nav>`, `<article>`, `<section>`

    - <head> and <body> Tags
- Browser Support
    - HTML5 Shiv
    - CSS Reset
    - Conditional Comments
- Using Data Attributes

Formatting Text

- Using Inline Tags
    - <b>, <i>, ,
- Using the and <mark> Tags
- Defining Inline Styles
    - Changing Text Color
    - Changing Font Characteristics
    - Changing Horizontal Alignment
- Using Character Entities

CSS Properties

- Text-Related Properties
    - text-decoration, color, line-height
- Font-Related Properties
    - font-family, font-size, font-weight
- Background-Related Properties
    - background-color, background-image, background-position
- Using @font-face to Add Custom Fonts
- Changing the Opacity of Text and Images
- Creating Gradients
    - Linear Gradients
    - Repeating Linear Gradients
    - Radial Gradients
    - Repeating Radial Gradients

- Adding Meters and Progress Bars
- Defining Hyperlinks
- Creating Anchors within a Page
- Creating an E-mail Link

Introduction to Cascading Style Sheets (CSS)

- Overview of Cascading Style Sheets (CSS)
- Creating CSS Rules
- Setting CSS Properties
    - Working with Colors
    - Units of Measurement (px, em, %)
    - Working with Fonts
- Defining Type Selectors
- Defining Class and ID Selectors
- Using Attribute Selectors
- Grouping and Combining Selectors
- Linking to External Style Sheets
- Embedded Style Sheets
- Overriding Styles with !important

CSS Box Model

- Positioning Elements
    - Static, Absolute and Relative
    - Controlling z-index
    - Floating and Clearing Elements
- Visual Effects
    - Setting visibility and display
    - Using overflow and clip Properties
    - Setting Vertical Alignment
- Box-Related Properties
    - margin, padding, border
- Setting the Size of an Element

- Creating Rounded Corners, Adding Shadows to Boxes and Using Images as Borders

CSS Selectors and Pseudo-Classes

- Relational Selectors
  - Descendant
  - Direct-Child
  - General Sibling
  - Adjacent Sibling
- Pseudo-Classes and Elements
  - Styling Links with `:link`, `:visited`, `:active`, `:hover`
  - Adding Content with `:before` and `:after`
- Attribute Selectors
  - "Starts With" Selector
  - "Ends With" Selector
  - "Contains" Selector
- Selecting the nth Element
- Selecting the nth of a Type

CSS Transforms, Transitions and Animations

- Using Transforms
  - Rotating 2D Elements
  - Scaling 2D Elements
  - Translating 2D Elements
  - Skewing 2D Elements
- Configuring a Transition
  - Delaying the Start of a Transition
  - Changing the Speed of a Transition
- Creating an Animated Menu
- Animating Buttons with Transitions
- Using Animations
  - Controlling the Direction of an Animation
  - Controlling the State of an Animation
  - Changing the Speed of an Animation
- Using the `animation` Property

Working with Lists

- Types of Lists
  - Ordered Lists
  - Unordered Lists
  - Description Lists
- Creating List Items Using the `<li>` Tag
- Creating Nested Lists
- Using CSS to Style a List
- Using Lists to Create a Navigation Menu
- Using CSS Counters
  - Incrementing a Counter
  - Creating Nested Counters

Adding Images to a Page

- Discussion of Common Image Formats
- Displaying Images on a Web Page
  - Using `src` and `alt` Attributes
  - Sizing an Image Using `width` and `height` Attributes
- Common Uses of Images
  - Image Thumbnails
  - Favicons
  - Image Rollovers
- Working with Client-Side Image Maps
- Using Icon Fonts

Displaying Information in Tables

- Adding Tables to a Page
- Working with `<table>`, `<tr>`, `<td>`, `<th>` and `<caption>` Elements

Working with Forms

- Defining a Form
- Using Common Form Attributes
  - `action`, `method`, `enctype`,

Creating Nested Tables
- Grouping Table Content
- Using CSS to Style a Table
    - Controlling Table Borders
    - `border-collapse` and `border-spacing` Properties
- Using `rowspan` and `colspan` Attributes

`autocomplete`, `novalidate`
- Input Elements
    - `email`, `url`, `tel`, `search`
- Understanding Form Submission
- Adding `<label>` and `<fieldset>` Elements
- Single-line and Multi-line Text Fields
- Radio Buttons and Checkboxes
- Dropdown and Selection Lists
- Submit, Reset and Push Buttons
- Using Form-Related Pseudo Classes and Elements
- Controlling Form Layout Using CSS and Tables

Form Validation

- Form Validation Overview
    - Client-Side Validation
    - Server-Side Validation
- Overview of Form Security
- Validating Input Length Using `minlength` and `maxlength` Attributes
- Using the `pattern` Attribute to Specify Regular Expressions
- Validation-Related Pseudo-Classes

Using CSS for Page Layout

- Using CSS for Page Layout
    - 2 Column Fixed Layout
    - 3 Column Fixed Layout
    - 2 Column Fluid Layout
- Using CSS Grid Layout
    - Defining Grid Columns
    - Defining Grid Row
    - Positioning Rows and Columns
    - Using Grid Areas
    - Adding Spacing Between Rows and Columns
    - Aligning the Grid Container
    - Aligning Grid Items
    - Defining a Nested Grid

Audio and Video

- Browser Support for Audio/Video Formats
    - Supplying Fallbacks
- Creating Audio Effects with HTML5 `<audio>` Elements and Attributes
- Adding Video with HTML5 `<video>` Elements and Attributes
- `<source>` Elements

Bootstrap Overview

- Overview of Mobile First Design
- CSS3 Media Queries
- Downloading Bootstrap
- Customizing Bootstrap
- Adding Custom CSS to Bootstrap

Bootstrap Grid System

- Working with Grids
- Defining Rows, Containers and Columns
- Offsetting Columns
- Creating Nested Columns
- Changing Column Order

Bootstrap Base CSS

- Overview of Bootstrap's Base CSS
- Using Helper Classes and Responsive Utilities
- Working with Typography Classes
- Formatting Lists
- Formatting Tables
    - Creating a Striped Table
    - Creating a Responsive Table
- Enhancing the Appearance of Forms
    - Displaying Inline Forms
    - Displaying Horizontal Forms
- Formatting Images
    - Creating Responsive Images
- Styling Links and Buttons

Bootstrap Components

- Overview of Bootstrap Components
- Using Glyphicons to Add Symbols to Buttons and Links
- Creating Dropdowns
- Creating Navigation
    - Tabbed Navigation
    - Pill Navigation
    - Navigation Bars
    - Collapsible Navigation Bars
    - Breadcrumbs
- Grouping Inputs, Buttons and Lists
- Formatting Page Headers
- Creating Panels
    - Grouping Panels
    - Creating a Thumbnail Gallery
- Creating Progress Bars and Alerts

Bootstrap Plugins

- Plugin Overview
- Creating Tabbed Navigation
- Creating a Slideshow Using the Carousel Plugin
- Using Accordions to Display a Large Amount of Content
- Adding a Dialog Box Using the Modal Plugin
- Displaying Secondary Information Using Popovers or Tooltips

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