

Full Curriculum for Frontend and Backend Development (Job-Oriented)

Frontend Development Curriculum

1. HTML

- Tags, Elements, Attributes
- Forms, Tables, Semantic HTML, Accessibility

2. CSS

- Box Model, Selectors, Positioning
- Flexbox, Grid, Responsive Design
- Animations and Transitions

3. JavaScript

- Syntax, Variables, Functions, Loops
- DOM Manipulation, Events, ES6+ Features
- Fetch API, Promises, Async/Await

4. Version Control

- Git Basics: init, add, commit, push, pull
- GitHub Collaboration

5. Package Managers & Build Tools

- npm/yarn
- Webpack/Babel basics

6. React.js

- JSX, Components, Props, State, Hooks
- React Router, Context API
- Redux Basics (Optional)
- API Integration with React

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7. UI Libraries and Tools

- Tailwind CSS / Bootstrap
- Figma to HTML

8. Testing

- React Testing Library / Jest (basic)

9. Deployment

- Netlify / Vercel / GitHub Pages

10. Projects

- Portfolio Website, ToDo App, Blog, Weather App (API-based)

Backend Development Curriculum

1. Node.js

- Node & npm setup
- Core Modules, File System, Events

2. Express.js

- REST API Basics (GET, POST, PUT, DELETE)
- Middleware, Routing, Error Handling

3. Database

- MongoDB (CRUD operations, Mongoose)
- OR SQL (MySQL / PostgreSQL) Basics

4. Authentication & Authorization

- JWT, Sessions, Cookies

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5. API Integration & Testing

- Postman, API routes, Third-party APIs

6. Deployment

- Render / Railway / Vercel with Backend

7. DevOps (Basics)

- Environment Variables
- Logging & Monitoring

8. Security Best Practices

- Helmet, Rate Limiting, CORS

9. Real-Time Communication (Optional)

- Socket.io for Chat Apps

10. Projects

- RESTful Blog API, Auth System, Task Manager API, Full-stack app (MERN)