

Full Stack Web Development (Java + React) - 3 Month Syllabus

This course is designed for absolute beginners who want to become proficient in full stack web development using Java (Spring Boot) and React. The course will follow a practical, project-based approach with the final goal of building a basic eCommerce web application. Sessions will be conducted 3 times a week, each lasting approximately 1 hour, over a span of 3 months.

Laptop Requirements

OS: Windows 10/11

RAM: Minimum 8 GB (16 GB recommended)

Processor: Intel i5 or equivalent and above

Storage: 100 GB free space (for IDEs, tools, databases, etc.)

Software: IntelliJ IDEA (Early Access), Git, MySQL, Postman, Chrome/Firefox

Weekly Plan (Beginner to Intermediate)

Week 1-2

- - Introduction to Web Development
- - Basic Computer & Programming Concepts
- - HTML: Structure, Elements, Forms
- - CSS: Styling, Flexbox, Grid
- - JavaScript: Variables, Loops, Functions, Events

Week 3-4

- - JavaScript: DOM Manipulation, Fetch API
- - Intro to Git and GitHub
- - Java: Variables, Data Types, Loops, Functions
- - Object-Oriented Programming (OOP) Basics in Java
- - Simple console applications in Java

Week 5-6

- - Java: OOP Continued - Inheritance, Polymorphism, Interfaces
- - Java: Exception Handling, File I/O
- - Intro to Maven and IntelliJ IDEA
- - MySQL Basics: Tables, Queries, Joins
- - JDBC and MySQL Connection

Week 7-8

- - Spring Boot: Introduction and Setup
- - REST API Development in Spring Boot
- - CRUD Operations with MySQL
- - Postman for API Testing

- - Building Backend for eCommerce: Products API

Week 9-10

- - React Basics: Components, Props, State
- - React Events, Forms, Conditional Rendering
- - React with API (Axios/Fetch)
- - Build Product Listing and Detail Page in React
- - Integrate Backend APIs with React

Week 11-12

- - User Authentication (basic JWT or session-based)
- - Cart Management and Checkout Flow
- - Free API Integration .
- - Final Project Completion & Testing
- - Review, Q&A, and Final Quiz/Assessment

Assessments and Quizzes

- Short quizzes at the end of each phase (HTML/CSS/JS, Core Java, Backend, React)
- Hands-on mini tasks and coding assignments
- Final assessment through project demonstration
- Code review and feedback sessions