



# Course Outline: Basics

This is a rough draft of the course outline I'm thinking about developing. It still needs a lot of work but it's a good start.

1. Introduction
  - What is the web?
  - A little history
  - Components of the web
  - What the course will not cover
  - A Technical Overview
  - Course Project: Blog
    - What
    - Why
    - How
2. HTML
  - What is HTML?
    - Markup Language
    - Differences with CSS and Javascript
  - Elements by groupings
    - Structure
    - Styles
    - Multimedia
    - Linking and Embedding
  - Course Project
    - Build the Markup
3. CSS (Structure based on [Web.dev's Learn CSS](#))
  - Box Model
  - Specificity and the cascade
  - Stacking Context and Z-index
  - Selectors
  - Inheritance
  - Color
  - Measuring units in CSS
    - Absolute units
    - Relative units
    - Viewport units
  - Layouts
    - Flexbox
    - Grid
    - Multi column
  - Spacing
  - Pseudo Elements and Pseudo Classes
  - Focus
  - Advanced Features
    - Borders and Shadows
    - Gradients
    - Animations

- Filters
- Blend modes
- Logical Properties and writing modes
- Course Project
  - Style the blog

#### 4. Javascript

- Javascript history
- Unusual Inheritance model
- About Javascript versions
  - Annual release
  - Browser support
    - [caniuse.com](http://caniuse.com)
- Values ([Eloquent Javascript](#))
  - Numbers
    - Special numbers
  - Strings
  - Booleans
  - Logical Operators
  - Empty Values
    - Null
    - Undefined
- Program structure
  - Functions
  - Expressions and statements
  - Variables and Constants
    - Difference between var, let and const
  - Return values
    - There is always a return value
  - Control flow and conditional execution
    - If / Then / Else
    - While / Do
    - For
    - Switch
  - Functions ([Eloquent Javascript](#))
  - Defining
    - Function Expressions
    - Function declarations
    - IIFE
    - Arrow functions (ES6)
      - Shortcomings
  - Classes
  - Bindings and Scopes
- Modules ([Eloquent Javascript](#))
  - Special type of script
  - Import / Export
  - Different types of modules
    - CommonJS
    - ECMAScript Modules (ESM)
- Javascript on the browser

- The DOM
  - Looking for elements on the page
    - `getElementBy{id, class, tagName}`
    - `querySelector` and `querySelectorAll`
  - Using scripts on a page
    - Inline
    - Linking
  - Events
    - Event listeners
    - Event handlers
5. Asynchronous Programming (pull the content from `mdn-async-js.md`)
- `setTimeout` and `setInterval`
  - Callbacks
  - Promises
  - Async / Await
6. Javascript on the server
- Node.js
    - History: What came before and why now
    - How it works
    - Advantages and Disadvantages
7. Building a server with Express.js (1)
- Why not a framework?
  - Endpoints and actions
    - APIs
    - REST APIs
  - Database Integration
    - Firebase
    - MongoDB
    - PostgreSQL
  - Running the server
  - Course Project
    - Build a server for the blog
    - Pick a database to integrate the server with
8. Building a server with Express.js (2)
- APIs
  - Validation
    - [Express Validator](#)
  - Authentication
    - [Passport.js](#)
  - Course Project: Validate your data before submission
  - Course Project add authentication for adding and editing content for the blog
9. Converting the blog into a PWA
- The PWA concept
  - The manifest file
  - The service worker
  - The offline page
  - Course Project: Add a Manifest file
  - Course Project: Add a service worker
10. Publishing your work

## 11. Accessibility