Web Development

Introduction to Web Development
- Overview of Web Development
- Understanding the Web: How it Works
- Tools and Technologies Overview
- Setting Up the Development Environment (IDE, Browsers, etc.)

HTML Basics
- Introduction to HTML
- Document Structure: Elements, Tags, and Attributes
- Creating and Structuring Pages
- Semantic HTML and Accessibility

CSS Fundamentals
- Introduction to CSS
- CSS Syntax and Selectors
- Styling Text, Colors, and Backgrounds
- Box Model, Margins, Padding, and Borders
- Responsive Design: Media Queries

Advanced CSS
- Flexbox and Grid Layout
- CSS Frameworks (e.g., Bootstrap)
- Animations and Transitions
- Custom Properties (CSS Variables)

JavaScript Basics
- Introduction to JavaScript
- Data Types, Variables, and Operators
- Control Structures: Loops and Conditionals
- Functions and Scope
- Introduction to DOM Manipulation

JavaScript Advanced Topics
- Event Handling
- Asynchronous JavaScript: Callbacks and Promises
- ES6 Features: Arrow Functions, Destructuring, etc.
- JSON and APIs

Version Control and Collaboration
- Introduction to Git and GitHub
- Setting Up Repositories
- Basic Git Commands (commit, push, pull, branch)
- Collaboration Practices

Web Development Frameworks
- Introduction to Frontend Frameworks (e.g., React, Vue, or Angular)
- Setting Up a Simple React Application
- Components, Props, and State
- Routing and Lifecycle Methods

Backend Development Basics
- Introduction to Backend Development
- Overview of Server, Database, and API
- Setting Up a Simple Server with Node.js
- Introduction to Express.js

Databases
- Understanding Databases: SQL vs. NoSQL
- Introduction to MongoDB or MySQL
- CRUD Operations
- Connecting Frontend and Backend

Full-Stack Application Development
- Project Setup: Merging Frontend and Backend
- User Authentication Basics
- Deployment Options (Heroku, Netlify, etc.)
- Best Practices for Web Development

Final Project and Review
- Final Project Presentation
- Code Review and Feedback
- Course Wrap-Up and Next Steps