

Enhanced MERN Syllabus with Advanced Features

1. INTRO TO WEB DEVELOPMENT/ COURSE INTRO

- i. What is web development?
- ii. How websites work?
- iii. Advantages of learning web development
- iv. Modern web development landscape
- v. Course and Projects Overview

2. HTML – PART 1

- i. HTML5 Semantic Elements
- ii. Structure of Webpage
- iii. Modern HTML Tags
- iv. Forms and Validation
- v. Accessibility Basics

3. CSS – PART 1

- i. CSS3 Features
- ii. Flexbox
- iii. Grid
- iv. Variables and Custom Properties
- v. Project 1 - Portfolio Page

4. ADVANCED CSS

- i. Animations and Transitions
- ii. Transformations
- iii. Responsive Design Principles
- iv. CSS Methodologies (BEM)
- v. Project 2 - E-commerce Product Page

5. BOOTSTRAP & TAILWIND

- i. Bootstrap 5 Components

- ii. Tailwind CSS Fundamentals
- iii. Utility-first Approach
- iv. Project 3 - Admin Dashboard UI

6. JAVASCRIPT – PART 1

- i. ES6+ Features
- ii. Modules
- iii. Async/Await
- iv. Project 4 - Weather App

7. JAVASCRIPT – PART 2

- i. TypeScript Fundamentals
- ii. Interfaces and Types
- iii. Generics
- iv. Project 5 - Task Manager with TypeScript

8. REACT – PART 1

- i. React Hooks
- ii. Functional Components
- iii. Context API
- iv. Project 6 - Movie Search App

9. REACT – PART 2

- i. Material-UI (MUI)
- ii. Styled Components
- iii. Advanced State Management
- iv. Project 7 - Social Media Feed

10. REACT – PART 3

- i. React Router v6
- ii. Lazy Loading

- iii. Error Boundaries
- iv. Project 8 - E-commerce Store Front

11. REACT – PART 4

- i. Redux Toolkit
- ii. RTK Query
- iii. Performance Optimization
- iv. Project 9 - Blog Platform with CMS

12. NODE.JS – PART 1

- i. Express.js
- ii. REST API Design
- iii. Middleware
- iv. Project 10 - Bookstore API

13. NODE.JS – PART 2

- i. Authentication (JWT, OAuth)
- ii. Rate Limiting
- iii. Security Best Practices
- iv. Project 11 - Auth Microservice

14. DATABASE – PART 1

- i. MongoDB with Mongoose
- ii. Data Modeling
- iii. Aggregation
- iv. Project 12 - Analytics Dashboard

15. DATABASE – PART 2

- i. Transactions
- ii. Indexing
- iii. Performance Optimization

iv. Project 13 - Inventory Management

16. TESTING

i. Jest

ii. React Testing Library

iii. Supertest

iv. Project 14 - Test Suite Implementation

17. DEPLOYMENT & DEVOPS

i. Docker

ii. CI/CD Pipelines

iii. AWS Basics

iv. Project 15 - Full Deployment Pipeline

18. ADVANCED TOPICS

i. WebSockets

ii. GraphQL

iii. Microservices

iv. Project 16 - Real-time Chat Application

19. MAJOR PROJECTS

i. Project 17 - Full-stack E-commerce Platform

ii. Project 18 - SaaS Application

iii. Project 19 - Social Network

iv. Project 20 - Custom CMS

20. CAREER PREP

i. Code Reviews

ii. System Design

iii. Interview Preparation

iv. Open Source Contribution