

Prerequisites

- Completed HTML Module

Session 1: CSS Introduction & Selectors

Review & Introduction

- Review HTML concepts
- Why we need CSS

Part 1: CSS Integration Methods

Demo:

- Three ways to add CSS:
 - Inline (style attribute)
 - Internal (style tags)
 - External (CSS files and link tags)
- Basic syntax (selectors, properties, values)
- CSS comments

Apply:

- Create HTML page with headings and paragraphs
- Style it using all three methods
- Write comments

Part 2: Basic Selectors

Demo:

- Element selectors (p, h1, div)
- Class selectors (.classname)
- ID selectors (#idname)
- Combining selectors

Apply:

- Add classes and IDs to elements
- Create CSS rules with different selectors
- Style same tags with different classes

Part 3: Inspecting with DevTools

Demo:

- Opening browser DevTools
- Inspecting elements
- Viewing CSS

- Making temporary changes

Apply:

- Inspect your page with DevTools
- Make temporary changes
- Find and fix CSS issues

Homework

- Convert your HTML-only page to use external CSS
- Use at least 5 different selectors
- Style text, backgrounds, and borders
- Try advanced selectors (universal, attribute)

Session 2: Box Model & Basic Styling

Review & Introduction

- Review CSS integration and selectors
- Check homework
- Intro to box model

Part 1: The Box Model**Demo:**

- CSS Box Model explained:
 - Content
 - Padding
 - Border
 - Margin
- Using DevTools to see box model

Apply:

- Create boxes with borders, padding, margins
- Inspect box model in DevTools
- Try different values

Part 2: Width, Height & Box-Sizing**Demo:**

- Setting width and height
- Min and max width/height
- Box-sizing property (content-box vs. border-box)
- Shorthand for margin and padding

Apply:

- Create boxes with specific dimensions
- Apply box-sizing: border-box
- Use margin/padding shorthands

Part 3: Display Property

Demo:

- Display values:
 - block
 - inline
 - inline-block
 - none
- How they affect box model

Apply:

- Change display of various elements
- Create simple layout with inline-block
- Hide and show elements with display:none

Homework

- Create card-based layout with:
 - 3+ cards with consistent spacing
 - Good use of margin and padding
 - Borders and backgrounds
 - Proper box-sizing
- Try using calc() for widths

Session 3: Colors, Backgrounds & Borders

Review & Introduction

- Review box model and display
- Check homework
- Intro to colors and backgrounds

Part 1: Colors

Demo:

- Color properties:
 - color (text)
 - background-color
- Color values:
 - Named colors
 - Hex (#RRGGBB)
 - RGB and RGBA
- Color contrast and accessibility

Apply:

- Create color palette for webpage
- Apply text and background colors
- Try different color values
- Check contrast for accessibility

Part 2: Backgrounds

Demo:

- Background properties:
 - background-image
 - background-repeat
 - background-position
 - background-size (cover, contain)
- Background shorthand

Apply:

- Add background images to elements
- Control image repetition and position
- Make responsive backgrounds
- Use background shorthand

Part 3: Borders & Rounded Corners

Demo:

- Border properties:
 - border-width
 - border-style
 - border-color
 - border shorthand
- Border-radius for rounded corners
- Box-shadow basics

Apply:

- Apply different border styles
- Create rounded corners
- Add subtle shadows
- Make button with hover effects

Homework

- Create themed webpage with:
 - Color scheme (4+ colors)
 - Background image in header
 - Various border styles

- Rounded corners and shadows
- Try gradients

Session 4: Typography & Text Styling

Review & Introduction

- Review colors, backgrounds, borders
- Check homework
- Intro to web typography

Part 1: Font Properties

Demo:

- Key font properties:
 - font-family
 - font-size
 - font-weight
 - font-style
- Font stacks and fallbacks
- Web safe fonts

Apply:

- Set up font stacks
- Apply different sizes and weights
- Create emphasis with font-style
- Use proper fallbacks

Part 2: Text Properties

Demo:

- Essential text properties:
 - text-align
 - text-decoration
 - text-transform
 - line-height
- Letter-spacing and word-spacing

Apply:

- Align paragraphs and headings
- Style links with text-decoration
- Transform text case
- Improve readability with line-height

Part 3: Web Fonts

Demo:

- Adding Google Fonts
- Using @font-face
- Font icons (Font Awesome)
- Performance considerations

Apply:

- Add Google Fonts to project
- Implement icons
- Apply custom fonts
- Download fonts for offline use

Homework

- Create typography-focused page with:
 - Custom fonts (downloaded for offline use)
 - Well-structured headings and paragraphs
 - Pull quotes or highlighted text
 - Icons for lists or navigation
- Try variable fonts

Session 5: Layout Basics with Display & Position

Review & Introduction

- Review typography and text styling
- Check homework
- Intro to layout techniques

Part 1: Position Property**Demo:**

- Position values:
 - static (default)
 - relative
 - absolute
 - fixed
- Positioning context
- Offset properties (top, right, bottom, left)

Apply:

- Create relatively positioned elements
- Position elements absolutely in containers
- Create fixed header/navigation
- Understand positioning context

Part 2: Z-index & Stacking

Demo:

- Z-index property
- Stacking contexts
- Controlling overlap
- Common z-index issues

Apply:

- Create overlapping elements
- Control stacking order
- Build simple modal/popup
- Fix z-index issues

Part 3: Overflow Control

Demo:

- Overflow property:
 - visible
 - hidden
 - scroll
 - auto
- Controlling content behavior
- Creating scrollable containers

Apply:

- Create containers with different overflow
- Build scrollable content area
- Handle text and image overflow
- Apply overflow to card layout

Homework

- Create page with advanced positioning:
 - Fixed navigation header
 - Content with relative/absolute elements
 - Modal/popup with proper z-index
 - Scrollable sections
- Try sticky positioning

Session 6: Flexbox Layout

Review & Introduction

- Review positioning and layout
- Check homework
- Intro to Flexbox

Part 1: Flexbox Container

Demo:

- Creating flex container (display: flex)
- Main axis vs. cross axis
- Container properties:
 - flex-direction
 - justify-content
 - align-items

Apply:

- Convert layouts to use flexbox
- Control alignment
- Change direction
- Center content horizontally and vertically

Part 2: Flexbox Items

Demo:

- Item properties:
 - flex-grow
 - flex-shrink
 - flex-basis
- Flex shorthand

Apply:

- Create flexible items
- Control specific item sizes
- Use flex shorthand
- Make layout with different-sized items

Part 3: Practical Flexbox Layout

Demo:

- Building navigation with flexbox
- Creating card layouts
- Wrapping with flex-wrap
- Responsive flexbox design

Apply:

- Build flexible navigation menu
- Create wrapping card layout
- Make content with sidebar
- Test responsiveness

Homework

- Create complete page layout with flexbox:
 - Header with navigation
 - Main content with sidebar
 - Card section that wraps
 - Footer with columns
- Try nested flex containers

Session 7: CSS Grid Layout

Review & Introduction

- Review flexbox layouts
- Check homework
- Intro to CSS Grid

Part 1: Grid Container

Demo:

- Creating grid container (display: grid)
- Setting up columns and rows:
 - grid-template-columns
 - grid-template-rows
- Using fr units and repeat()

Apply:

- Create basic grid
- Use fr units for flexible layouts
- Apply repeat() for multiple columns
- Create photo gallery grid

Part 2: Grid Placement

Demo:

- Placing items:
 - grid-column
 - grid-row
- Spanning multiple cells
- Grid line numbers and naming

Apply:

- Place items at specific positions
- Make elements span multiple rows/columns
- Create layout with different-sized areas
- Use inspector to see grid lines

Part 3: Grid Template Areas

Demo:

- Named grid areas:
 - grid-template-areas
 - grid-area
- Creating complex layouts
- Responsive grid areas

Apply:

- Define layout using grid-template-areas
- Create page layout with header, footer, content, sidebar
- Make layout responsive
- Combine grid with other techniques

Homework

- Create website layout using CSS Grid:
 - Header with logo and navigation
 - Main content with sections
 - Sidebar with widgets
 - Footer with columns
- Try auto-fit and auto-fill with minmax()

Session 8: Responsive Design & Media Queries

Review & Introduction

- Review CSS Grid
- Check homework
- Intro to responsive design

Part 1: Viewport & Relative Units

Demo:

- Viewport meta tag
- Relative units:
 - percentages
 - em and rem
 - vh and vw
- Using calc() for mixed units

Apply:

- Set up responsive base
- Convert pixels to relative units
- Use viewport units for full-height sections

- Create fluid layout

Part 2: Media Queries

Demo:

- Media query syntax
- Common breakpoints
- Mobile-first approach
- Feature queries (@supports)

Apply:

- Add media queries to layouts
- Create styles for mobile, tablet, desktop
- Test at different sizes
- Use mobile-first approach

Part 3: Responsive Images & Tables

Demo:

- Responsive images:
 - max-width: 100%
 - object-fit
 - picture element
- Responsive tables

Apply:

- Make images responsive
- Use object-fit for control
- Create responsive table
- Test all elements at different sizes

Homework

- Convert desktop design to be responsive:
 - Use mobile-first approach
 - Include 3+ breakpoints
 - Make images responsive
 - Ensure readable text at all sizes
- Try fluid typography with clamp()

Session 9: Animations & Transitions

Review & Introduction

- Review responsive design
- Check homework
- Intro to animations and transitions

Part 1: CSS Transitions

Demo:

- Transition basics:
 - transition-property
 - transition-duration
 - transition-timing-function
- Hover effects
- Transition shorthand

Apply:

- Create button hover effects
- Add transitions to navigation
- Make smooth color changes
- Try different timing functions

Part 2: CSS Transforms

Demo:

- Transform properties:
 - translate
 - scale
 - rotate
 - skew
- Combining transforms
- 3D transforms

Apply:

- Create moving elements
- Build hover effects with scale/rotation
- Combine multiple transforms
- Create flip card effect

Part 3: CSS Animations

Demo:

- @keyframes rule
- Animation properties:
 - animation-name
 - animation-duration
 - animation-timing-function
 - animation-iteration-count
- Animation shorthand

Apply:

- Create loading animation
- Build multi-step animation
- Control animation playback
- Add animations to page elements

Homework

- Create animated landing page:
 - Button hover effects
 - Navigation transitions
 - Loading animations
 - Complex animation sequence
- Try animation-play-state

Session 10: CSS Best Practices & Advanced Techniques

Review & Introduction

- Review animations and transitions
- Check homework
- Intro to CSS best practices

Part 1: CSS Organization

Demo:

- CSS organization approaches:
 - BEM (Block, Element, Modifier)
 - Component-based approach
- File structure
- Comments and documentation

Apply:

- Refactor CSS using BEM
- Organize into logical sections
- Add proper comments
- Create style guide

Part 2: CSS Variables

Demo:

- Custom properties (CSS variables):
 - Defining variables
 - Using variables
 - Changing with JavaScript
- Scoping variables

Apply:

- Create variables for colors and sizes
- Apply variables throughout stylesheet
- Create theme switcher
- Use variables for responsive design

Part 3: CSS Frameworks Introduction

Demo:

- CSS frameworks overview:
 - Bootstrap basics
 - Tailwind approach
- When to use frameworks
- Adding framework to project

Apply:

- Implement component with Bootstrap
- Add Tailwind utility
- Convert custom component to use framework
- Compare framework vs. custom approach

Homework & Final Project

- Create complete responsive website:
 - Design system with CSS variables
 - Well-organized CSS using BEM
 - Responsive layout (flexbox/grid)
 - Interactive elements with animations
 - Design system documentation
- Try CSS preprocessor (Sass introduction)

Resources

- [MDN Web Docs - CSS](#)
- [CSS-Tricks](#)
- [Flexbox Froggy](#)
- [Grid Garden](#)
- [Can I Use](#)
- [CSS Validator](#)