Full Stack Development with AI Program

Duration: 5 Months
Level: Beginner to Advanced
Mode: Online / Offline

Module 1: Web Development Foundations

Topics Covered

- How the Web Works
- HTML Fundamentals
- CSS Fundamentals & Styling
- Responsive Design Basics
- Semantic Markup
- Browser Developer Tools

Tasks Assigned

- Build a static HTML/CSS page
- Practice responsive layout techniques
- Convert a design into semantic markup
- Debug a page using browser dev tools

Session Outcome

Students can build clean, responsive static web pages using HTML and CSS.

Module 2: JavaScript Essentials

Topics Covered

- JavaScript Syntax & Variables
- Functions & Control Flow
- DOM Manipulation
- Events & Event Handling
- Working with Arrays & Objects
- Fetch & Basic Async Concepts

Tasks Assigned

- Build an interactive DOM-based mini project
- Practice event-driven programming exercises
- Fetch and display data from a sample API
- Build a small JavaScript utility

Session Outcome

Students can add interactivity to web pages using core JavaScript.

Module 3: Frontend Development with React

Topics Covered

- React Fundamentals & Components
- Props & State
- Component Composition
- Handling Forms & Events in React
- React Hooks Basics
- Building Multi-Page UIs

Tasks Assigned

- Build a component-based React mini app
- Practice props/state management exercises
- Build a form with validation in React
- Build a multi-page UI with navigation

Session Outcome

Students can build structured, component-based frontend applications using React.

Module 4: Backend Development with Node.js

Topics Covered

- Node.js & Express Basics
- Building REST APIs
- Routing & Middleware
- Request/Response Handling
- Environment Variables & Config
- API Testing Basics

Tasks Assigned

- Build a basic Express server
- Create a REST API with multiple endpoints
- Add middleware to an API project
- Test API endpoints using a tool like Postman

Session Outcome

Students can build and test functional backend APIs using Node.js and Express.

Module 5: Working with Databases

Topics Covered

- Relational vs Non-Relational Databases (Overview)
- Database Design Basics
- CRUD Operations
- Connecting a Backend to a Database
- Basic Queries & Data Modelling
- Data Validation Basics

Tasks Assigned

- Design a simple database schema
- Build CRUD operations for a sample app
- Connect an Express API to a database
- Validate incoming data in an API

Session Outcome

Students can design, connect and interact with a database from a backend application.

Module 6: Full Stack Integration

Topics Covered

- Connecting Frontend & Backend
- Authentication Basics (Login/Signup Flow)
- API Integration in React
- State Management Across an App
- Handling Errors Across the Stack
- Environment Setup for Full Stack Apps

Tasks Assigned

- Connect a React frontend to an Express backend
- Build a basic authentication flow
- Integrate API calls into a React app
- Handle and display errors across the app

Session Outcome

Students can build a working full stack application connecting frontend, backend and database.

Module 7: Deployment & AI-Assisted Development

Topics Covered

- Deploying a Full Stack Application
- Hosting Basics (Frontend & Backend)
- Using AI Coding Tools for Development
- AI-Assisted Debugging & Code Review
- Version Control with Git/GitHub
- Basic CI/CD Awareness

Tasks Assigned

- Deploy a full stack project to a hosting platform
- Use an AI coding tool to assist a development task
- Debug a project using AI-assisted suggestions
- Push a project to GitHub with proper version history

Session Outcome

Students can deploy a full stack project and use AI coding tools to work faster and more effectively.

Module 8: Portfolio Project & Career Growth

Topics Covered

- Planning a Portfolio Project
- Building & Documenting the Project
- Code Review & Refactoring
- Developer Portfolio & GitHub Profile
- Resume & Interview Preparation
- Freelancing & Job Search Basics

Tasks Assigned

- Plan and scope a portfolio project
- Build and deploy the final portfolio project
- Document the project (README, architecture notes)
- Prepare a resume and portfolio walkthrough

Session Outcome

Students graduate with a deployed, documented full stack project ready to show employers or clients.

Final Capstone Project

Students must complete:

- 1 Responsive Multi-Page Frontend
- 1 REST API Backend
- 1 Database-Backed Feature
- 1 Deployed Full Stack Application
- Portfolio Presentation

Enrol Now

Ready to build your career in Full Stack Development with AI? Join a practical, agency-based training programme with real projects, portfolio development and placement support at 100X Digital Academy.

47, 2nd St, Cross Cut, Gandhipuram, Coimbatore – 641012

93442 55078

Seats are limited each batch — get in touch to enrol.