

Here's the **complete, advanced MERN Stack syllabus** formatted cleanly for direct pasting into Google Docs. It includes all three durations (1-month, 2-month, 3-month), structured week-wise, along with tools covered and pricing.

MERN Stack Developer Training - Full Syllabus

1-Month Intensive Program (Job-Ready Crash Course)

Month 1: Core Mastery

Week 1:

- JavaScript Patterns & ES6+ Features
- Git & GitHub Best Practices (branching, PRs, collaboration)
- Intro to React, JSX, Components & Props

Week 2:

- React Hooks: `useState`, `useEffect`, `useContext`
- React Routing (v6) & Protected Routes
- Forms with Formik + Yup Validation

Week 3:

- Node.js Fundamentals (Modules, Events, File System)
- Express.js: Routing, Middleware, Error Handling
- JWT Authentication with Refresh Tokens

Week 4:

- Role-Based Access Control (RBAC)

- OTP Email Auth using Nodemailer
 - Fullstack Integration (API → React)
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2-Month Complete Developer Program (Freelancer Level)

Month 1: Core Mastery (*Same as 1-Month*)

Week 1 to Week 4: Refer to 1-Month Syllabus

Month 2: Real-World Integration

Week 5:

- MongoDB Advanced: Relationships, Aggregation Pipeline
- Mongoose Virtuals, Population, Indexing, Query Optimization

Week 6:

- TailwindCSS + UI Libraries (ShadCN / Material UI)
- Building Dashboards for Admin & Users
- LocalStorage, SessionStorage, Cookies

Week 7:

- Razorpay / Stripe Payment Integration
- Generating Invoice PDFs & Order Summary
- Email Notifications with Templates

Week 8:

- Hosting Backend on Render
- Hosting Frontend on Vercel / Netlify

- Project 1: Blog CMS
 - Project 2: E-commerce App (Basic Checkout + Cart)
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3-Month Pro Developer Program (Internship + Job Ready)

Month 1: Core Mastery (*Same as 1-Month*)

Week 1 to Week 4: Refer to 1-Month Syllabus

Month 2: Real-World Integration (*Same as 2-Month*)

Week 5 to Week 8: Refer to Month 2 of 2-Month Program

Month 3: DevOps + Final Projects

Week 9:

- WebSockets with Socket.IO (Chat & Notification System)
- Event-driven Architecture & Realtime Updates

Week 10:

- Performance Optimization in React & Node.js
- DevOps Basics: CI/CD using GitHub Actions

Week 11:

- Fullstack Deployment with Env Variables
- SEO Best Practices in React (React Helmet)

Week 12:

- Final Project 1: Social Media Platform
- Final Project 2: E-commerce Fullstack

- Final Project 3: Freelance Services Marketplace

Tools & Technologies Covered

- **Frontend:** React, React Router, TailwindCSS, ShadCN/MUI, Formik, Axios
- **Backend:** Node.js, Express.js, JWT, Nodemailer, Socket.IO
- **Database:** MongoDB, Mongoose
- **DevOps:** GitHub, Render, Vercel, GitHub Actions
- **Payments:** Razorpay / Stripe
- **Project Tools:** Postman, VS Code, Canva, Figma, Notion

Pricing Structure

Duration	Price (INR)	Original Price (INR)
1 Month	₹7,000	₹12,000
2 Months	₹14,000	₹24,000
3 Months	₹21,000	₹36,000

Month-wise Learning Outcomes – MERN Stack Development

Month 1 – JavaScript & Backend Foundations

- Master **modern JavaScript (ES6+)** fundamentals: let/const, arrow functions, destructuring, spread/rest

- DOM manipulation and event-driven programming
- Understand **Node.js environment** and npm/yarn basics
- Build and run a basic server using **Express.js**
- Learn RESTful APIs: routes, parameters, status codes
- Introduction to **MongoDB** and basic CRUD using Mongo shell

✓ Projects:

- Express.js API for notes/tasks
 - RESTful routes for a product catalog
 - MongoDB CRUD console app
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◆ Month 2 – Full-Stack Integration & Authentication

- Deep dive into **Express.js** middleware, routing, and error handling
- Work with **Mongoose** ODM to model and validate MongoDB data
- Implement secure **JWT-based authentication**
- Role-based access control (admin/user)
- Connect **frontend clients to Express APIs**
- Upload and serve static files (images, PDFs)

✓ Projects:

- Auth-based backend with protected routes
- Task Manager API (CRUD + Auth)
- Image upload API with file storage

◆ Month 3 – Advanced MERN Stack & Capstone

- Setup full-stack MERN architecture (React + Express + MongoDB)
- Integrate frontend with backend using **Axios**
- Use **dotenv**, **CORS**, and environment config
- Optimize performance and use **async/await** with error handling
- Deploy **MERN apps on Render/Vercel/Railway**
- Understand CI/CD basics and testing with Postman

✓ Capstone Projects:

- Full-stack Job Board or Student Portal
- Admin Dashboard with login and CRUD
- Deployable SaaS MVP with custom domain

🌐 MERN Stack Development Training

🎯 Target Audience

- Intermediate developers wanting full-stack skills
- Backend enthusiasts looking to learn MongoDB, Node.js
- College final-year students working on full-stack projects
- Startups/Freelancers building production-ready web apps

💡 Why Choose Us?

- Full-stack architecture breakdown: MVC, REST, Mongoose

- Covers authentication, APIs, and deployment
- Cloud database integration (MongoDB Atlas)
- Hands-on projects + GitHub push with documentation
- Industry-style code structure & environment setup

Project Categories

- Full-Stack Blog App (CRUD)
- Authentication System (JWT/Passport.js)
- Project/Task Management Tool
- Chat App with Socket.IO
- E-commerce Platform with Cart & Checkout
- Resume Builder Web App (PDF Export)