

Full Stack

1. Frontend Development

HTML

HTML5 structure and semantics

Forms and validations

Audio & video embedding

Semantic elements

✦ CSS

CSS3 & responsive design

Flexbox & Grid

Media queries

Animations and transitions

✦ JavaScript (ES6+)

Data types, loops, and functions

DOM Manipulation

Event handling

Fetch API

Promises, async/await

✦ Advanced JS & Tooling

Closures, Hoisting, Scope

Arrow functions, Destructuring

Webpack / Parcel basics

Babel

✦ Frontend Framework – React.js

Components, Props, State

React Hooks (useState, useEffect, etc.)

React Router

Context API & Redux (or Zustand)

Forms and validations (Formik/Yup)

2. Version Control

Git & GitHub

Full Stack

Branching, Merging
Pull Requests & Code Reviews



3. Backend Development

Node.js
Core modules (fs, path, http)
Event Loop, Streams
Express.js
Routing
Middleware
RESTful APIs
Error handling
Authentication & Security
JWT, OAuth
bcrypt hashing
Helmet, CORS, Rate Limiting



4. Database Management

SQL (MySQL or PostgreSQL)
CRUD operations
Joins, Subqueries, Indexes
Stored Procedures
NoSQL (MongoDB)
CRUD operations
Aggregation
Mongoose ORM



5. API Integration & Tools

RESTful APIs (GET, POST, PUT, DELETE)
Postman
WebSockets (for real-time apps)