Frontend Development
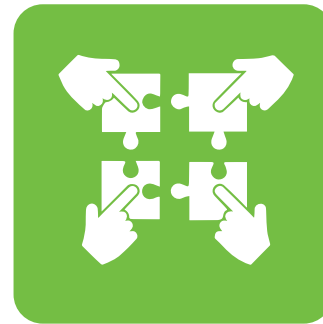
Program

Learning Model

Tutor-led physical and virtual classes	Group based projects	Collaborative & interactive learning

Syllabus

WEEK 1: Introduction to Frontend Development

01.01. Overview of Web Development

- What is Frontend vs Backend
- The role of a Frontend Developer
- How websites work (Client–Server model)
- Understanding browsers and rendering

01.02. Tools Setup & Workflow

- Installing VS Code and essential extensions
- Introduction to browsers and DevTools
- Version control with Git and GitHub

01.03. HTML Structure Overview

- What is HTML
- Basic document structure (<!DOCTYPE html>, <html>, <head>, <body>)
- Elements, attributes, and tags

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WEEK 2: HTML Essentials

02.01. Core HTML Elements

- Headings, paragraphs, lists, links, and images
- Semantic tags (<header>, <nav>, <main>, <footer>)
- Forms and inputs

02.02. Media & Accessibility

- Audio and video tags
- Accessibility (alt text, ARIA roles)

02.03. HTML Best Practices

- SEO-friendly structure
- Code indentation and comments

WEEK 3: CSS Fundamentals

03.01. Introduction to CSS

- Inline, internal, and external styles
- CSS syntax, selectors, and properties

03.02. The Box Model & Layout Basics

- Margin, padding, border, content
- Display and positioning

03.03. Styling Text and Colors

- Fonts, colors, backgrounds
- Pseudo-classes and pseudo-elements

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WEEK 4: Advanced CSS & Responsive Design

04.01. Flexbox

- Flex container and items
- Alignment, justification, and wrapping

04.02. CSS Grid Layout

- Grid container and areas
- Creating complex layouts

04.03. Responsive Web Design

- Media queries
- Mobile-first approach
- Viewport and percentages

WEEK 5: CSS Frameworks & Preprocessors

05.01. Introduction to Frameworks

- Why use CSS frameworks
- Overview of Bootstrap and Tailwind CSS

05.02. Using Tailwind CSS

- Installation and setup
- Utility classes and responsive design

05.03. CSS Preprocessors (Optional)

- Introduction to SASS/SCSS
- Variables, mixins, and nesting

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WEEK 6: Introduction to JavaScript

06.01. JavaScript Basics

- What is JavaScript and where it runs
- Variables (let, const, var)
- Data types and operators

06.02. Control Structures & Functions

- If/else, loops, switch statements
- Declaring and invoking functions
-

06.03. Working with the DOM

- Selecting elements
- Event listeners
- Manipulating content and styles

WEEK 7: Intermediate JavaScript

07.01. Arrays & Objects

- Array methods (map, filter, reduce)
- Object creation and manipulation

07.02. ES6 Features

- Arrow functions, template literals, destructuring
- Modules and imports

07.03. Asynchronous JavaScript

- Callbacks, Promises, async/await
- Fetch API for data requests

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WEEK 8: Git, APIs, and JSON

08.01. Version Control with Git

- Git basics: add, commit, push, pull
- Working with branches
- Using GitHub for collaboration

08.02. APIs & JSON

- What is an API
- Fetching and displaying data from APIs
- Working with JSON

08.03. Project: Build a Simple Weather App

- Fetch API + DOM manipulation

WEEK 9: Introduction to Frontend Frameworks (React)

09.01. Why Frameworks Matter

- Traditional JS vs React
- SPA concept

09.02. React Fundamentals

- Components and props
- JSX syntax
- State and events

09.03. React Project Setup

- Create React App / Vite
- Folder structure and reusable components

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WEEK 10: Advanced React Concepts

10.01. React Hooks

- useState, useEffect, useRef
- Custom hooks
-

10.02. Routing & API Integration

- React Router
- Fetching data in React

10.03. State Management

- Context API or Redux basics

WEEK 11: Deployment & Hosting

11.01. Preparing for Production

- Optimizing code
- Environment variables

11.02. Hosting Platforms

- GitHub Pages, Netlify, or Vercel deployment

11.03. Continuous Deployment

- Setting up CI/CD for React projects

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WEEK 12: Capstone Project & Career Preparation

12.01. Capstone Project

- Build a real-world project (e.g., Todo App, Portfolio, E-commerce UI)

12.02. Portfolio Development

- Creating and deploying a personal portfolio website

12.03. Interview Preparation

- Common frontend interview questions
- How to discuss your projects confidently

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