Welcome to the freeCodeCamp curriculum

We have thousands of coding lessons to help you improve your skills.

You can earn each certification by completing its 5 final projects.

And yes - all of this is 100% free, thanks to the thousands of campers who donate to our nonprofit.

If you are new to coding, we recommend you start at the beginning.

Responsive Web Design Certification (300 hours)

Basic HTML and HTML5

Introduction to Basic HTML and HTML5

- Say Hello to HTML Elements
- Headline with the h2 Element
- Inform with the Paragraph Element
- Fill in the Blank with Placeholder Text
- Uncomment HTML
- Comment out HTML
- Delete HTML Elements
- Introduction to HTML5 Elements
- Add Images to Your Website
- Link to External Pages with Anchor Elements
- Link to Internal Sections of a Page with Anchor Elements
- Nest an Anchor Element within a Paragraph
- Make Dead Links Using the Hash Symbol
- Turn an Image into a Link
- Create a Bulleted Unordered List
- Create an Ordered List
- Create a Text Field
- Add Placeholder Text to a Text Field
- Create a Form Element
- Add a Submit Button to a Form
- Use HTML5 to Require a Field
- Create a Set of Radio Buttons
- Create a Set of Checkboxes
- Check Radio Buttons and Checkboxes by Default
- Nest Many Elements within a Single div Element
- Declare the Doctype of an HTML Document
- Define the Head and Body of an HTML Document

Basic CSS

Introduction to Basic CSS

- Change the Color of Text
- Use CSS Selectors to Style Elements
- Use a CSS Class to Style an Element
- Style Multiple Elements with a CSS Class
- Change the Font Size of an Element
- Set the Font Family of an Element
- Import a Google Font
- Specify How Fonts Should Degrade
- Size Your Images
- Add Borders Around Your Elements
- Add Rounded Corners with border-radius
- Make Circular Images with a border-radius
- Give a Background Color to a div Element
- Set the id of an Element
- Use an id Attribute to Style an Element
- Adjust the Padding of an Element
- Adjust the Margin of an Element
- Add a Negative Margin to an Element
- Add Different Padding to Each Side of an Element
- Add Different Margins to Each Side of an Element
- Use Clockwise Notation to Specify the Padding of an Element
- Use Clockwise Notation to Specify the Margin of an Element
- Use Attribute Selectors to Style Elements
- Understand Absolute versus Relative Units
- Style the HTML Body Element
- Inherit Styles from the Body Element
- Prioritize One Style Over Another
- Override Styles in Subsequent CSS
- Override Class Declarations by Styling ID Attributes
- Override Class Declarations with Inline Styles
- Override All Other Styles by using Important
- Use Hex Code for Specific Colors
- Use Hex Code to Mix Colors
- Use Abbreviated Hex Code
- Use RGB values to Color Elements
- Use RGB to Mix Colors
- Use CSS Variables to change several elements at once
- Create a custom CSS Variable
- Use a custom CSS Variable
- Attach a Fallback value to a CSS Variable
- Improve Compatibility with Browser Fallbacks
- Cascading CSS variables

- Change a variable for a specific area
- Use a media query to change a variable

▶ Applied Visual Design

▼ Applied Accessibility

Introduction to the Applied Accessibility Challenges
- Add a Text Alternative to Images for Visually Impaired Accessibility
- Know When Alt Text Should be Left Blank
- Use Headings to Show Hierarchical Relationships of Content
- Jump Straight to the Content Using the main Element
- Wrap Content in the article Element
- Make Screen Reader Navigation Easier with the header Landmark
- Make Screen Reader Navigation Easier with the nav Landmark
- Make Screen Reader Navigation Easier with the footer Landmark
- Improve Accessibility of Audio Content with the audio Element
- Improve Chart Accessibility with the figure Element
- Improve Form Field Accessibility with the label Element
- Wrap Radio Buttons in a fieldset Element for Better Accessibility
- Add an Accessible Date Picker
- Standardize Times with the HTML5 datetime Attribute
- Make Elements Only Visible to a Screen Reader by Using Custom CSS
- Improve Readability with High Contrast Text
- Avoid Colorblindness Issues by Using Sufficient Contrast
- Avoid Colorblindness Issues by Carefully Choosing Colors that Convey Information
- Give Links Meaning by Using Descriptive Link Text
- Make Links Navigatable with HTML Access Keys
- Use tabindex to Add Keyboard Focus to an Element
- Use tabindex to Specify the Order of Keyboard Focus for Several Elements

▼ Responsive Web Design Principles

Introduction to the Responsive Web Design Challenges
- Create a Media Query
- Make an Image Responsive
- Use a Retina Image for Higher Resolution Displays
- Make Typography Responsive

▼ CSS Flexbox

Introduction to the CSS Flexbox Challenges
- Use display: flex to Position Two Boxes
- Add Flex Superpowers to the Tweet Embed
- Use the flex-direction Property to Make a Row
- Apply the flex-direction Property to Create Rows in the Tweet Embed
- Use the flex-direction Property to Make a Column
- Apply the flex-direction Property to Create a Column in the Tweet Embed
- Align Elements Using the justify-content Property
- Use the justify-content Property in the Tweet Embed
- Align Elements Using the align-items Property
- Use the align-items Property in the Tweet Embed
- Use the flex-wrap Property to Wrap a Row or Column
- Use the flex-shrink Property to Shrink Items
- Use the flex-grow Property to Expand Items
- Use the flex-basis Property to Set the Initial Size of an Item
- Use the flex Shorthand Property
- Use the order Property to Rearrange Items
- Use the align-self Property

▼ CSS Grid

Introduction to the CSS Grid Challenges
- Create Your First CSS Grid
- Add Columns with grid-template-columns
- Add Rows with grid-template-rows
- Use CSS Grid units to Change the Size of Columns and Rows
- Create a Column Gap Using grid-column-gap
- Create a Row Gap using grid-row-gap
- Add Gaps Faster with grid-gap
- Use grid-column to Control Spacing
- Use grid-row to Control Spacing
- Align an Item Horizontally using justify-self
- Align an Item Vertically using align-self
- Align All Items Horizontally using justify-items
- Align All Items Vertically using align-items
- Divide the Grid Into an Area Template
- Place Items in Grid Areas Using the grid-area Property
- Use grid-area Without Creating an Areas Template
- Reduce Repetition Using the repeat Function
- Limit Item Size Using the minmax Function
- Create Flexible Layouts Using auto-fill
- Create Flexible Layouts Using auto-fit
- Use Media Queries to Create Responsive Layouts
- Create Grids within Grids

▶ Responsive Web Design Projects

▼ Javascript Algorithms And Data Structures Certification (300 hours)

Basic JavaScript

Introduction to JavaScript

- [x] Comment Your JavaScript Code
- [x] Declare JavaScript Variables
- [x] Storing Values with the Assignment Operator
- [x] Initializing Variables with the Assignment Operator
- [x] Understanding Uninitialized Variables
- [x] Understanding Case Sensitivity in Variables
- [ ] Add Two Numbers with JavaScript
- [ ] Subtract One Number from Another with JavaScript
- [ ] Multiply Two Numbers with JavaScript
- [ ] Divide One Number by Another with JavaScript
- [ ] Increment a Number with JavaScript
- [ ] Decrement a Number with JavaScript
- [ ] Create Decimal Numbers with JavaScript
- [ ] Multiply Two Decimals with JavaScript
- [ ] Divide One Decimal by Another with JavaScript
- [ ] Finding a Remainder in JavaScript
- [ ] Compound Assignment With Augmented Addition
- [ ] Compound Assignment With Augmented Subtraction
- [ ] Compound Assignment With Augmented Multiplication
- [ ] Compound Assignment With Augmented Division
- [ ] Declare String Variables
- [ ] Escaping Literal Quotes in Strings
- [ ] Quoting Strings with Single Quotes
- [ ] Escape Sequences in Strings
- [ ] Concatenating Strings with Plus Operator
- [ ] Concatenating Strings with the Plus Equals Operator
- [ ] Constructing Strings with Variables
- [ ] Appending Variables to Strings
- [ ] Find the Length of a String
- [ ] Use Bracket Notation to Find the First Character in a String
- [ ] Understand String Immutability
- [ ] Use Bracket Notation to Find the Nth Character in a String
- [ ] Use Bracket Notation to Find the Last Character in a String
- [ ] Use Bracket Notation to Find the Nth-to-Last Character in a String
- [ ] Word Blanks
- [ ] Store Multiple Values in one Variable using JavaScript Arrays
- [ ] Nest one Array within Another Array
- [ ] Access Array Data with Indexes
- [ ] Modify Array Data With Indexes
- [ ] Access Multi-Dimensional Arrays With Indexes
- [ ] Manipulate Arrays With push()
- [ ] Manipulate Arrays With pop()
- [ ] Manipulate Arrays With shift()
- [ ] Manipulate Arrays With unshift()
- [ ] Shopping List
- [ ] Write Reusable JavaScript with Functions
- [ ] Passing Values to Functions with Arguments
- [ ] Global Scope and Functions
- [ ] Local Scope and Functions
- [ ] Global vs. Local Scope in Functions
- [ ] Return a Value from a Function with Return
- [ ] Understanding Undefined Value returned from a Function
- [ ] Assignment with a Returned Value
- [ ] Stand in Line
- [ ] Understanding Boolean Values
- [ ] Use Conditional Logic with If Statements
- [ ] Comparison with the Equality Operator
- [ ] Comparison with the Strict Equality Operator
- [ ] Practice comparing different values
- [ ] Comparison with the Inequality Operator
- [ ] Comparison with the Strict Inequality Operator
- [ ] Comparison with the Greater Than Operator
- [ ] Comparison with the Greater Than Or Equal To Operator
- [ ] Comparison with the Less Than Operator
- [ ] Comparison with the Less Than Or Equal To Operator
- [ ] Comparisons with the Logical And Operator
- [ ] Comparisons with the Logical Or Operator
- [ ] Introducing Else Statements
- [ ] Introducing Else If Statements
- [ ] Logical Order in If Else Statements
- [ ] Chaining If Else Statements
- [ ] Golf Code
- [ ] Selecting from Many Options with Switch Statements
- [ ] Adding a Default Option in Switch Statements
- [ ] Multiple Identical Options in Switch Statements
- [ ] Replacing If Else Chains with Switch
- [ ] Returning Boolean Values from Functions
- [ ] Return Early Pattern for Functions
- [ ] Counting Cards
- [ ] Build JavaScript Objects
- [ ] Accessing Object Properties with Dot Notation
- [ ] Accessing Object Properties with Bracket Notation
- [ ] Accessing Object Properties with Variables
- [ ] Updating Object Properties
- [ ] Add New Properties to a JavaScript Object

- Delete Properties from a JavaScript Object
- Using Objects for Lookups
- Testing Objects for Properties
- Manipulating Complex Objects
- Accessing Nested Objects
- Accessing Nested Arrays
- Record Collection
- Iterate with JavaScript While Loops
- Iterate with JavaScript For Loops
- Iterate Odd Numbers With a For Loop
- Count Backwards With a For Loop
- Iterate Through an Array with a For Loop
- Nesting For Loops
- Iterate with JavaScript Do...While Loops
- Profile Lookup
- Generate Random Fractions with JavaScript
- Generate Random Whole Numbers with JavaScript
- Generate Random Whole Numbers within a Range
- Use the parseInt Function
- Use the parseInt Function with a Radix
- Use the Conditional (Ternary) Operator
- Use Multiple Conditional (Ternary) Operators

▶ ES6

▶ Regular Expressions

▶ Debugging

▶ Basic Data Structures

▶ Basic Algorithm Scripting

▶ Object Oriented Programming

▶ Functional Programming

▶ Intermediate Algorithm Scripting

▶ JavaScript Algorithms and Data Structures Projects

▶ Front End Libraries Certification (300 hours)

▶ Data Visualization Certification (300 hours)

▶ Apis And Microservices Certification (300 hours)

▶ Information Security And Quality Assurance Certification (300 hours)

▶ Coding Interview Prep (Thousands of hours of challenges)