

ME220 Final Exam Study Sheet

ME 220 Intro to Web Programming

W3 Schools

- JavaScript Tutorial (<https://www.w3schools.com/js/default.asp>)
- JavaScript Introduction (https://www.w3schools.com/js/js_intro.asp)
- Putting JS in a web page (https://www.w3schools.com/js/js_where.asp)
- Printing with JS (https://www.w3schools.com/js/js_output.asp)
- JS Statements (https://www.w3schools.com/js/js_statements.asp)
- JS Syntax (https://www.w3schools.com/js/js_syntax.asp)
- JS Comments (https://www.w3schools.com/js/js_comments.asp)
- JS Variables (https://www.w3schools.com/js/js_variables.asp)
- Let and Const (https://www.w3schools.com/js/js_let.asp and https://www.w3schools.com/js/js_const.asp)
- Operators, Arithmetic, and Assignment (https://www.w3schools.com/js/js_operators.asp, https://www.w3schools.com/js/js_arithmetic.asp, https://www.w3schools.com/js/js_assignment.asp)
- Strings, numbers, Booleans, arrays, objects (https://www.w3schools.com/js/js_datatypes.asp)
- Functions (https://www.w3schools.com/js/js_functions.asp)
- Objects (https://www.w3schools.com/js/js_objects.asp)
- Events (https://www.w3schools.com/js/js_events.asp)
- Strings (https://www.w3schools.com/js/js_strings.asp, +Methods, +Search)
- Numbers: Integers vs Floating-Point (https://www.w3schools.com/js/js_numbers.asp, +Number Methods)
- Arrays (https://www.w3schools.com/js/js_arrays.asp, +Methods, +Sort, +Iteration)
- And more (+[Math](#), +[Booleans](#), +[Comparisons](#), +[If Else](#), +[Switch](#), +[Loop For](#), +[Loop While](#), +[Break](#))
- HTML DOM (https://www.w3schools.com/js/js_html_dom.asp)
- DOM Methods (https://www.w3schools.com/js/js_html_dom_methods.asp)
- DOM Document (https://www.w3schools.com/js/js_html_dom_document.asp)
- Finding DOM Elements (https://www.w3schools.com/js/js_html_dom_elements.asp)
- Changing DOM Elements (https://www.w3schools.com/js/js_html_dom_html.asp)
- AJAX Intro (https://www.w3schools.com/js/js_ajax_intro.asp, +XMLHttpRequest)
- JS Canvas (https://www.w3schools.com/js/js_graphics_canvas.asp)
- JS Chart.js (https://www.w3schools.com/js/js_graphics_chartjs.asp)

Notes from the GitHub Repo

- <https://github.com/microwerx/gsb-intro-web/>

Terms

Computer program	List of instructions to be executed by a computer.
Statements	Programming instructions in a programming language
Syntax	The set of rules defining a programming language
Literals	Fixed values like strings, numbers, and Boolean values
Variables	Declared names that store data values
Comments	Syntax to explain code to make it readable
Identifier	A unique name to identify a variable
Let	A <i>mutable</i> variable
Const	An <i>immutable</i> reference to a variable
Constant	An <i>immutable</i> value to a variable (Objects are mutable, but literals are not)
Operators	Literals in a programming language for doing arithmetic and assignment
Modulus	The % literal returns integer remainder
Boolean	A value that is either true or false
Boolean Algebra	A set of rules that operate on Boolean values: AND, OR, NOT, XOR
Global Scope	Variables can be accessed anywhere in the program
Function Scope	Variables cannot be accessed from outside a function
Block Scope	Variables cannot be accessed from outside the block
JSON	JavaScript Object Notation (http://json.org)
Debugging	Searching and Fixing code that has syntax errors or logical errors
JavaScript debugger	All modern browsers have a built-in JS debugger (know how yours works!)
Breakpoint	Set a place where code execution can be stopped
Console.log()	A method to print JS values in the debugger window (a form of debugging)
DOM	Document Object Model
Object	A custom data type that encapsulates data (member variables, or properties) and code (methods, or member functions)
Methods	Actions you can perform on objects (also called member functions)
Properties	Values that you can set or change on objects (also called member variables)
Constructor	A method objects use to initialize themselves.
AJAX	Asynchronous JavaScript and XML
HTML	Hypertext Markup Language
CDN	Content Delivery Network
REST	Representational State Transfer (an architecture)
HTTP Methods	GET, POST, DELETE, PUT
CRUD	Create, Read, Update, Delete
SQL	Structured Query Language used in databases
PHP and Perl	Scripting languages geared towards web development
UNIX	A multiuser operating system in general use as servers
URL	Uniform Resource Locator
Turing Complete	Supports changing memory, a conditional branch, and comparison
SSH	Secure Shell protocol for operating network services
Vi (and Vim)	A common texture editor in UNIX systems
Algorithm	A finite sequence of well-defined instructions to solve specific problems.
Asymptotics	The growth of memory or program time when the problem size increases