Lesson Plan

Javascript

Week 1:

Introduction to JavaScript

- History and background of JavaScript
- JavaScript syntax and basic programming concepts
- Data types, variables, and operators
- Control flow and conditional statements

Functions and Scope

- Defining and calling functions
- Function parameters and return values
- Function expressions and anonymous functions
- Lexical scoping and variable scope

Week 2:

Arrays and Loops

- Creating and manipulating arrays
- Looping through arrays using for and while loops
- Array methods such as push, pop, shift, unshift, etc.
- Multi-dimensional arrays

Week 3:

Objects and Prototypes

- Creating objects and object literals
- Object properties and methods
- **Constructor functions and the "new" keyword**
- **Prototypes and prototypal inheritance**

Week 4:

DOM Manipulation

- Introduction to the Document Object Model (DOM)
- Accessing and modifying HTML elements with JavaScript
- Event handling and DOM events
- **Dynamic HTML (DHTML) and DOM manipulation techniques**

Week 5:

Error Handling and Debugging

- Handling errors in JavaScript code
- Using try-catch blocks and throwing custom errors
- Debugging techniques using browser developer tools
- Common JavaScript coding pitfalls and best practices

Asynchronous Programming

- Introduction to asynchronous programming in JavaScript
- Callback functions and asynchronous patterns
- Basic use of setTimeout and setInterval
- Understanding asynchronous code flow

Week 6:

Regular Expressions

- Introduction to regular expressions
- Basic syntax and usage of regular expressions in JavaScript
- Regular expression methods and modifiers
- Practical applications of regular expressions in text manipulation

JavaScript and the Web

- Overview of client-side and server-side JavaScript
- JavaScript frameworks and libraries for web development
- Working with APIs and JSON data
- Cross-origin resource sharing (CORS) and security considerations