

Design of Dynamic Web Pages (IC)

Course Code	L:T:P:S	Credits	Exam marks	Exam Duration	Course Type
18CSI351	3:0:2:0	4	CIE:50 SEE:50	3 Hours	FE

Course Objectives:

This course will enable students to:

- Learn the evolution of the World Wide Web and its relevance in today's world and also, to comprehend HTML, CSS scripts to design web layouts.
- Get a clear understanding of the technologies like Java Script involved in developing UI for interactive web pages.
- Perceive jQuery libraries to simplify complicated tasks from JavaScript and DOM manipulation.
- Cognize Bootstrap framework with a focus on creating interactive and responsive web pages faster and easier
- Grasp the use of XML for developing applications over web.

Syllabus

Module - I

HTML 5 and CSS: Introduction to Hyper Text Markup Language, Key components of HTML document, HTML elements, Headers, Linking, Images, Unordered Lists, and Nested and ordered Lists. **Tables, Divs and forms:** HTML Tables and Formatting, HTML Forms, Internal Linking, Creating and Using Images, Maps, Div and span tags. Introduction CSS, CSS selector, positioning, layouts, debugging.

11 Hours

Module - II

JavaScript: Browser and Document object, scripts and HTML Document, variables, expressions, Data type conversions, decisions and loops, control structure, windows Document object, forms and form handling elements, scripting, event handling.

11 Hours

Module - III

jQuery: Using selectors with jQuery, Manipulating page elements with jQuery, jQuery event model, jQuery animation and advanced effects, jQuery plugins.

10 Hours

Module - IV

Bootstrap: Bootstrap Scaffolding, Bootstrap CSS, Bootstrap Layout Components, Bootstrap JavaScript Plugins, Using Bootstrap.

10 Hours

Module - V

XML: Introduction, Syntax, Document type definitions, Namespaces, XML schemas, Displaying raw XML documents, Displaying XML documents with CSS.

10 Hours

Hands on

1. HTML and CSS -

a. Create a HTML page to display the following content <Ensure the format is same as shwn below>; Use HTML Tables UnorderList and OrderList (UL and OL):

1. Development Environment <ul style="list-style-type: none">Eclipse (SpringSource Tool Suite distribution)Apache Tomcat/VMware® vFabric™ tc ServerSpring InsightTesting tools	2. Spring Overview <ul style="list-style-type: none">Introduction to Spring configurationBean life cycleSimplifying configurationIntegration testing with Spring
3. Getting Started with Spring Web MVC <ul style="list-style-type: none">Spring model-view-controller (MVC) overviewDispatcherServletController programming model overviewSpring MVC viewsSimplifying configuration	4. Spring MVC Configuration Options <ul style="list-style-type: none">Spring MVC infrastructure BeansURL mappingsHandler interceptors and handler adaptersException resolversMessage source

b. Create a HTML page to display testimonials received from customers along with their picture and Name as shown below:

<p>“ This is an example testimonial. I can be long or short. Use it to display client testimonials or anything else that you see fit. You can add testimonials using shortcode on posts and pages and also by using widgets. Neat huh? - Jane Doe ”</p>  <p>About Jane Doe Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et quis quam ex turpis varius tempus. Quisque mollis, urna et fringilla varius, libero urna lobortis nunc, vehicula pharetra mi diam vel tellus.</p>	<p>“ This is an example testimonial. I can be long or short. Use it to display client testimonials or anything else that you see fit. You can add testimonials using shortcode on posts and pages and also by using widgets. Neat huh? - Jane Doe ”</p>  <p>About Jane Doe Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et quis quam ex turpis varius tempus. Quisque mollis, urna et fringilla varius, libero urna lobortis nunc, vehicula pharetra mi diam vel tellus.</p>
<p>“ This is an example testimonial. I can be long or short. Use it to display client testimonials or anything else that you see fit. You can add testimonials using shortcode on posts and pages and also by using widgets. Neat huh? - Jane Doe ”</p>  <p>About Jane Doe Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et quis quam ex turpis varius tempus. Quisque mollis, urna et fringilla varius, libero urna lobortis nunc, vehicula pharetra mi diam vel tellus.</p>	<p>“ This is an example testimonial. I can be long or short. Use it to display client testimonials or anything else that you see fit. You can add testimonials using shortcode on posts and pages and also by using widgets. Neat huh? - Jane Doe ”</p>  <p>About Jane Doe Lorem ipsum dolor sit amet, consectetur adipiscing elit. Et quis quam ex turpis varius tempus. Quisque mollis, urna et fringilla varius, libero urna lobortis nunc, vehicula pharetra mi diam vel tellus.</p>

2. Java Script and jQuery

a. jQuery form validations:

Front-End: Develop below form using HTML to create new user:



The screenshot shows a web browser window titled "Create new user". Inside the window, there is a form with three input fields: "Name", "Email", and "Password". Above the "Name" field, the text "All form fields are required." is displayed. At the bottom of the form, there are two buttons: "Create an account" and "Cancel".

Field Details:

1. Name <String, Length(16), Mandatory, Validations: Minimum Length: 3, Can accept special characters>
 2. Email <String, Length(60), Mandatory, Validations: Should be a valid email id>
 3. Password <String, Length(16), Mandatory, Validations: Minimum Length: 5, Can accept special characters>
- Create Buttons - "Create an account" and "Cancel"
 - Form should be Scrollable
 - For field validations, use jQuery
 - Ensure all validations pertaining to Name, Email and Password are taken care. If the user enters incorrect values appropriate error message should be displayed and should allow the user to enter correct data

b. jQuery image slider:

In an HTML page, insert a minimum of 5 images; Ensure inserted images are scrollable.
Hint: To make images scrollable use jQuery image slider or use javascript.

Sample screen shot:



3. Develop below form using HTML to Search and Book Tickets:

Validations:

1. All fields are Mandatory except “Single Lady” Field
2. Onwards date must be less than Return date

4. Bootstrap and jQuery:

- a. Create a Bootstrap Page that helps maintain Employee Information in an organization.

Name	Email	Mobile	Company	Edit	Delete
Priya Mathur	priya.m@wipro.com	9876512345	Wipro Technologies	✎	✖
Akshaya Preet	akshaya.p@wipro.com	9776512345	Wipro Technologies	✎	✖
Mangal Rao	mangal.r@sparens.com	9776512332	Sparens Solutions Limited	✎	✖
Priya Rao	priya.r@sparens.com	9876512132	Sparens Solutions Limited	✎	✖
Arjun Rao	arjun.r@sparens.com	9456512132	Sparens Solutions Limited	✎	✖

- b. When clicked on the “Add New Employee” button, load a dialog box as shown below

Validations:

1. All fields are Mandatory.
2. On successful submission of the form, the new employee details have to be appended as a last row in the table.
3. When clicked on the Edit icon, a similar pop-up as the “Add new Employee” form has to be displayed with the input fields populated with appropriate values. When the form is submitted in the Edit flow, ensure all the validations are in place. The name of the button in the Edit flow has to be “Update” instead of “Add”.

4. When clicked on the Delete icon, a confirmation dialog box has to be displayed with a message “Are you sure, you want to delete this entry?” If the user clicks “Yes”, the corresponding row has to be deleted from the table. If the user clicks “No” the table has to remain unaffected.

Course Outcomes:

On completion of this course, the students are able to:

- Develop web layouts with style sheets and web screens in a presentable form.
- Create interactive web pages through form validations using Java Script and other methods. Use the same in UI development.
- Use jQuery libraries to accelerate UI development with less effort.
- Design and develop responsive web pages faster using bootstrap framework.
- Develop applications by using synchronous and asynchronous communication over web.

Text Book:

1. Robert W. Sebesta: “Programming the World Wide Web”, Pearson, 4th Edition, 2012, ISBN: 978-81-317-6458-9.
2. Jon Duckett: “Web Design with HTML, CSS, JavaScript and jQuery Set”, Wiley, 1st Edition, 2014, ISBN 13: 978-1118907443.
3. Silvio Moreto, Matt Lambert, Benjamin Jakobus, Jason Marah:” Bootstrap 4 - Responsive Web Design”, Packt Publishing, 2016, ISBN 978-1-78839-731-5

Reference Books:

1. Jake Spurlock: “Bootstrap, Shroff”, O’Reilly Media, United States of America, 1st Edition, 2013, ISBN: 978 -1 -4493-4391-0.
2. Bear Bibeault, Yehuda Katz and Aurelio De Rosa: “jQuery in Action”, Dreamtech Press, New Delhi, India, 3rd Edition, 2015, ISBN: 978-1617292071.

E-Resources:

1. <http://www.w3schools.com/>
2. <https://learn.jquery.com/>
3. https://developer.mozilla.org/en-US/Learn/Getting_started_with_the_web/Ja-vaScript_basics