**📚 MERN Stack (with MySQL) – Full Course Outline**

**✅ Chapter 1: Introduction to Frontend**

✅ HTML, CSS, Media Query & Bootstrap  
✅ *[Already done]*

**🔥 Chapter 2: JavaScript Essentials**

**Goal:** Learn how to add logic and interactivity to web pages  
**Topics:**

* What is JavaScript?
* Variables, data types, and operators
* Functions
* Conditions (if, else)
* Loops (for, while)
* Arrays & objects
* DOM manipulation
* Simple JS Projects

**⚛️ Chapter 3: React.js — Modern Frontend**

**Goal:** Build dynamic single-page applications  
**Topics:**

* What is React?
* Create React App
* Components & Props
* useState & useEffect
* Forms in React
* React Router
* Fetching data with fetch() or axios

**⚙️ Chapter 4: Node.js & Express.js — Backend Basics**

**Goal:** Create backend APIs and connect to MySQL  
**Topics:**

* What is Node.js?
* What is Express.js?
* Create API routes (GET, POST)
* Middlewares
* Connecting to MySQL with mysql2 or sequelize
* Sending data from frontend to backend

**🛢 Chapter 5: MySQL — The Database**

**Goal:** Store and manage data in a relational database  
**Topics:**

* Creating tables
* Writing SQL: SELECT, INSERT, UPDATE, DELETE
* Connecting MySQL to Express
* Handling queries in JavaScript
* Displaying data in React from MySQL

**🔐 Chapter 6: User Authentication**

**Goal:** Add login, register, and protect routes  
**Topics:**

* Sign up & login forms
* Hashing passwords with bcrypt
* Creating JWT tokens
* Protecting frontend and backend routes

**🌐 Chapter 7: Connecting Everything (Full Stack)**

**Goal:** Make React + Node + MySQL work together  
**Topics:**

* Frontend sends form data to backend
* Backend saves data to MySQL
* React fetches data from API and displays it
* Using .env for secrets and URLs

**🚀 Chapter 8: Hosting & Deployment**

**Goal:** Make your website live online  
**Topics:**

* Hosting React on Vercel/Netlify
* Hosting backend on Render/Railway
* Free MySQL hosting (like PlanetScale)
* CORS issues & solutions
* Final touches before launch