JavaScript Beginning to Mastery Syllabus

(Beginner to Next Level Concepts)

- JavaScript vs EcmaScript
- Install vscode and run first program

1. Basics of Programming in JavaScript:

1) Hello world program
2) Variable Declaration
3) String Indexing
4) Useful string methods
5) Template Strings
6) Primitive Data Types
7) Non-Primitive Data Types
8) Operators
9) Truthy and Falsy Values
10) Conditionals & nested conditions
11) Ternary Operator
12) && || operators
13) Switch statement
14) Loops (while, do while, for, forEach, for of, for in)
15) Break and continue keyword

2. Arrays in JavaScript:

1) Intro to arrays
2) Push pop shift unshift splice
3) Clone array & spread operator
4) Array Destructuring

3. Objects in JavaScript:

1) Intro to objects
2) Dot vs Bracket Notation
3) Object iterations   (For in loop & Object.keys method)
4) Computed properties
5) Spread operator in objects
6) Object Destructuring
7) Objects inside an Array
8) Nested Destructuring

4. Functions in JavaScript:

1) Function declaration
2) Function Expression
3) Arrow Functions
4) Function declarations are hoisted
5) Function inside function
6) Lexical Scope
7) Block Scope Vs Function Scope
8) Default Parameters
9) Rest Parameters
10) Parameter Destructuring
11) Intro to callback functions   (higher order fnc)
12) Functions returning Functions   (higher order fnc)

5. Array Methods in JavaScript:

1) Foreach method
2) Map method
3) Filter
4) Reduce
5) Sort
6) Find
7) Every
8) Some
9) Fill method
10) Splice method

6. More useful things in JavaScript:

1) Iterables
2) Sets
3) Maps
4) Object.assign
5) Optional chaining

7. OOP in JavaScript / Prototypal Inheritance:

1) Methods
2) This keyword, Window object
3) Call, apply & bind method
4) Some warnings
5) This inside arrow functions
6) Short syntax for methods
7) Factory functions & discuss some memory related problems
8) First solution to that problem
9) Why that solution isn't that great
10) What is __proto__ , [[prototype]]
11) What is prototype
12) Use prototype
13) New keyword
14) Constructor function with new keyword
15) More discussion about proto and prototype
16) Class keyword
17) Example using class keyword
18) Super keyword
19) Method overriding
20) Getters and setters
21) Static methods and properties

8. How JavaScript Works:

1) Global Execution context
2) This and window in global execution context
3) Hoisting
4) Are let and const are hoisted? What is a reference Error?
5) Function execution context
6) Scope chain and lexical environment

9. Closures in JavaScript:

1) Intro to closures
2) Closure example 1
3) Closure Example 2
4) Closure Example 3

10. DOM in JavaScript:

1) HTML and CSS (Around 30-40 minutes)
2) Async vs defer
3) Select elements using id
4) querySelector
5) textContent & innerText
6) Change the styles of elements using js
7) Get and set attributes
8) Select multiple elements and loop through them
9) innerHTML
10) Deeply understand dom tree, root node , element nodes, text nodes
11) classList
12) Add new elements to page
13) Create elements
14) Insert adjacent elements
15) Clone nodes
16) More methods to add elements on page
17) How to get the dimensions of the element

11. Events in JavaScript:

1) Intro to events
2) This keyword inside eventListener callback
3) Add events on multiple elements
4) Event object
5) How event listener works
6) Practice with events
7) Create demo project
8) More events
9) Event bubbling
10) Event Capturing
11) Event delegation
12) Create project using event delegation

12. Asynchronous JavaScript:

1) Is Javascript a synchronous or asynchronous programming language ?
2) SetTimeout()
3) SetTimeout() with 0 millisecond
4) Callback Queue
5) SetInterval and create little project with setInterval
6) Understand callbacks in general
7) Callbacks in asynchronous programming
8) Callback Hell and Pyramid of dom

13. Promises & Network Requests:

1) Intro to promises
2) Microtask Queue
3) Function that returns promise
4) Promise and settimeout
5) Promise.resolve and more about then method
6) Convert nested Callbacks to flat code using promises
7) Intro to Ajax, HTTP Request
8) XHR requests
9) Error handling in XHR requests
10) XHR request Chaining
11) Promisifying XHR requests and chaining using then method
12) Fetch API
13) Error Handling in Fetch API
14) Consume Promises with async and Await

14. ES6 (ES2015) Modules:

1) Split code into multiple files using ES6 modules.
2) Congratulations
3) Now you know javascript in Great Details
4) What next?