Prerequisites:

1. Basic knowledge of HTML, CSS, and JavaScript.
2. Familiarity with Git and version control concepts.

Curriculum:

1. **Introduction to Web Development and MERN:**
   - Overview of the MERN stack and its components.
   - Setting up a development environment (Node.js and npm installation).
   - Creating a simple "Hello World" application using Node.js and Express.js.
2. **Backend Development with Node.js and Express.js:**
   - Understanding the basics of Node.js and Express.js.
   - Creating RESTful APIs using Express.js.
   - Connecting to MongoDB database using the Mongoose library.
   - Implementing CRUD operations (Create, Read, Update, Delete) with MongoDB.
3. **Frontend Development with React:**
   - Introduction to React and its core concepts (components, state, props).
   - Creating a basic React application with JSX.
   - Managing application state with React Hooks (useState, useEffect, etc.).
   - Handling user input and forms in React.
   - Styling React components with CSS.
4. **Full-Stack Integration:**
   - Integrating the backend (Express.js) with the frontend (React) to create a full-stack application.
   - Consuming backend APIs in the frontend using Axios or Fetch API.
5. **Authentication and Authorization:**
   - Implementing user authentication and registration using JWT (JSON Web Tokens).
   - Securing routes and resources based on user roles and permissions.
6. **State Management with Redux (Optional):**
   - Introduction to Redux and its principles.
   - Implementing Redux in a MERN stack application for better state management.
7. **Deployment and Hosting:**
   - Preparing the application for production deployment.
   - Deploying the application to cloud platforms like Heroku, AWS, or Netlify.
8. **Advanced Topics (Optional):**
   - Real-time communication with Socket.IO or WebSockets.

- Implementing server-side rendering (SSR) with React and Node.js.
- Performance optimization techniques for MERN applications.