

## 15 Days (Introduction to MERN Stack)

### *Objective:*

- Familiarize participants with the MERN stack and basic web development concepts.

### *Syllabus:*

1. **Day 1-2:** Introduction
  - a. Overview of MERN stack and career opportunities.
  - b. Setting up development environments (VS Code, Node.js, MongoDB).
2. **Day 3-5:** HTML, CSS, JavaScript Basics
  - a. HTML5 structure and elements.
  - b. CSS3 styling basics, responsive design.
  - c. JavaScript fundamentals (variables, loops, DOM).
3. **Day 6-8:** Git and GitHub
  - a. Version control basics.
  - b. Creating repositories, pushing changes, and collaboration.
4. **Day 9-12:** Introduction to Node.js
  - a. Basics of Node.js.
  - b. Package management with npm.
5. **Day 13-15:** Introduction to MongoDB
  - a. NoSQL vs. SQL databases.
  - b. Basics of MongoDB, CRUD operations.

## 30 Days (Beginner-Level MERN Development)

### *Objective:*

- Build foundational knowledge of the MERN stack.

### *Syllabus:*

1. **Week 1-2:** Frontend Development
  - a. Deep dive into HTML, CSS, and JavaScript.
  - b. Bootstrap and responsive design.
2. **Week 3:** React Basics
  - a. Introduction to React.js and JSX.
  - b. Functional components, state, and props.
3. **Week 4:** Backend Basics

- a. RESTful APIs with Express.js and Node.js.
- b. Basic routing and middleware.

## 45 Days (Intermediate-Level MERN Development)

### *Objective:*

- Develop interactive full-stack applications.

### *Syllabus:*

1. **Week 1-2:** Advanced React.js
  - a. React Hooks and Context API.
  - b. Component lifecycle methods.
2. **Week 3:** Advanced Node.js and Express.js
  - a. Middleware, authentication, and authorization (JWT).
  - b. API development and error handling.
3. **Week 4:** MongoDB
  - a. Aggregations, indexing, and relationships.
  - b. Connecting MongoDB to Node.js.
4. **Week 5:** Full-Stack Basics
  - a. Create a simple MERN application (Frontend + Backend).
  - b. Deployment basics (Netlify, Heroku).