

# Full Stack Course Syllabus

## HTML

- HTML Basics
- HTML Elements
- HTML Attributes
- HTML Tags
- HTML Forms
- HTML Tables
- HTML Links
- HTML Images
- HTML Lists
- HTML Semantic Elements
- HTML Multimedia (Audio/Video)
- HTML Iframes
- HTML Metadata
- HTML Headings
- HTML Comments

## CSS

- CSS Syntax
- CSS Selectors
- CSS Box Model
- CSS Positioning
- CSS Flexbox
- CSS Grid
- CSS Display Property
- CSS Colors and Backgrounds
- CSS Text Styling
- CSS Fonts
- CSS Transitions
- CSS Animations
- CSS Media Queries
- CSS Specificity
- CSS Z-Index
- CSS Pseudo-classes
- CSS Pseudo-elements
- CSS Borders and Margins
- CSS Padding

- CSS Responsiveness

## **JAVA SCRIPT**

- JavaScript Basics
- Variables and Data Types
- Operators
- Control Structures (if, switch, etc.)
- Functions
- Scope and Closures
- Objects
- Arrays
- Loops (for, while, etc.)
- DOM Manipulation
- Events
- Asynchronous JavaScript (Promises, async/await)
- Error Handling (try, catch)
- JavaScript Modules (import/export)
- JSON
- Regular Expressions
- Higher-Order Functions
- Event Delegation
- JavaScript Debugging Techniques

## **NodeJS**

- Node.js Basics
- Node.js Modules
- Asynchronous Programming (Callbacks, Promises, async/await)
- File System (fs module)
- Event Loop and Event Emitters
- Error Handling
- HTTP Module
- Node.js Package Manager (npm)
- Express.js Framework
- Middleware in Express
- Routing in Express
- RESTful APIs with Node.js and Express
- Template Engines (e.g., EJS, Pug)
- Authentication and Authorization (JWT, Passport.js)
- Environment Variables
- Working with Databases (MongoDB, MySQL, etc.)

- File Uploads in Node.js

## **Express.JS**

- Express.js Overview and Setup
- Routing in Express
- Middleware in Express
- Handling HTTP Requests (GET, POST, PUT, DELETE)
- Express.js Error Handling
- Express.js REST API Development
- Authentication and Session Management
- Working with Databases (MongoDB, SQL)
- File Handling and Static Files in Express
- Express.js Security Best Practices
- Express.js Debugging
- Deployment of Express Applications
- Express.js Request and Response Objects
- Query Parameters and URL Parameters
- Handling Forms in Express
- Express.js Testing and Debugging
- Error Handling and Custom Error Pages in Express

## **MongoDB**

- MongoDB Basics
- MongoDB Setup and Installation
- CRUD Operations
- MongoDB Querying
- Aggregation Framework
- Indexes in MongoDB
- MongoDB Data Types
- Schema Design
- Relationships in MongoDB
- MongoDB Transactions
- MongoDB Sharding
- MongoDB Replication
- Backup and Restore
- MongoDB Security
- MongoDB Aggregation Pipeline
- MongoDB Change Streams
- MongoDB Atlas
- MongoDB with Node.js (Mongoose)
- MongoDB Performance Tuning
- MongoDB Data Import and Export