

Full Stack Web Development with Node.js (MERN Stack) Course

Course Overview

The **Full Stack Web Development with Node.js (MERN Stack)** course is a comprehensive, industry-focused training program that teaches students to build modern, responsive, and scalable web applications from scratch. The course covers frontend development using **HTML5, CSS3, Bootstrap, Tailwind CSS, JavaScript, and React.js**, followed by backend development using **Node.js, Express.js, MongoDB, and REST APIs**. Students gain practical experience through live projects, assignments, GitHub portfolio development, and interview preparation to become job-ready Full Stack Developers.

Course Duration

- **Duration:** 8 Months
 - **Mode:** Online / Offline
 - **Projects:** 15+
 - **Assignments:** 150+
 - **Placement Assistance:** Yes
 - **Certificate:** Included
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Course Fee Structure

Course Module	Duration	Fee
Web Designing (HTML5, CSS3, Bootstrap & Tailwind CSS)	2.5 Months	₹7,500



Advanced JavaScript (Core JavaScript + Advanced JavaScript + ES6–ES10)	3 Months	₹4,000
React.js Development	2.5 Months	₹8,500
Backend Development with Node.js (Node.js, Express.js & MongoDB)	2.5 Months	₹8,500
Complete Full Stack Web Development (MERN Stack)	8 Months	₹28,500

Course Curriculum

Module 1: Web Designing

HTML5

- Introduction to HTML5
- HTML Document Structure
- Headings & Paragraphs
- Lists & Tables
- Hyperlinks
- Images & Multimedia
- Forms & Validation
- Semantic HTML
- Audio & Video
- SEO-Friendly HTML

CSS3

- CSS Syntax
- Selectors
- Colors & Backgrounds
- Typography
- Box Model
- Flexbox
- CSS Grid
- Positioning



- Transitions
- Responsive Design

Bootstrap 5

- Grid System
- Responsive Layout
- Navbar
- Cards
- Forms
- Buttons
- Carousel
- Modals
- Utilities

Tailwind CSS

- Utility Classes
 - Responsive Layout
 - Flexbox & Grid
 - Components
 - Landing Pages
 - Custom Styling
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Module 2: JavaScript Development

Core JavaScript

- Variables & Data Types
- Operators
- Conditions
- Loops
- Functions
- Arrays
- Objects
- DOM Manipulation
- Events
- Form Validation



Advanced JavaScript

- Execution Context
- Hoisting
- Scope
- Closures
- Higher Order Functions
- Callback Functions
- Prototype
- Object-Oriented JavaScript
- Error Handling
- Modules

ES6 to ES10

- let & const
 - Arrow Functions
 - Spread & Rest Operators
 - Classes
 - Promises
 - Async/Await
 - Fetch API
 - Maps & Sets
 - Array Methods
 - Object Methods
 - Array.flat()
 - Array.flatMap()
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Module 3: React.js Development

- React Introduction
- JSX
- Components
- Props
- State
- Event Handling
- Hooks
- React Router
- Forms
- Context API



- API Integration
 - CRUD Operations
 - Authentication
 - React Project Structure
 - Performance Optimization
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Module 4: Backend Development with Node.js

Node.js

- Node.js Fundamentals
- npm
- Modules
- File System
- Events
- Streams
- HTTP Module

Express.js

- Express Setup
- Routing
- Middleware
- MVC Architecture
- CRUD APIs
- Error Handling

MongoDB

- MongoDB Basics
- CRUD Operations
- Mongoose
- Schema Design
- Relationships
- Aggregation

REST API Development

- REST Architecture
- HTTP Methods



- API Development
- API Testing with Postman
- Pagination
- Filtering
- Search
- Documentation

Authentication

- JWT Authentication
 - bcrypt
 - User Login
 - Registration
 - Protected Routes
 - Role-Based Authorization
 - Password Reset
 - Email Verification
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Module 5: Version Control & Deployment

- Git
 - GitHub
 - Repository Management
 - Branching
 - Merge
 - Pull Requests
 - MongoDB Atlas
 - Render Deployment
 - Vercel Deployment
 - Environment Variables
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Live Projects

- Personal Portfolio Website
- Student Management System
- Employee Management System



- E-Commerce Website
 - Blog Management System
 - Food Ordering Application
 - Hospital Management System
 - Learning Management System (LMS)
 - Chat Application
 - Admin Dashboard
 - Final MERN Stack Project
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Technologies Covered

Frontend

- HTML5
- CSS3
- Bootstrap 5
- Tailwind CSS
- JavaScript
- ES6–ES10
- React.js

Backend

- Node.js
- Express.js

Database

- MongoDB
- Mongoose

Development Tools

- Visual Studio Code
- Git
- GitHub
- npm
- Postman
- MongoDB Compass



- Chrome DevTools
 - Render
 - Vercel
 - MongoDB Atlas
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Career Opportunities

After completing this course, you can apply for:

- MERN Stack Developer
 - Full Stack Web Developer
 - React.js Developer
 - Node.js Developer
 - Frontend Developer
 - Backend Developer
 - JavaScript Developer
 - Software Engineer
 - API Developer
 - Web Application Developer
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Certification

Students will receive:

- Full Stack Web Development (MERN Stack) Certificate
- Live Project Certificate
- Internship Certificate (*if applicable*)
- Placement Assistance & Interview Preparation Support