



## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

### NATIONAL INSTITUTE OF TECHNOLOGY PATNA

Ashok Raj Path, PATNA 800 005 (Bihar), India

Phone No.: 0612 – 2372715, 2370419, 2370843, 2371929, 2371930, 2371715 Fax – 0612- 2670631 Website:

[www.nitp.ac.in](http://www.nitp.ac.in)

## CS24107: Web Technology

L-T-P-Cr: 3-0-2-4

**Pre-requisites:** C programming

### Course Objectives:

- To impart knowledge of fundamental concepts of internet and WWW.
- To make students understand the concept of web and web architectures.
- To impart ability to design and implement dynamic, responsive web pages.
- To make students design and implement back end server scripts.

### Course Outcomes:

At the end of the course, a student should:

Sl. No	Outcome	Mapping to PO
1.	Explain the basic Concept related to World Wide Web	PO1,PO12
2.	Construct web page using HTML and CSS3	PO1,PO3,PO5, PO12
3.	Articulate Dynamic and Responsive web pages	PO2, PO3,PO4,PO6,PO12
4.	Design programs using Node.js and PHP	PO2,PO3, PO4 PO6, PO12

### UNIT I: Web Introduction:

**Lectures: 2**

Introduction to Internet, World Wide Web, IP Address concepts, Domain name.

### UNIT II :HTML, HTML5 and CSS3:

**Lectures: 4**

**HTML :** Introduction to HTML, Basic Formatting Tags, Image, List, Tables, Forms, Layout tags.

**HTML5 & CSS3 :** HTML Form Data validation, Canvas, SVG, audio, Video, Cascading Style sheet 3(CSS3), CSS Styling, Psuedo-elements, Pseudo classes, CSS Transition ,Animation

### UNIT III: JavaScript:

**Lectures: 5**

**JavaScript :** Introduction, data types, variables, operators, Array Objects, Date Objects, String Objects, Document Object Model, Image Object, Event Handling, Browser Object, Window Object, Location Object, History Object, Submit event and data validation.

**Dynamic Hypertext markup language (DHTML):** Introduction to DHTML, Dragging and Dropping data, working layers

### **UNIT III: jQuery**

**Lectures: 5**

**jQuery:** jQuery Introduction, jQuery Install, jQuery Syntax, jQuery Selectors, jQuery Event Methods, jQuery Effects -Hide and Show, jQuery Effects –Fading, jQuery Effects –Sliding, jQuery Effects –Animation, jQuery Stop Animations, jQuery Callback Functions, jQuery –Chaining, jQuery -Get Content and Attributes, jQuery -Set Content and Attributes, jQuery -Add Elements, jQuery -Remove Elements, jQuery -Get and Set CSS Classes, jQuery -css() Method, jQuery –**AJAX** Introduction, jQuery -AJAXload() Method, jQuery -AJAXget() and post() Methods, **JSON**

### **UNIT IV: RWD( Responsive Web Design)**

**Lectures: 5**

**BOOTSTRAP:** Container, Tables Images, Button, Alerts, Pagination, List Group, Grids Basic, Drop Downs, Nav Bars, Carousel, Cards, Forms, Form Validation.

### **UNIT V: Single Page Application**

**Lectures: 6**

**Angular JS:** Introduction, Expressions, Modules, Directives, Model, Data Binding, Controllers, Scopes, table, Events, Form, Validation, Routing, HTTP.

**React:** Introduction, Component Classes, Props, Events, Class, Lists, Events, Conditions, Form, Router, Memo, CSS Styling, Hooks

### **UNIT VI: Back-end Processing**

**Lectures: 7**

**Node. Js:** Introduction, Modules, NPM, File System, REPL, Events, Callback.

**PHP:** Introduction, Syntax, Variable, data types, conditional statements, loop, Arrays, String Numbers, Math, Function, regex, Form Handling and Validation, File Handling, Cookies.

### **Reference Book:**

- 1) Thomas A. Powell- *HTML & CSS: The Complete Reference*, TMH, New Delhi
- 2) Ryan Benedetti, Ronan Cranley- *Head First jQuery-A Brain-Friendly Guide*, O'Reilly Media
- 3) Matthew David- *HTML5*, O'Reilly Media
- 4) David Sawyer McFarland-- *JavaScript & jQuery: The Missing Manual*, O'Reilly Media
- 5) Phil Ballard, Michael Moncur-- *Sams Teach Yourself Ajax, Javascript, And Php All In One*, Pearson Education
- 6) Jake Spurlock- *Bootstrap: Responsive Web Development*, O'Reilly Media
- 7) David Sklar—*Learning PHP*, O'Reilly Media
- 8) Dhruvi Shah- *Node.js Guidebook*, BPB Publications