Week 1: Introduction to HTML

- **Introduction to HTML**
  - History of the internet and the web
  - How HTML works and its role in web development
  - Setting up a development environment for HTML
- **Structuring a webpage with HTML tags**
  - Basic HTML tags: head, body, div, span
  - Nesting HTML tags and creating a hierarchy
  - Organizing content with header, footer, and section tags
- **HTML headings, paragraphs, and text formatting**
  - Using headings to structure content
  - Creating paragraphs and line breaks
  - Basic text formatting with bold, italic, and underline
- **HTML lists, tables, and forms**
  - Unordered and ordered lists.
  - Definition lists.
  - HTML tables and table formatting.
  - HTML forms and form elements.
- **Introduction to Cascading Style Sheets (CSS)**
  - What is CSS and how it is used in web development
  - Adding CSS to an HTML document
  - The CSS cascade and specificity

- **Styling text and backgrounds with CSS**
  - Setting font properties with CSS
  - Styling text color, alignment, and decoration
  - Setting background color and images

- **CSS layout techniques: float, position, and display**

  - Float and clear for simple layouts
  - Positioning elements with absolute and relative positioning
  - Display property and block-level and inline elements

- **Responsive web design with media queries**
  - What is responsive web design and why it is important
  - Using media queries to create responsive layouts

Week 2: Introduction to JavaScript

- **Introduction to the JavaScript programming language**
  - What is JavaScript and how it is used in web development
  - Basic syntax and data types in JavaScript
  - Variables and assignment in JavaScript

- **JavaScript functions and control structures**
  - Defining and calling functions in JavaScript
  - if/else statements and other control structures
  - Looping with for and while loops

- **DOM manipulation and events**
  - Introduction to the Document Object Model (DOM)
  - Manipulating HTML elements with JavaScript
  - Responding to user events with JavaScript event listeners

- **Object-Oriented Programming with JavaScript**
  - Introduction to object-oriented programming
  - Creating and using objects in JavaScript
  - Prototypal inheritance in JavaScript

- **Asynchronous programming with promises and async/await**
    - Understanding asynchronous programming in JavaScript
    - Using promises to handle asynchronous operations
    - Async/await syntax for easier asynchronous programming

- **Working with arrays and objects in JavaScript**
    - Manipulating arrays with push, pop, shift, and unshift
    - Sorting and filtering arrays
    - Accessing and setting object properties
- **Debugging and error handling in JavaScript**
    - Common JavaScript errors and how to debug them
    - Using the browser console and debugging tools
    - Try/catch statements for error handling\

Week 3: Project

- **Personal portfolio**

Week 4: Introduction to React

- **Introduction to the React library**
    - What is React and how it is used in web development
    - Setting up a React development environment
    - Building a simple React app

- **React components and JSX**
    - What are React components and why they are used
    - Writing JSX and rendering it with React
    - Understanding the difference between elements and components
    - Props in React components

- **State and props in React**
    - What is state in React and how it is used
    - Updating state with setState
    - Passing data between components with props
    - The difference between state and props

  Working with forms in React
    - Creating and styling HTML forms in React
    - Handling form submissions and input changes
    - Validating form data

- **Mounting lifecycle methods**
    - componentWillMount and componentDidMount
    - Fetching data in the componentDidMount lifecycle method

- **Updating lifecycle methods**
    - componentWillReceiveProps and shouldComponentUpdate
    - Updating state based on props changes

- **Unmounting lifecycle method**
    - componentWillUnmount
    - Cleaning up resources before a component is unmounted

Week 5: Project

- **Todo App**

Week 6: Routing with React Router

- **Introduction to React Router**
    - Setting up React Router in a React app
    - Creating basic routes with the **<Route>** component
    - Navigating with the **<Link>** component

- **Dynamic routes and URL parameters**
    - Using dynamic routes with the **<Route>** component
    - Extracting URL parameters with the **match** object
- **Navigating programmatically and protected routes**
    - Navigating programmatically with the **history** object
    - Implementing authentication and authorization with protected routes
- **Project**
    - Weather App

Week 7: Advanced React

- **Advanced component patterns in React**
    - Higher-order components
    - Render props
    - Controlled and uncontrolled components
- **Data fetching with React hooks**
    - Introduction to React hooks
    - Fetching data with the useEffect hook
    - Managing state with the useState hook
- **Performance optimization in React**
    - Understanding the React virtual DOM and how it works
    - Optimizing performance with shouldComponentUpdate and PureComponent
    - Using the React.memo higher-order component for optimization

- **Deploying a React app**
    - Preparing a React app for deployment
    - Deploying to a hosting service, such as GitHub Pages or Netlify

Week 8: Project week

- **Project**
    - Facebook or Instagram Clone
- Students will have the opportunity to work on a project using the skills they have learned in the course, with support and guidance from the instructor.

This is just a suggested syllabus and can be adjusted based on the needs and goals of the course.