Mearn Stack Developer Program Roadmap (24 Weeks)

Milestone 1: Week 1-4

Web Foundation
Lay the groundwork of web development by mastering HTML, CSS, and basic JavaScript. Build beautiful, structured, and responsive pages from scratch.
- 9 Live Sessions
- 9 Projects
- 8 Assignments
- 9 Quizzes

Week 1:
Getting Started with HTML & CSS
- Introduction to HTML
- Basic HTML Tags
- Introduction to CSS
- CSS Selectors
- Layout Division

Week 2:
CSS Properties & Design
- Box Model
- HTML Forms
- CSS Units (px, rem, em)
- Shadows & Border Radius
- Flexbox
- Pseudo Selectors

Week 3:
CSS3 & Animations
- Position Properties (Absolute, Relative)
- CSS3 Features
- Vendor Prefixes
- Transform (Scale, Rotate)
- CSS Animation & Variables

Milestone 2: Week 5-9

Core Frontend Development
Deepen your skills in responsive design, JavaScript, and frontend frameworks like React and Angular. Convert Figma designs into code.
- 15 Live Sessions
- 5 Projects
- 11 Assignments
- 5 Quizzes

Week 4:
Design to Code & JavaScript Basics
- CSS Grid & Columns
- Figma to HTML
- HTML5 Overview
- Media Queries & Responsive Design
- JavaScript Operators & Conditions

Week 5:
JavaScript Fundamentals
- Loops & Patterns
- Arrays & Array Functions (map, reduce)
- Functions & Closures

Week 6:
DOM & Browser Interaction
- DOM Manipulation
- Event Handling
- Style Changes & Propagation

Week 7:
Advanced Browser Features
- Traversing DOM
- Date & JSON Handling
- Local Storage & Promises
- Exception Handling
- Intro to GSAP Animations

Week 8:
Rapid UI & JS Advanced Concepts
- Bootstrap Layout & Utilities
- Arrow Functions & Destructuring
- Responsive Project: Landing Page, Calculators, API Apps, Clone Websites

Milestone 3: Week 10-13

Modern Frontend with React & Next.js
Build dynamic, real-world React applications, learn styling, API handling, Redux, and Next.js SSR for optimized performance.
- 12 Live Sessions
- 4 Projects
- 3 Assignments
- 4 Quizzes

Week 9:
React Fundamentals
- Intro to React
- Components & Props
- Hooks & State
- Conditional Rendering

Week 10:
Styling & APIs
- Styled Components & Libraries
- Form Handling & Validation
- API Fetching & Lifecycle
- React Router DOM

Week 11:
E-Commerce with React
- Building eCommerce Pages
- Context API & Redux Toolkit
- Cart & State Management

Week 12:
Next.js Deep Dive
- SSR & Routing
- API Fetching with Next.js
- Mini eCommerce App

Milestone 4: Week 14-15

Python Programming
Develop core programming logic, functions, and OOP in Python. Build projects like booking systems and AI-powered banking systems.
- 6 Live Sessions
- 2 Projects
- 2 Assignments
- 2 Quizzes

Week 13:
Python Basics
- Introduction & Operators
- Loops, Data Structures

Week 14:
OOP & Projects
- Functions & Classes
- Inheritance & Encapsulation
- Bookings & Banking System Projects

Milestone 5: Week 16-19

Data Structures & Algorithms (DSA)
Master arrays, strings, recursion, trees, graphs, and advanced algorithms. Develop problem-solving skills with live coding challenges.
- 12 Live Sessions
- 4 Projects
- 4 Assignments
- 4 Quizzes
- Array & String Handling
- Recursion & Backtracking
- Trees & Graphs
- Sorting & Dynamic Programming

Projects:
- Ticket booking CLI
- Word frequency counter
- Sports score ranking
- BST contact manager

Milestone 6: Week 20-24

Backend Development with Node.js, Express & MongoDB
Build scalable APIs, admin panels, and eCommerce features with Node.js and MongoDB. Deploy on cloud platforms and integrate payment systems.
- 15 Live Sessions
- 5 Projects
- 7 Assignments
- 5 Quizzes

Week 19:
Node.js & MongoDB Basics