Fullstack UI/UX Syllabus

HTML Syllabus

Day 1:

1. Introduction of HTML
2. HTML Building blocks
   - i. Tags
   - ii. Attributes
   - iii. Elements
3. HTML Formatting

Day 2:

4. Heading tags
   - i. H1-h6 tags
5. HTML Paragraph
6. HTML Phrase Tags
7. HTML Anchor

Day 3:

8. HTML Image
9. HTML Table
10. HTML Lists
    - i. Ordered List
    - ii. Unordered List

Day 4:

11. HTML Form
    - i. Attributes used for form tag
    - ii. Form elements (input tag, textarea..)
12. HTML File Path
13. Head tags
    - i. Link tag
    - ii. Meta tag
    - iii. Base tag
    - iv. Script tag
    - v. Style tag

vi. Title tag

Day 5:

14. HTML Comments
15. HTML Entities, Symbols
16. HTML Iframes

    i. Embed Youtube & Map

Day 6:

17. HTML Layout
    i. Header tag
    ii. Section tag
    iii. Aside tag
    iv. Article tag
    v. Details , summary tag
    vi. Footer tag
18. HTML Layout Techniques

Day 7 :

19. Computer code tags
20. Audio, Video
21. Project
22. Drag and Drop
23. Encoding URL
24. Handling of multiple file upload using multiple attribute
25. HTML Canvas

Day 8:

26. Geolocation API
27. Web Storage

CSS Syllabus

Day 9:

1. HTML with CSS
2. HTML Classes
3. HTML Id
4. CSS selectors

Day 10:

5. Creating Navigation Bars
6. CSS Image Sprites and Gradients

Day 11:

7. Applying animations, transitions to HTML elements
8. Creating 2D and 3D transformations
9. Media Query
10. Project for HTML,CSS

Bootstrap Syllabus

Day 12:

1. Bootstrap introduction
2. Bootstrap features like fixed dropdown menu, carousel, text and image grids, custom thumbnails, bootstrap modal

Day 13:

3. Bootstrap Scroll Spy, Including jQuery in HTML pages

Javascript Syllabus

Day 14:

4. JavaScript introduction including DOM
5. JS Operators

Day 15:

6. JS Array
7. JS Loops, Statements, Switch Case

Day 16:

8. JS Functions
9. JS Functions with Parameters
10. JS Event handlers

Day 17 :

11. JS Event Listeners
12. Date () Math()

Day 18:

13. Validations
14. Project for Bootstrap,JS
15. Strict Mode
16. Cookie

Day 19:

17. Event bubling
18. Closures

Day 20:

19. Prototype
20. Promises

Day 21:

21. Async/Await

JQuery Syllabus

Day 22-23:

1. Jquery Basics
   i. Introduction
   ii. Download Jquery
   iii. Syntax
   iv. Selectors
   v. Methods
   vi. Events

Day 24-25:

2. Jquery Effects
   i. Show/hide
   ii. Fade
   iii. Slide
   iv. Animation
   v. Stop
   vi. Chaining
   vii. Callback
   viii. Insert Elements

Day 26-27:

3. Jquery Remove
   i. empty()
   ii. remove()
   iii. unwrap()
4. Jquery Dimensions
   i. innerWidth()
   ii. innerHeight()
5. Jquery Traversing
   i. ancestors
   ii. descendants
   iii. siblings
   iv. filtering
6. Creating a Countdown timer using jQuery timer API(Task)

Day 28:

7. jQuery widgets
   - i. accordion widgets
   - ii. tooltip widgets
   - iii. tabs widgets
   - iv. menu widgets

Day 29-30:

8. Using jQuery UI components e.g. Date picker into your HTML pages
9. jQuery Mobile
   - i. CSS Framework
   - ii. Mobile Events
   - iii. Mobile widgets

Day 31-32:

10. Jquery Ajax
    - i. ajax()
    - ii. load()
    - iii. get()
    - iv. post()
11. Project for jQuery

Angular Syllabus

Day 33:

1. Angular Introduction
2. Environment Setup
   1. Angular installation
   2. Node js installation
   3. Typescript installation
   4. Visual Studio Code Editor installation
3. Create a Workspace

Day 34:

4. Typescript Introduction
5. Typescript Datatypes
6. Typescript Loops,Statements

Day 35:

7. Typescript Function types
8. Typescript Classes,Inheritance
9. Typescript Interface

Day 36:

10. Typescript Namespace
11. Typescript Modules

Day 37:

12. Angular Component and Component Communication
13. Angular Modules/Sub Modules

Day 38:

14. Angular Data Binding
    1. One-way
    2. Two-way

Day 39:

15. Angular Directives

i. Built-in directives
ii. Custom directives

Day 40:

16. Angular Pipes
    i. Built-in pipes
    ii. Chaining pipes
    iii. Custom pipes

Day 41:

17. Angular Routing
    i. Adding Navigation Programmatically
    ii. Passing RouteParameters
    iii. Extracting Parameters UsingActivatedRoute
    iv. Optional RouteParameters
    v. Child Routes
    vi. RouteGuards

Day 42:

18. Angular Services

i. Need for aservice
ii. DependencyInjection
iii. Creating a service
iv. Hierarchical Injector
v. Injecting A Service into Another Service
vi. Observables
vii. RxJS Library
viii. Angular's Interaction with Backend
ix. Parts of an HttpRequest
x. HttpClient

Day 43:

19. Angular Animation
    i. Animations Triggers and State

- ii. Switching between States
- iii. Transitions
- iv. Advanced Transitions
- v. Transition Phases
- vi. The void State

Day 44:

20. Angular Materials
    - i. FORM CONTROLS
    - ii. NAVIGATION
    - iii. LAYOUT
    - iv. BUTTONS AND INDICATORS
    - v. POPUPS AND MODALS

Day 45:

21. Angular Forms
    - i. Template-driven vs Reactive forms
    - ii. Template-driven forms with validations
    - iii. Reactive Forms with validations
        - a. FormArray in Reactive form(add fields dynamically)
    - iv. Dynamically adding data to a form
    - v. Bootstrap integration

Day 46:

22. Authentication using JWT
    - i. What isAuthentication?
    - ii. Authentication and authorization
    - iii. Types of Authentication
    - iv. Where to store tokens?
    - v. JSON Web Tokens(JWT)
    - vi. Authentication in Angular application
    - vii. Security threats in web application
23. Project for Angular
24. **Testing and application deployment**

Node.js Syllabus

Day 47:

1. Node.js Introduction
   1. What is Node.js?
   2. Why Node.js?
   3. Installing NodeJS
   4. Node in-built packages (buffer, fs, http, os, path, util,url)
   5. Node.js Modules
      - a. Local Modules
      - b. Export Modules
      - c.
   6. Import your ownPackage
   7. Node Package Manager(NPM)
   8. Local and GlobalPackages
   9. Push code to GitHub
2. Node.js Console and Basics

Day 48:

3. Node.js Http Server
   - i. JSON Data
   - ii. Http Server and Client
4. Node.js File System
   - i. Get Input fromUsers
   - ii. Pass Multiple Arguments withYargs
   - iii. File SystemModule
   - iv. Operations associated with File SystemModule

Day 49:

5. Node.js Events
   - i. Sending and receiving events with EventEmitters
6. ExpressJS and Web Application using ExpressJS
   - i. ExpressFramework
   - ii. Run a Web Server using ExpressFramework
   - iii. Routes

Day 50:

7. Asynchronous Programming
    - i. Call Stack
    - ii. Callbacks, Callback Queue and EventLoop
    - iii. CallbackAbstraction
    - iv. CallbackChaining
    - v. Promises
    - vi. Promise Chaining
    - vii. RequestPackage
    - viii. Customizing HTTP Requests
    - ix. Error handing with appropriate HTTPcodes
    - x. Introduction to template engine(EJS)

Day 51:

8. Node.js with MongoDB
    - i. Introduction to NoSQL Databases andMongoDB
    - ii. Installation of MongoDB onWindows
    - iii. Installation of Database GUIViewer
    - iv. InsertingDocuments
    - v. Querying, Updating and Deleting Documents
    - vi. Connect MongoDB and Node.jsApplication
    - vii. ExploringSendGrid
    - viii. Sending emails through Node.js application usingSendGrid

Day 52:

9. Node.js with SQL Server
10. REST APIs and GraphQL
    - i. RESTAPI
    - ii. REST API in Express
    - iii. Postman
    - iv. MongoDB DriverAPI
    - v. ExpressRouter
    - vi. Mongoose API
    - vii. GraphQL
    - viii. GraphQLPlayground

Day 53:

11. Building Node.js Applications using ES6
    - i. ES6 variables
    - ii. Functions withES6
    - iii. Import and ExportwithES6

iv. Async/Await
v. Introduction toBabel
vi. Rest API withES6
vii. Browsing HTTP Requests withFetch
viii. Processing QueryString
ix. Creating API usingES6
x. Transpilation
xi. Building DashboardAPI
xii. Creating dashboard UI withEJS
xiii. ES6 Aside: Default FunctionParameters
xiv. Data Validation andSanitization

Day 54:

12. User Authentication and Application
    i. Authentication
    ii. Types ofAuthentication
    iii. Session VsTokens
    iv. JSON WebTokens
    v. Bcrypt
    vi. Node-localstorage

Day 55:

13. Dynamic Client-Server Interaction using Socket.IO
    i. WebSockets
    ii. WebSockets
    iii. Socket.io
    iv. BroadcastingEvents
    v. Sharing YourLocation
    vi. EventAcknowledgements
    vii. Form and Button States
    viii. RenderingMessages
    ix. Working with Time and Timestamps for determining Location ofMessages
    x. Storing Users, Rendering User List, Tracking Users Joining andLeaving
    xi. Deploying the ChatApplication
    xii. Redis - Building API withRedis

Day 56:

14. Testing Node.js
    i. Writing Tests andAssertions
    ii. Testing AsynchronousCode
    iii. Testing an ExpressApplication
    iv. Setup andTeardown
    v. Testing withAuthentication
    vi. Advanced Assertions
    vii. MockingLibraries
    viii. Wrapping up UserTests
    ix. Setup Task TestSuite
    x. Testing with TaskData

Day 57:

15. Microservices
    i. WhyMicroservices?
    ii. What isMicroservices?
    iii. WhyDocker?
    iv. What isDocker?
    v. Terminologies inDocker
    vi. Child Processes
    vii. Types of child process

Mongodb Syllabus

Day 58:

1. Introduction to NoSQL Database
    i. What in NoSQL?
    ii. Difference between NoSQL and RDBMS
    iii. Benefits of NoSQL
2. Introduction & Overview of MongoDB
    i. Objectives
    ii. Design Goals.
    iii. The Mongo Shell
    iv. JSON Introduction
    v. JSON Structure
3. MongoDB Installation
    i. Installing Tools

- ii. Overview of Blog Project.
- iii. Swig, Express
- iv. Node Packaged Modules (npm)

Day 59:

4. CRUD Operation in MongoDB
   - i. CRUD (Creating, Reading & Updating Data) Mongo Shell
   - ii. Query Operators
   - iii. Update Operators and a Few Commands
5. Data Modeling
   - i. Schema Design Pattern
   - ii. Case Studies & Tradeoffs

Day 60:

6. Storage Classes
   - i. Automatic Storage Class
   - ii. Static Storage Class
   - iii. External Storage Class
   - iv. Register Storage Class
7. Indexing and Performance Considerations
   - i. Performance Using Indexes,
   - ii. Monitoring And Understanding Performance
   - iii. Performance In Sharded Environments.

Day 61:

8. Aggregation
   - i. Aggregation Framework Goals
   - ii. The Use Of The Pipeline
   - iii. Comparison With SQL Facilities.

Day 62:

9. MongoDB Replication
   - i. Application Engineering Drivers
   - ii. Impact Of Replication And Sharding On Design And Development.

Note: For completing the training in 62 working days we require to conduct UI/UX training for 4hrs every day.