

OILab (Open Innovation Lab)

Frontend Development Course

Course Overview

Build Modern and Interactive Web Interfaces

The Frontend Development Course at OILab is designed to help students master the art of creating visually appealing, responsive, and interactive websites. Frontend developers are responsible for everything users see and interact with on a website or web application.

This program focuses on practical skills and modern web technologies used by professional developers worldwide. Students learn how to transform design concepts into fully functional web interfaces using the latest frontend tools and frameworks.

You will gain hands-on experience in HTML, CSS, JavaScript, responsive design, UI frameworks, and modern frontend libraries. The course also covers best practices for performance optimization, cross-browser compatibility, and modern development workflows.

Through real-world projects and live coding sessions, students build modern websites and applications while developing a strong portfolio that demonstrates their frontend skills.

Course Curriculum

Module 1: Introduction to Frontend Development

- Overview of Web Development
- Understanding Frontend vs Backend
- How Websites Work
- Introduction to Development Tools
- Installing VS Code
- Browser Developer Tools

Module 2: HTML5 Fundamentals

- HTML Document Structure
- Headings, Paragraphs, Lists
- Images and Links
- Tables
- Forms and Input Fields
- Semantic HTML Elements

Module 3: CSS3 Fundamentals

- CSS Selectors
- Colors, Fonts, and Text Styling
- Box Model
- Padding, Margin, Border
- Display Properties

Module 4: Layout & Responsive Design

- Flexbox Layout
- CSS Grid
- Responsive Web Design
- Media Queries
- Mobile-first Design Approach
- Creating Responsive Web Pages

Module 5: Bootstrap Framework

- Introduction to Bootstrap
- Grid System
- Responsive Layouts
- Bootstrap Components
- Navigation Bars
- Cards, Buttons, Forms

Module 6: JavaScript Basics

- Variables & Data Types
- Operators
- Conditional Statements
- Loops
- Functions

Module 7: DOM Manipulation

- Understanding DOM
- Selecting HTML Elements
- Changing Content Dynamically
- Event Handling
- Form Validation
- Interactive UI Components

Module 8: Modern JavaScript (ES6+)

- Arrow Functions
- Template Literals
- Destructuring
- Modules
- Array Methods (map, filter, reduce)

Module 9: Working with APIs

- Introduction to APIs
- Fetch API
- JSON Data Handling
- Displaying API Data
- AJAX Basics

Module 10: Frontend Project Development

Students will build real-world projects such as:

- Personal Portfolio Website
- Responsive Business Website
- Interactive Landing Page
- API-based Web Application

Tools & Technologies Covered
HTML5
CSS3
JavaScript
Bootstrap
Git & GitHub
VS Code

Career Opportunities
Frontend Developer
Web Designer
UI Developer
Freelance Web Developer

Certification

Students will receive an **OILab Frontend Development Certification** after successfully completing the course and final project.