



FCI ICT CLUB WEB FACULTY

Course Syllabus 2024

Duration : 6 Month (48 Classes)



Web Design & Development (Frontend Focused)



HTML

- HTML – Elements
- HTML – Tags
- HTML – Text
- HTML – Formatting, Pre
- HTML – Attributes
- HTML – Font
- HTML – Text Links
- HTML – Comments
- HTML – Lists
- HTML – Images, Image Links

- HTML – Tables
- HTML – Bgcolor, Color Codes, Color Chart, Background

1. Web Forms

- HTML – Forms
- HTML – Input
- HTML – Text Fields

2. Hidden Fields

- HTML – Password
- HTML – Reset
- HTML – Submit
- HTML – Checkboxes, Radio, Select, Hidden Fields, Upload, Textarea

3. Special Tags

- HTML – Body, Meta
- HTML – Style
- HTML – Div
- HTML – Layouts, Frames

4. Formatting Tags

- HTML – Bold
- HTML – Paragraphs
- HTML – Headings
- HTML – Line Breaks

5. HTML – Horizontal Rule

- HTML - Email
- HTML – Italic

6. Semantic Elements

- <article>
- <aside>
- <figcaption>, <figure>
- <mark>
- <nav>
- <progress>
- <section>
- <summary>
- <time>

7. Form Elements

- <datalist>
- <keygen>
- <output>

8. Form Input Types

- Color
- Date, Datetime, Datetime-local
- Email
- Month
- Number
- Range
- Search
- Tel
- Url
- Time
- Week

9. Form Attributes

- autocomplete
- autofocus
- form, formaction, formenctype, formmethod, formnovalidate, formtarget
- height and width
- list
- min and max
- multiple
- pattern (regexp)
- <time>



CSS

1. CSS

- CSS Syntax
- CSS Selectors (ID, Class, Tags, Attributes)
- CSS Styling

2. Styling Backgrounds

- Styling Text
- Styling Fonts
- Styling Links
- Styling Lists
- Styling Tables

3. CSS Box Model

- CSS Border
- CSS Outline
- CSS Margin

- CSS Padding
- CSS Dimension
- CSS Display
- CSS Positioning
- CSS Floating
- CSS Navigation Bar
- CSS Image Gallery
- CSS Image Opacity
- CSS Align
- CSS Borders
- Border – radius
- Border Images
- Backgrounds
- Background Size
- Background – origin
- Text Effects
- Text – shadow
- Box – shadow
- Text
- Text – overflow
- Word – wrap

- Word – break
- Fonts

4. Transforms

- 2D Transforms
- 3D Transforms

5. Transitions

- Transition – delay
- Transition – duration
- Transition – property
- Transition – Timing – Function



JavaScript

1. JavaScript

- Introduction
- Cross – checking fields
- Displaying more informative errors
- Verifying radio button selections
- Setting one field with another field
- Verifying email address

2. Handling Events

- Responding to window events
- Responding to mouse movements
- Responding to mouse clicks
- Responding to onBlur form events
- Responding to onFocus form events
- Responding to keyboard events

3. Working With Cookies

- Demystifying cookies
- Writing a cookie
- Reading a cookie
- Displaying a cookie
- Counting with cookies
- Deleting cookies
- Handling multiple cookies
- Cookies in action

4. The DOM, Nodes, and Objects

- Understanding the DOM
- Adding nodes to the DOM
- Deleting nodes from the DOM
- Deleting specific nodes
- Inserting nodes into the DOM
- Replacing nodes in the DOM

5. Working With Dates and Times

- Displaying dates
- Displaying times
- Creating a countdown

6. Real – World Applications Of JavaScript

- Creating sliding menus
- Creating pop-up menus
- Creating slideshows with captions
- Creating a stylesheet switcher



Bootstrap

1. Introduction to Bootstrap

- What is Bootstrap Framework
- Why Bootstrap
- History Of Bootstrap
- Advantages Of Bootstrap Framework
- What is Responsive web page
- How to remove Responsiveness
- Major Features of Bootstrap
- What is Mobile-First Strategy
- Setting up Environment
- How to apply Bootstrap to Applications

2. Bootstrap Grid

- What is Bootstrap Grid
- How to apply Bootstrap Grid

- What is Container
- What is Offset Column
- How to Reordering Columns
- Advantages of Bootstrap Grid
- How to Display responsive images
- How to change class properties
- How to use readymade themes
- How to customize Bootstrap's components, Less variables and jQuery plug-in
- What is Bootstrap Typography
- How to use Typography
- What is Bootstrap Tables
- What is Bootstrap Form Layout
- What is Bootstrap Button
- How display images in different styles like Circle shape etc.
- How to display text like muted and warning etc.
- What is Carets Classes
- How to hide or show the text in Bootstrap

3. Bootstrap Components

- What is Bootstrap Components
- Why Bootstrap Components
- Advantages of Bootstrap Components
- What are the different types of Bootstrap Component
- What is Glyphicons Component
- What is Bootstrap Dropdown Menu Component
- What is Button Groups and Button Toolbar
- How to use Button Groups and Button Toolbar
- What are different Input Groups Components
- What is Navigation Pills & Tabs Components
- How to use Navigation Pills and Tabs Components
- What is Navbar Component
- How to build a Responsive Navbar

- How to add forms and other controls to navbar
- How to fix the position of navbar
- What is Breadcrumb Component
- What is Pagination Component
- How to apply Pagination in Application
- What is Labels / Badge Components
- What is Jumbotron / Page Header Components
- What is Thumbnail Component
- What is Alerts & Dismissible Alerts
- How to Create Progress Bar
- What is Media Objects Component
- Why Media Objects Component
- How to use Media Objects Component
- What is Bootstrap List Group Component
- What is Bootstrap Panel Component

4. Bootstrap Plug-Ins

- What is Bootstrap Plug-Ins.

- Why Bootstrap Plug-Ins
- How to use Bootstrap Plug-Ins
- What is Transition Plug-in
- What Modal Dialog Box
- What are the different Properties, Methods and Events of Model Dialog Box
- What is Scrollspy Plug-In
- What is Tab Plug-in
- How to use Tab Plug-in
- What is Drop Down Plug-in
- What is Tooltip Plug-in
- How to use Button Plug-in
- What are the different methods and events of Tooltip Plug-in
- What is Popover Plug-in
- What is alert and Button Plug-ins
- What is Collapse Plug-in
- What are different types of Properties, Methods and Events of Collapse Plug-in
- What is Carousel Plug-in
- What is Affix Plug-in

At the end, participants will be able to :

1. Develop Responsive, Mobile first projects on the web.



Tailwind CSS

1. Introduction Of Tailwind CSS

- What is Tailwind CSS
- Setting up the development Environment
- Install Tailwind CSS Using CDN Link
- Install Tailwind Using PostCSS
- Add build watcher script

2. Tailwind CSS Concepts – Basic To Advanced

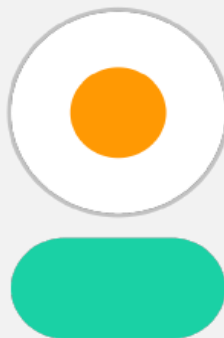
- How to use Documentation
- Most Used Classes In Tailwind CSS
- Hover, Focus & Active Effect
- Responsive Design
- Dark Mode
- Customize Default Style
- Directives and Function

3. Build 'Tesla' Landing Page

- Setting up the development environment
- Starting with the navbar
- Create Image Section
- Add Car Heading and Tagline
- Create Buttons for image section
- Add bouncing arrow
- Create all section for this page

Tailwind CSS Component Library

daisyUI





jQuery

- jQuery Introduction
- jQuery Install
- jQuery Syntax
- jQuery Selectors
- jQuery Event Methods
- jQuery Effects – Hide and Show
- 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

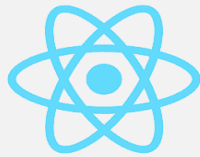
- jQuery – css() Method
- jQuery – AJAX Introduction
- jQuery – AJAX load() Method
- jQuery – AJAX get() and post() Methods
- jQuery – The noConflict() Method



Git & GitHub

- Introduction Of Git & GitHub
- Download & Install Git on Mac & Windows
- Git Setup : Your Name & Email
- Create a New Local Git Repository (Initialize Repository)
- Stage & Commit Files
- GitHub : Push to a Remote Repository
- GitHub : Pull From a Remote Repository
- GitHub : Clone (Download) a Remote Repository
- How to Handle Merge Conflicts

- View a List of Commits & Undo Changes
- Branches : Create, Switch, Push, Merge & Delete



React JS

1. Getting Started

- Introduction to React JS
- Environment Setup and Folder Structure
- JSX
- Components
- State
- Props Overview
- Props Validation
- Component API
- Component Life Cycle
- Forms
- Events
- Refs
- Keys
- Router
- Animations

- Higher – order Components
- What is Virtual DOM
- A basic setup of Bootstrap for Styling

2. Virtual DOM Introduction

- Module Introduction
- Using Types Classes Interface
- Generics Wrap up & Modules
- Deep Dive Into Virtual DOMs

3. Databinding & DOM Concepts

- Creating a basic custom attribute DOM
- Exploring Renderer to create a DOM
- Understanding HostListener and HostBinding Binding to DOM
- Properties Building Structural DOMs
Exploring ngSwitch

4. The Basics Of React

- Module Introduction
- How a React App gets loaded and started
- Components Creating new Component
- Analysis of the functionality of
AppModule & Component Declaration
- Templates Understanding Component
Styles Understanding Component Selector

5. Understanding Services & Implementing Dependency Injection

- Module Introduction
- Why Services are required
- Understanding Dependency Hierarchical Injection
- Injection a Services into other services

6. Observables in React

- Module Introduction

- Understanding built-in React Observable
- Creating Observables Using a Custom observable
- Understanding Observable Operators

7. Forms in React

- Module Introduction
- Need to React's help Template Driven vs Reactive Approach

8. Making HTTP Requests in React

- Introduction & how HTTP request
- Works in SPAs Sending POST Request
- Adjusting request headers Sending GET requests

9. Template Driven Approach

- TD : Submitting and Using the form
- TD : Understanding Form's – State

- TD : Accessing Form Using @ViewChild
- TD : Adding Validation to User input
- TD : Understanding Form State
- TD : Outputting Validation Error Messages
- TD : Using ngModel and two-way binding
- TD : Grouping Form Controls
- TD : Using Form Data

7. Authentication & Route Protection in React Apps

- Module Introduction How Authentication works in SPAs
- Introduction to JWT
- Firebase SDK Signing users up
- Signing users in Token



Node JS

- Introduction
- Environment Setup
- First Application
- REPL Terminal
- Package Manager (NPM)
- Call backs Concept
- Event Loop
- Event Emitter
- Buffers
- Streams
- File System
- Utility Modules
- Web Module
- Express Framework



Express JS

- Overview
- Environment
- Hello World
- Routing
- HTTP Methods
- URL Building
- Middleware
- Templating
- Static Files
- Form Data
- Database
- Project :
- CRUD operation with MEAN from scratch.



MongoDB

- Overview
- Advantages
- Environment
- Data Modeling
- Create Database
- Drop Database
- Create Collection
- Drop Collection
- Data Types
- Insert Document
- Query Document
- Update Document
- Delete Document



Firebase

- Introduction to Firebase
- Setting up a Firebase Project
- Firebase Authentication
- Realtime Database
- Cloud Firestore
- Cloud Functions
- Cloud Storage
- Firebase Hosting
- Firebase Cloud Messaging
- Firebase Test Lab
- Firebase Performance Monitoring
- Firebase Analytics
- Security Rules For Firebase

- Integrating Firebase With Other Technologies
- Best Practice for Firebase Development
- Case Studies and Practicals

Bonus



Basic DevOps

- What is DevOps
- History Of DevOps
- DevOps Definition
- DevOps Main Objectives
- DevOps and Software Development Life Cycle
 - Waterfall Model
 - Agile Model
- Continuous Integration & Deployment
 - Jenkins

- Containers and Virtual Development
 - Docker
 - Vagrant
- Configuration Management Tools
 - Ansible
 - Puppet
 - Chef



Bonus



Basic Cloud

- What is Cloud
- Evolution Of Cloud Computing
- IAAS (Infrastructure as a Service)
- SAAS (Software as a Service)
- PAAS (Platform as a Service)
- Private, Public and Hybrid Cloud
- Public Clouds
 - Amazon Web Services
 - Microsoft Azure
 - Google Cloud Services