

HTML5 and CSS3

ICT 580

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Lesson 5

CSS3 Design Essentials

Lesson Outcomes



By the end of this lesson, you will be able to:

- Choose when and how to use selectors
- Control the position and space surround different elements on an HTML page
- Identify different selector types and apply them appropriately



Element Selectors

- Element selectors use the predefined HTML element names to change that elements style
- Styling using an element selector will style every instance of that element unless overwritten by an alternate inline style

```
nav {

Nested declarations | Color: blue; | font-size: 14px; | }
```



Global Selectors

- Global selector applies styling to every element
- Should be at the start of the CSS document so you don't unintentionally override a style

```
* {

Nested declarations

Nested font-family: san-serif;

}
```



Class Selectors

- Class selectors allow you to create your own named selector
- To create a class selector, you write a period (.)
 followed by your chosen name

```
.myclass {

Color: red;

font-size: 16px;

This is the syntax for a class selector

Declaration of property/value pair

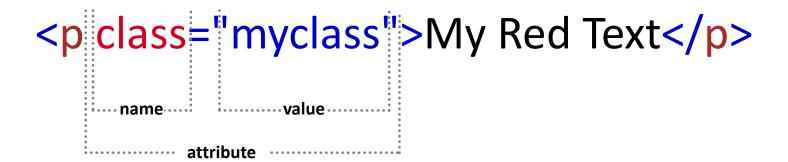
Each property and value must be separated by a colon

Each declaration must be separated by a semicolon
```



Attaching Class Selectors to HTML

- Attach a class selector to HTML by using the class attribute
- Note: The dot (.) is only required in the CSS code





ID Selectors

- ID selectors allow you to apply style directly to a html element that has been named with the id attribute
- To access the named ID in CSS, use the # followed by the name

```
#my-id {

Nested declarations

Declaration of property/value pair font-size: 16px;

Each property and value must be separated by a colon Each declaration must be separated by a semicolon

Each declaration must be separated by a semicolon
```



ID Selectors in HTML

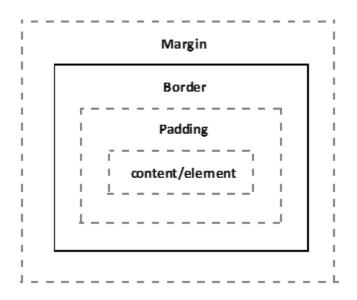
- Attach an ID selector to HTML by using the id attribute
- Note: The # is only required in the CSS code





Creating Layouts – Box Model

 Every element in a HTML page can be treated as a box with 3 possible layers surrounding the element





Margin

- Margin specifies the space outside a container
- The value measurement can be px, percentage or other measurement units
- You can specify each side separately
 - margin-top: value;
 - margin-right: value;
 - margin-bottom: value;
 - margin-left: value;

```
th {
   margin-top: 5px;
```



Margin

 The margin shorthand property specifies the values in clockwise order starting at the top

```
th {
   margin: 5px 10px 5px 10px;
}
```



Border

Specifies the line between the margin and padding

- border-top property. Specifies the width, style and color of the top border of an element
- border-right property. Specifies the width, style and color of the right border of an element
- border-bottom property. Specifies the width, style and color of the bottom border of an element
- border-left property. Specifies the width, style and color of the left border of an element



Border

 The border shorthandproperty styles the width, style (solid, dotted etc.) and border color of a container or table. It will style all sides of the container

```
nav {
  border: 2px dotted red;
}
```



Padding

- Padding specifies the space inside a container
- The value measurement can be px, percentage or other measurement units
- You can specify each side separately
 - padding-top: value;
 - padding-right: value;
 - padding-bottom: value;
 - padding-left: value;

```
th {
  padding-right: 5px;
}
```



Padding

 The padding shorthand property specifies the values in clockwise order starting at the top

```
tr {
   padding: 5px 10px 5px 10px;
}
```



Layout properties – position

- The position property sets how the element should interact with the elements around it. The value can be:
 - Relative
 - Absolute
 - Fixed
 - Static
 - sticky

```
figure {
  position: relative;
}
```



Layout properties – top, right, bottom, left

- These properties work when the position property has been declared. The outcome of the value depends on what the position value has been set to:
 - top: value; how far from the top edge of parent
 - right: value; how far from the right edge of parent
 - bottom: value; how far from the bottom edge of parent
 - right: value; how far from the right edge of parent

```
figcaption {
  position: absolute;
  bottom: 10px;
}
```



Layout properties – float

- The float property sets an element to position itself to the left or right of the elements around it
- Elements that follow the floated element flow around it

```
figure {
  float: right;
}
```



Layout properties – overflow

- The overflow property declares what to do if the element does not fit in its container
- It can either clip, or add a scroll bar to an element that does not fit

```
.clearfix {
     overflow: auto;
}
```



Layout properties – clear

 The clear property sets the sides of an element that prohibits floating

```
clearfix::after {
  content: "";
  clear: both;
  display: table;
}
```



Layout properties – display

- The display property sets how the container element will render
- Values explored in this class:
 - display: block; takes up the entire width of a new line
 - display: table; treats the element as a HTML table element
 - display: table-cell; treats the element like a HTML td element

```
.clearfix::after {
  content: "";
  clear: both;
  display: table;
}
```



Layout properties – box-sizing

- The box-sizing property declares how the width and height values are calculated
 - box-sizing: content-box; width and height are calculated to include only the content values
 - box-sizing: border-box; width and height are calculated to include the padding and border values

For efficient coding this should be specified as a universal property set using the global selector

```
* {
  box-sizing: border-box;
}
```



Alignment properties – text-align

 The text-align property specifies how text is aligned in a container

```
caption {
   text-align: center;
}
```



Alignment properties – vertical-align

- The vertical-alignment property sets the vertical alignment of an element in relation to its parent element
- The values include: baseline, length, sub, super, top, text-top, middle, bottom, and text-bottom

```
caption {
   vertical-align: middle;
}
```



Add styles to the nav selector

Use the nav selector to style the main navigation

```
nav {
    background-color: darkturquoise;
    padding: 10px;
    margin-bottom: 10px;
}
```



Add styles to the nav links

 Use the nav selector and the a selector together separated by a space to create an alternate style for links in the nav

```
nav a:link {
    color: lightcyan;
    padding-left: 5px;
    padding-right: 5px;
}
```



Set the width and height of the image

 Use the img selector and the width and height properties to define the width and height values

```
img {
    width: 350px;
    height: auto;
}
```



Figure – Image spacing

 Use the figure selector to style the image spacing, and remember that the box model offers access to 3 layers of spacing around every element – padding (inside the border), border (line around element) and margin (outside the border)

```
figure {
    border: 1px solid grey;
    padding:10px;
    margin: 10px 20px;
}
```



Style the caption

Use the figcaption selector to style the caption

```
figcaption {
    background-color: grey;
    color: white;
    padding: 10px;
    margin-top: 0px;
}
```



Place a caption on top of an image

 Use the position and top, right, bottom, left properties to place the caption on top of the image

```
figure {
          padding:10px;
          border: 1px solid grey;
          margin: 10px 20px;
          position: relative;
}
figcaption {
          background-color: grey;
          color: white;
          padding: 10px;
          margin-top: 0px;
          position: absolute;
}
```



Make a figure float to the right

 Use the float property to align the figure to the right or left of the other elements

```
figure {
    float: right;
    padding:10px;
    border: 1px solid grey;
    margin: 10px 20px;
    position: relative;
}
```



Fix the overflow using the clearfix hack

- Use the established clearfix hack to stop an element from flowing outside its containing div
- If you do **not** need to support IE9, use alternate methods for creating layouts

```
.clearfix::after {
  content: "";
  clear: both;
  display: table;
}
```



Create three columns of equal widths using float and percentages

 Use the float property to create columns of content, by setting the width property to a percentage you can fill the width of the browser with your desired ratio

```
.mycolumn {
    float: left;
    width: 33.33%;
    height: 200px;
    padding: 50px;
}
```



Style a video

 Use the video element selector to style the way the video will appear

```
video {
    width: 100%;
    height: auto;
}
```



Center content horizontally

Use the text-align property to align text

```
.vert {
    text-align: center;
}
```



Center content vertically

 Vertically align content in a div container by using the display property with a value of table-cell and the vertical alignment property

```
.vert {
    display: table-cell;
    vertical-align: middle;
    text-align: center;
}
```



Review Question

How do you apply a style to an HTML element that has an id attribute specified?



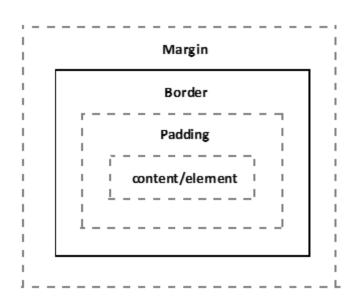
Review Question

Can you create your own selectors?



Review Question

What is the Box Model?







In this class we discussed the following types of selectors:

- Element
- Global
- Class
- ID





In this class we discussed the following element selectors:

- styling elements inside other elements
- body
- nav
- img

- figure
- figcaption
- video
- grouping selectors
- ::after pseudo selector





In this class we discussed the following properties:

- margin
- border
- padding
- position
- float

- clear
- display
- text-align
- vertical-align
- border-box



Explore on your own

Take a look at the Cheat Sheet for this class to see additional property values you may want to explore



Assignment 3

Style a HTML5 webpage with a CSS3 stylesheet (25%)



Questions?