Jimma American Corner 6 Month Training Program

Become a Full-Stack Web Developer Curriculum

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Introduction

After this training participants will get the skills to work with both back-end and front-end technologies as a full-stack developer. they'll build engaging, interactive user experiences on the web as a front-end web developer. They'll learn to develop a solid foundation for working with servers and host configurations, performing database integrations, and creating dynamic, data-driven websites. And they will learn everything they need to design and develop user-facing code, and discover how to bring concepts to life on the browser canvas by combining essential graphic design and coding principles.

This course is for anyone interested in, planning to learn, or already learning web development. This syllabus covers the fundamentals. Web development can get much more complicated than this. The additional skills and knowledge you need will vary for each project / job.

This syllabus is divided into 2 part's and 14 sections. Each one covers a major component of web development and the fundamental topics our participant's should learn. Each topic is accompanied by detailed topics, timeline and practicing opportunities.

Our full-stack developer course syllabus has the following modules:

Front-End Design and Development

Total (Estimated time: 11 week)

1. Overview - (1 week)

- Discuss about overall the training including:-
- Front-end is the visual and interactive aspects of a website. Participants will learn HTML, CSS and JavaScript to master front-end web development.
- Back-end is all the logic behind the scenes that supports our website: databases, user management, etc. Our participant will need to learn any one of the following back-end languages and frameworks:

2. User Experience - (1 week)

- User Research Methods
- Design Sketching
- Design Validation
- Accessibility
- Confidentiality

3. Figma Design Tool - (2 weeks)

- Getting started
- What is graphic design?
- Design thinking & ethics
- Accessibility and inclusion
- Design research
- Content
- Storytelling
- Simplicity
- Consistency
- Constraints
- Hierarchy
- Typography

Will be given practice project for all participants

Q&A Session to review there practice and assignment (1 week)

4. HTML (1 week)

- Introduction to HTML
- Browsers and HTML
- Editor's Offline and Online
- Tags, Attribute and Elements
- Doctype Element
- Comments
- Headings, Paragraphs, and Formatting Text

- Lists and Links
- Images and Tables

5. CSS (1 week)

- Introduction CSS
- Applying CSS to HTML
- Selectors, Properties and Values
- CSS Colors and Backgrounds
- CSS Box Model
- CSS Margins, Padding, and Borders
- CSS Text and Font Properties
- CSS General Topics

Will be given practice project for all participants

Q&A Session to review there practice and assignment (1 week)

6. Version control system with GitHub (1 week)

- Introduction to Git
- Getting Started With Git And Its Architecture
- Welcome to GitHub
- GitHub Repositories
- GitHub Repositories Branches

- Branching and Merging
- Git Methodology
- GitHub Issues
- Integrating GitHub with VS Code

7. Programming with Javascript (2 week)

- Introduction to JavaScript
- Applying JavaScript (internal and external)
- Understanding JS Syntax
- Introduction to Document and Window Object
- Variables and Operators
- Data Types and Num Type Conversion
- Math and String Manipulation
- Objects and Arrays
- Date and Time
- Conditional Statements
- Switch Case
- Looping in JS
- Functions

8. Responsive Layout with BootStrap (2 week)

- Installation
- Responsive grid system
- Bootstrap's style standards

- Responsive CSS
- Responsive development with browser devTools
- Responsive website clone
- Z dimension
- Transform
- Transition
- Animation
- Flexbox

Will be given practice project for all participants

Q&A Session to review there practice and assignment (1 week)

Back-End Development (MERN Stack)

Total (Estimated time: 11 week)

9.ReactJS Development (2 week)

- Introduction
- Templating using JSX
- Components, State and Props
- Lifecycle of Components
- Rendering List and Portals
- Error Handling

- Routers
- Redux and Redux Saga
- Immutable.js
- Service Side Rendering
- Unit Testing
- Webpack

10. NodeJS Development (2 week)

- Node js Overview
- Node js - Basics and Setup
- Node js Console
- Node js Command Utilities
- Node js Modules
- Node js Concepts
- Node js Events
- Node js with Express js
- Node js Database Access

Will be given practice project for all participant's

Q&A Session to review there practice and assignment (1 week)

11. ExpressJS Development (2 week)

- Getting Started
- Routing and Express
- Middleware with Express
- Advanced topics with Express

12. MongoDB (2 week)

- SQL and NoSql Concepts
- Create and Manage MongoDB
- Migration of Data into MongoDB
- MongoDB with NodeJS
- Services Offered by MongoDB

Will be given practice project for all participant's

Q&A Session to review there practice and assignment (1 week)

13. Two Mini Projects (1 week)

- Minimum 2+ mini projects will be assigned to the learners. They may be module(s) based. They need to work them out and finish within the given time period. These will help them understand coding and how to work on full stack tools for a specific purpose.
- These projects include topics like creating a personal portfolio page or a landing page for a product and shopping sites.

14. One Capstone Project (2 week)

The process of developing a capstone project includes project idea generation, planning, drafting, prototyping, user testing, and finally building. Learn best practices in each part of the process to ensure you create a project that accurately reflects your abilities.

Part 1: Project Scope

Part 2: Project Idea Generation

Part 3: Planning

Part 4: Building