

# CMSC335

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## Web Application Development with JavaScript



### CSSIII

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# Review: Box Model

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- A block-level element (e.g., p) contains four edges (top, bottom, right, and left) defining a box
- Every box has 3 available properties that can be adjusted to control its appearance:

**border**

**margin**

**padding**



# Review: Box Model

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- The width and height of an element with CSS is only for the **content area**. Add padding, borders and margins to calculate the full size of an element.

border

margin

padding



- Tutorial
  - [https://www.w3schools.com/css/css\\_boxmodel.asp](https://www.w3schools.com/css/css_boxmodel.asp)

# Width and Height Properties

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- Box width
  - left + right padding, left + right border, left + right margin, content width
  - width property : sets the content width
- Box height is determined in the same way
  - height property : sets the content height
- **Example:** WidthHeight folder

# Border/Padding/Margins are NOT inherited

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- The following CSS properties are not inherited by default
  - margin
  - border
  - padding
  - background
- Property values for a block element are **not** *inherited* to their child block-level elements

# display and float property

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- **display**
  - Enables you to change the type of an element from block level to inline (or inline to block level)
  - Values
    - » **Inline** - causes a block-level element to act like an inline one
    - » **block** - causes an inline element to act like a block-level one
    - » **inline-block** - causes a block-level element to flow like an inline one, while retaining other features of a block-level element
    - » **none** - hides an element from the page
- **float**
  - Specifies how an element should float
  - Values
    - » none, left, right
  - Note: Absolutely positioned elements ignores the float property!
  - Note: float property used instead of align attribute in img
- **Examples:** Display, Float, FloatBlock folders

# Positioning

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- CSS Normal document flow/normal position → Placing of elements one after another or within another element based on the document structure and whether the element is an inline or block element
- “**position**” property can be set to:
  - **static** (normal position—no effect)
    - » By default the position property is set to **static**
  - **fixed** (fixed position in the viewport (browser window), even when scrolling)
  - **relative** (adjust relative to normal position)
    - » Space occupied by the element in normal flow is still retained
  - **absolute** (fixed position within closest non-static ancestor)
  - **sticky** (complicated, not supported by many browsers)

# Absolute Positioning

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- Absolute positioning
  - Current element is placed in relation to the containing block
  - The containing block is not necessarily the immediate parent block
- Rules for determining the containing block:
  - Nearest ancestor of the element that has a position property value set to something different from static
  - If no ancestor has a position property set then the containing block is the body block
- Setting the position property of an element to relative and not providing any offsets (e.g., top, etc.) makes the element a containing block for its descendants



# Positioning

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- **top/bottom/left/right**
  - Use “top”, “bottom”, “left”, “right” to specify where the element should go. Each of them means how far. For example, top: 3em means 3em from the top
- Use “**z-index**” property is used to specify which elements are “in front” when they overlap (default value = 0). You can use any values (e.g., 5, 15, 20); the largest one represents the element on top
- **Examples:** PositioningSummary

# Fixed Positioning

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- top/right/bottom/left - Distance from appropriate side
- In the example the navigation menu and the paragraph in red are fixed
- If you reduce the window size the paragraph (in red) does not move and sometimes you will not be able to see it
- Useful when you want to have an element in a fixed position of the web page (e.g., menu or back button)

# Miscellaneous Properties

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- **text-indent** - specifies the indentation to use for the first line of a block
- **line-height** - height of a line of text
- **letter-spacing** - space in-between letters
- **word-spacing** - space in-between words

## Wrap-up

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- After this class, students should know (and be able to):
  - Use width and height property for block elements
  - Use display and float property
  - Use different positioning methods
    - » static, relative, fixed, absolute