

<b>Course Code:</b>	<b>Course Title</b>	<b>Credit</b>
<b>CSDO501</b>	<b>Internet Programming</b>	<b>3</b>

**Prerequisite: Data Structures**

**Course Objectives:**

- 1 To get familiar with the basics of Internet Programming.
- 2 To acquire knowledge and skills for creation of web site considering both client and server-side programming
- 3 To gain ability to develop responsive web applications
- 4 To explore different web extensions and web services standards
- 5 To learn characteristics of RIA
- 6 To learn React js

**Course Outcomes:**

- 1 Implement interactive web page(s) using HTML and CSS.
- 2 Design a responsive web site using JavaScript
- 3 Demonstrate database connectivity using JDBC
- 4 Demonstrate Rich Internet Application using Ajax
- 5 Demonstrate and differentiate various Web Extensions.
- 6 Demonstrate web application using Reactive Js

<b>Module</b>		<b>Content</b>	<b>Hrs</b>
<b>1</b>		<b>Introduction to Web Technology</b>	<b>10</b>
	1.1	<b>Web Essentials:</b> Clients, Servers and Communication, The Internet, Basic Internet protocols, World wide web, HTTP Request Message, HTTP Response Message, Web Clients, Web Servers <b>HTML5</b> – fundamental syntax and semantics, Tables, Lists, Image, HTML5 control elements, Semantic elements, Drag and Drop, Audio – Video controls <b>CSS3</b> – Inline, embedded and external style sheets – Rule cascading, Inheritance, Backgrounds, Border Images, Colors, Shadows, Text, Transformations, Transitions, Animation, Basics of Bootstrap.	
<b>2</b>		<b>Front End Development</b>	<b>7</b>
	2.1	Java Script: An introduction to JavaScript–JavaScript DOM Model–Date and Objects-Regular Expressions- Exception Handling-Validation-Built-in objects-Event Handling, DHTML with JavaScript–JSON introduction – Syntax – Function Files – Http Request –SQL.	
<b>3.</b>		<b>Back End Development</b>	<b>7</b>
	3.1	<b>Servlets:</b> Java Servlet Architecture, Servlet Life Cycle, Form GET and POST actions, Session Handling, Understanding Cookies, Installing and Configuring Apache Tomcat Web Server, <b>Database Connectivity:</b> JDBC perspectives, JDBC program example <b>JSP:</b> Understanding Java Server Pages, JSP Standard Tag Library (JSTL), Creating HTML forms by embedding JSP code.	
<b>4</b>		<b>Rich Internet Application (RIA)</b>	<b>4</b>
	4.1	Characteristics of RIA, <b>Introduction to AJAX:</b> AJAX design basics, AJAX vs Traditional Approach, Rich User Interface using Ajax, jQuery framework with AJAX.	
<b>5</b>		<b>Web Extension: PHP and XML</b>	<b>6</b>

	5.1	XML –DTD (Document Type Definition), XML Schema, Document Object Model, Presenting XML, Using XML Parsers: DOM and SAX, XSL-eXtensible Stylesheet Language	
	5.2	<b>Introduction to PHP</b> - Data types, control structures, built in functions, building web applications using PHP- tracking users, PHP and MySQLdatabase connectivity with example.	
6		<b>React js</b>	5
	6.1	Introduction, React features, App “Hello World” Application, Introduction to JSX, Simple Application using JSX.	
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#### Textbooks:

1	Ralph Moseley, M.T. Savliya, “Developing Web Applications”, Willy India, Second Edition, ISBN: 978-81-265-3867-6
2	“Web Technology Black Book”, Dremtech Press, First Edition, 978-7722-997
3	Robin Nixon, "Learning PHP, MySQL, JavaScript, CSS & HTML5" Third Edition, O'REILLY, 2014. ( <a href="http://www.ebooksbucket.com/uploads/itprogramming/javascript/Learning_PHP_MySQL_Javascript_CSS_HTML5_Robin_Nixon_3e.pdf">http://www.ebooksbucket.com/uploads/itprogramming/javascript/Learning_PHP_MySQL_Javascript_CSS_HTML5_Robin_Nixon_3e.pdf</a> )
4	Dana Moore, Raymond Budd, Edward Benson, Professional Rich Internet Applications: AJAX and Beyond Wiley publications. <a href="https://ebooks-it.org/0470082801-ebook.htm">https://ebooks-it.org/0470082801-ebook.htm</a>
5.	Alex Banks and Eve Porcello, Learning React Functional Web Development with React and Redux, OREILLY, First Edition

#### References:

1	Harvey & Paul Deitel& Associates, Harvey Deitel and Abbey Deitel, Internet and World Wide Web - How To Program, Fifth Edition, Pearson Education, 2011.
2	Achyut S Godbole and AtulKahate, —Web Technologies, Second Edition, Tata McGraw Hill, 2012.
3	Thomas A Powell, Fritz Schneider, —JavaScript: The Complete Reference, Third Edition, Tata McGraw Hill, 2013
4	David Flanagan, —JavaScript: The Definitive Guide, Sixth Edition, O'Reilly Media, 2011
5	Steven Holzner —The Complete Reference - PHP, Tata McGraw Hill, 2008
6	Mike Mcgrath—PHP & MySQL in easy Steps, Tata McGraw Hill, 2012.

#### Assessment:

##### Internal Assessment:

Assessment consists of two class tests of 20 marks each. The firstclass test is to be conducted when approx. 40% syllabus is completed and the secondclass test when an additional 40% syllabus is completed. Duration of each test shall be one hour.

##### End Semester Theory Examination:

1	Question paper will comprise a total of six questions.
2	All question carries equal marks
3	Questions will be mixed in nature (for example supposed Q.2 has part (a) from module 3 then part (b) will be from any module other than module 3)
4	Only Four questions need to be solved.
5	In question paper weightage of each module will be proportional to number of respective lecture hours as mentioned in the syllabus.

#### Useful Links

1	<a href="https://books.goalkicker.com/ReactJSBook/">https://books.goalkicker.com/ReactJSBook/</a>
2	<a href="https://www.guru99.com/reactjs-tutorial.html">https://www.guru99.com/reactjs-tutorial.html</a>
3	<a href="http://www.nptelvideos.in">www.nptelvideos.in</a>

4	<a href="http://www.w3schools.com">www.w3schools.com</a>
5	<a href="https://spoken-tutorial.org/">https://spoken-tutorial.org/</a>
6	<a href="http://www.coursera.org">www.coursera.org</a>
<b>The following list can be used as a guideline for mini project:</b>	
1	Create Simple web page using HTML5
2	Design and Implement web page using CSS3 and HTML5
3	Form Design and Client-Side Validation using: a. Javascript and HTML5, b. Javascript and JQuery
4	Develop interactive web pages using HTML 5 with JDBC database connectivity
5	Develop simple web page using PHP
6	Develop interactive web pages using PHP with database connectivity MYSQL
7	Develop XML web page using DTD, XSL
8	Implement a web page using Ajax and PHP
9	Case study based on Reactive js
10	Installation of the React DOM library.
<b>* Laboratory work based on above syllabus is incorporated as mini project in CSM501: Mini-Project.</b>	

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