

# CMSC335

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## Web Application Development with JavaScript



### CSSII

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# Kinds of Selectors

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- **Descendant selector**
  - Override the type, class, and id selector styles
  - Typically with two elements where the second is a descendant
- **Examples:**
  - `li a {font-size: 2em}`
  - `#header h2 {font-weight: normal;}`
  - `#content h2 {font-weight: bold;}`
- **Example:** DescendantSelector.html, DescendantSelector.css

# Kinds of Selectors

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- **Pseudo-element**
  - Keyword added to a selector that lets you style a specific part of the element
  - Examples: **:hover**, **:first-letter**, **:first-line**
- **Universal selector**
  - Applies to all elements in context
  - Example: `* {font-family: arial, Helvetica; }`
- **Example:** PseudoElementsUniv.html, PseudoElementsUniv.css

# Child Selector

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- A child selector matches when an element is the child of some element. A child selector is made up of two or more selectors separated by ">"

- **Examples:**

**body > p { line-height: 1.3 }**

» Sets the style of all p elements that are children of body

**div ol > li p**

» Combines descendant selectors and child selectors

» Matches a **p** element that is a descendant of an **li**; the **li** element must be the child of an **ol** element; the **ol** element must be a descendant of a **div**

- **Example:** ChildSelector.html

# Attribute Selectors

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- Match elements with certain attributes defined in the source document
- **Syntax**
  - **[att]** Matches when the element sets the "att" attribute, whatever the value of the attribute
  - **[att="val"]** Matches when the element's "att" attribute value is exactly "val"
- **Examples:**
  - h1[title] { color: blue; }**
    - » Matches all **h1** elements that specify the "title" attribute, whatever its value
  - span[class="example"] { color: blue; }**
    - » Matches all **span** elements whose "class" attribute has exactly the value "example"
- **Examples:** AttributeSelector.html

# More Selector Examples

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- **div.myPrefStyle { }**
  - A div with the class myPrefStyle
- **div#mySchedule { }**
- **p + div{ }**
  - **div is an adjacent sibling of p**
- **input[type = "submit"] { }**
  - An input element with a type attribute that has the value submit

# Lorem Ipsum

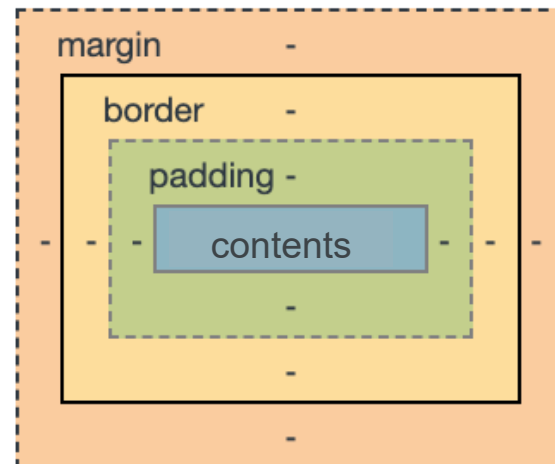
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- Lorem ipsum - placeholder text that serves to fill a space without actually saying anything
- Main reason for its use is, so people don't focus on the text
- It is rooted in Latin
- Comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Evil) by Cicero
- Reference: <https://www.lipsum.com/>
  - You can generate lorem ipsum lists, paragraphs, etc., using the previous site
- Use `<html lang="zxx">` (HTML validation will fail otherwise)

# Box Model

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- CSS box model:
  - Box around an HTML element with the following components: margin, border, padding, content
- Allow us to define space between different elements
- Four sections can be identified:
  - **contents**: what lies in the middle of the box (text, image, etc.)
  - **padding**: surrounds the content
  - **border**: surrounds the padding and represents the box border
  - **margin**: surrounds the border





# Box Model (Padding/Margin)

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- You can adjust individual padding/margin properties by using:
  - padding-bottom, padding-left, padding-top, padding-right
  - margin-bottom, margin-left, margin-top, margin-right
- The margins, borders, paddings, and background properties of block elements (e.g., body, p, etc.) are not passed to the children
  - i.e., not inherited
- **Example:** BoxModel.html, BoxModel.css

# Shorthand Property

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- Groups the definition of common properties acting on the same theme
  - We want to avoid repeated writing of similar style property names
- Allows you to specify several properties by using only one
  - If you don't specify one of the properties, a default value will be used
- Commonly used shorthand properties
  - background
  - font
  - list-style
  - margin
  - border
  - padding
- **Example:** ShorthandProperties.html, ShorthandProperties.css

# Background properties

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- **background-color** - color
- **background-image** - location (URL) of image
- **background-repeat** - how the image repeats
  - Possible values for repetition
    - » no-repeat - one instance of the image
    - » repeat - tile
    - » repeat-y - repeats on the y-axis
    - » repeat-x - repeats on the x-axis
- **background-attachment**
  - Indicates attachment of the image to the containing element
  - Possible values are:
    - » **scroll**: default value
    - » **fixed**: the image will stay stationary as the scrolling takes place

# Background (cont.)

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- **background-position**
  - Possible values (some combinations are valid)
    - » top, bottom, center, left, right
- **background-size**
  - Possible values
    - » auto auto - retains the original size
    - » 000px 000px
    - » x% y%
    - » contain | cover | ...
- Background images can be used in elements other than body (e.g., div)
- There is a shorthand property for backgrounds
  - `background: lightblue url("campusBldg.jpg") no-repeat fixed center;`
- **Examples:** Background.html

# Responsive Design with Media Queries

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- **What is a Media Query?**

- Media query is a CSS technique introduced in CSS3
- Uses the **@media** rule to include a block of CSS rule only if a certain condition is true

- **Example:**

```
@media only screen and (max-width: 600px) {  
  body {  
    background-color: lightblue;  
  }  
}
```

- Sets the background color only if the browser window is 600px or smaller

- **Reference:**

- [https://www.w3schools.com/css/css\\_rwd\\_mediaqueries.asp](https://www.w3schools.com/css/css_rwd_mediaqueries.asp)
- **Example:** MediaQuery.html

# Generic Font Families

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- **serif**
  - Line or stroke added to letter or symbol –
  - **Examples:** Times New Roman, Georgia
- **sans-serif**
  - No serif
  - **Examples:** Verdana, Arial
- **monospace**
  - **Example:** Courier New, Consolas
- **cursive** - *Lucida Handwriting*
- **fantasy** - Comic Sans MS, ...
- See the effect using the **Background.html** example

# Options for Choosing Fonts

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- Specify a particular font
  - **font-family: arial;**
  - Works if the font is available on user's machine
- Specify a generic family
  - **font-family: serif;**
  - Choices include: serif, sans-serif, monospace, cursive, fantasy
- Specify a list of fonts
  - Will be attempted in order
  - **font-family: foobar, arial, sans-serif;**

# Using Google Fonts

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- Google supports a set of nice fonts anyone can link in HTML docs
- <https://fonts.google.com/>
- To see selections click on the upper right corner 
- Choose fonts and add <link> in head section or use @import in css
- Use the fonts with the “font-family” CSS property
- **Example:** GoogleFont.html, GoogleFont.css
  - Example illustrates how we can use @import in CSS to import the font