FYP Solutions

2 Month MERN Stack

Developer Course Plan

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5 Days a Week · 8 Weeks · HTML to a Deployed MERN Website

MERN STACK COURSE

2Month Roadmap • Table of Contents

DURATION	DAILY CLASS	PREREQUISITES	STACK
8 Weeks	**23 Hours**	**None Required**	**MERN + Git/GitHub**

MONTH 1 FRONTEND FOUNDATIONS

WEEK	TOPIC
Week 1	**Web Basics + Git**
Week 2	**JavaScript Core**
Week 3	**Modern JS + React Intro**
Week 4	**React Deep Dive**

MONTH 2 BACKEND + FULLSTACK INTEGRATION

WEEK	TOPIC
Week 5	**Node.js + Express**
Week 6	**MongoDB + Mongoose**
Week 7	**Full MERN Integration**
Week 8	**Capstone + Deployment**

SUGGESTED CAPSTONE OPTIONS

Project	Core Features
Task Manager	CRUD tasks, auth, duedate filtering
Blog Platform	Posts, comments, auth, image upload
Job Board	Job listings, search/filter, applications
Ecommerce Cart	Product catalog, cart, checkout flow, auth

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Overview

- **Duration:** 8 weeks (2 months), Monday–Friday
- **Daily class:** 2–3 hours (1 hour theory + 1–2 hours handson coding)
- **Prerequisites:** Basic computer literacy; no prior coding required
- **Stack covered:** MongoDB, Express.js, React, Node.js (MERN), plus Git/GitHub and deployment
- **Structure:** Weeks 1–4 build the frontend foundation, Weeks 5–7 cover the backend and fullstack integration, Week 8 is a capstone project
- **Tools needed:** VS Code, Node.js (LTS), MongoDB Atlas account, GitHub account, Postman

Month 1 Frontend Foundations

Week 1: Web Basics + Git

- **Day 1:** HTML5 structure, semantic tags, forms
- **Day 2:** CSS3 box model, flexbox, positioning
- **Day 3:** CSS Grid, responsive design, media queries
- **Day 4:** Git & GitHub init, commit, branch, push, pull, merge conflicts
- **Day 5:** Mini project build and deploy a static portfolio page (GitHub Pages)

Week 2: JavaScript Core

- **Day 1:** Variables, data types, operators, control flow
- **Day 2:** Functions, scope, closures
- **Day 3:** Arrays and objects, array methods (map, filter, reduce)
- **Day 4:** DOM manipulation, event handling
- **Day 5:** Mini project interactive todo list (vanilla JS)

Week 3: Modern JavaScript + React Intro

- **Day 1:** ES6+ arrow functions, destructuring, spread/rest, template literals
- **Day 2:** Promises, async/await, fetch API
- **Day 3:** Intro to React JSX, components, props
- **Day 4:** State and hooks (useState, useEffect)
- **Day 5:** Mini project weather app using a public API

Week 4: React Deep Dive

- **Day 1:** Conditional rendering, lists and keys
- **Day 2:** Forms and controlled components

- **Day 3:** React Router multipage navigation
- **Day 4:** Context API, lifting state up
- **Day 5:** Project multipage React app (e.g., recipe finder)

Month 2 Backend + FullStack Integration

Week 5: Node.js + Express

- **Day 1:** Node.js fundamentals, npm, modules
- **Day 2:** Express basics routes, middleware
- **Day 3:** REST API design, CRUD endpoints
- **Day 4:** Error handling, environment variables, CORS
- **Day 5:** Project build a REST API for a bookstore (inmemory data)

Week 6: MongoDB + Mongoose

- **Day 1:** MongoDB basics collections, documents, CRUD in Atlas
- **Day 2:** Mongoose schemas, models, validation
- **Day 3:** Relationships (embedding vs referencing), population
- **Day 4:** Connecting Express to MongoDB, testing with Postman
- **Day 5:** Project rebuild the bookstore API with a real database

Week 7: Full MERN Integration

- **Day 1:** Connecting React frontend to Express backend (fetch/axios)
- **Day 2:** Authentication basics JWT, bcrypt, protected routes
- **Day 3:** File uploads, image handling (Multer/Cloudinary)
- **Day 4:** State management at scale (Context or Redux Toolkit intro)
- **Day 5:** Start capstone project plan and scaffold

Week 8: Capstone Project + Deployment

- **Days 1–3:** Build capstone (task manager, blog platform, ecommerce cart, or job board)
- **Day 4:** Deployment frontend on Vercel/Netlify, backend on Render/Railway, MongoDB Atlas in production
- **Day 5:** Final presentations, code review, resume/portfolio tips

Assessment

- Weekly miniproject submitted via GitHub
- Graded checkpoint projects at the end of Weeks 4 and 8
- Capstone rubric covering functionality, code structure, git history, and deployment