ECAP472

Web Technologies

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Learning Outcomes

After this lecture, you will be able to

- Understand CSS Box Model.

- Go over opacity property .

The CSS Box Model

- In CSS, the term "box model" is used when talking about design and layout.

- The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content.

- The components that can be depicted on the web page consist of one or more than one rectangular box

Example
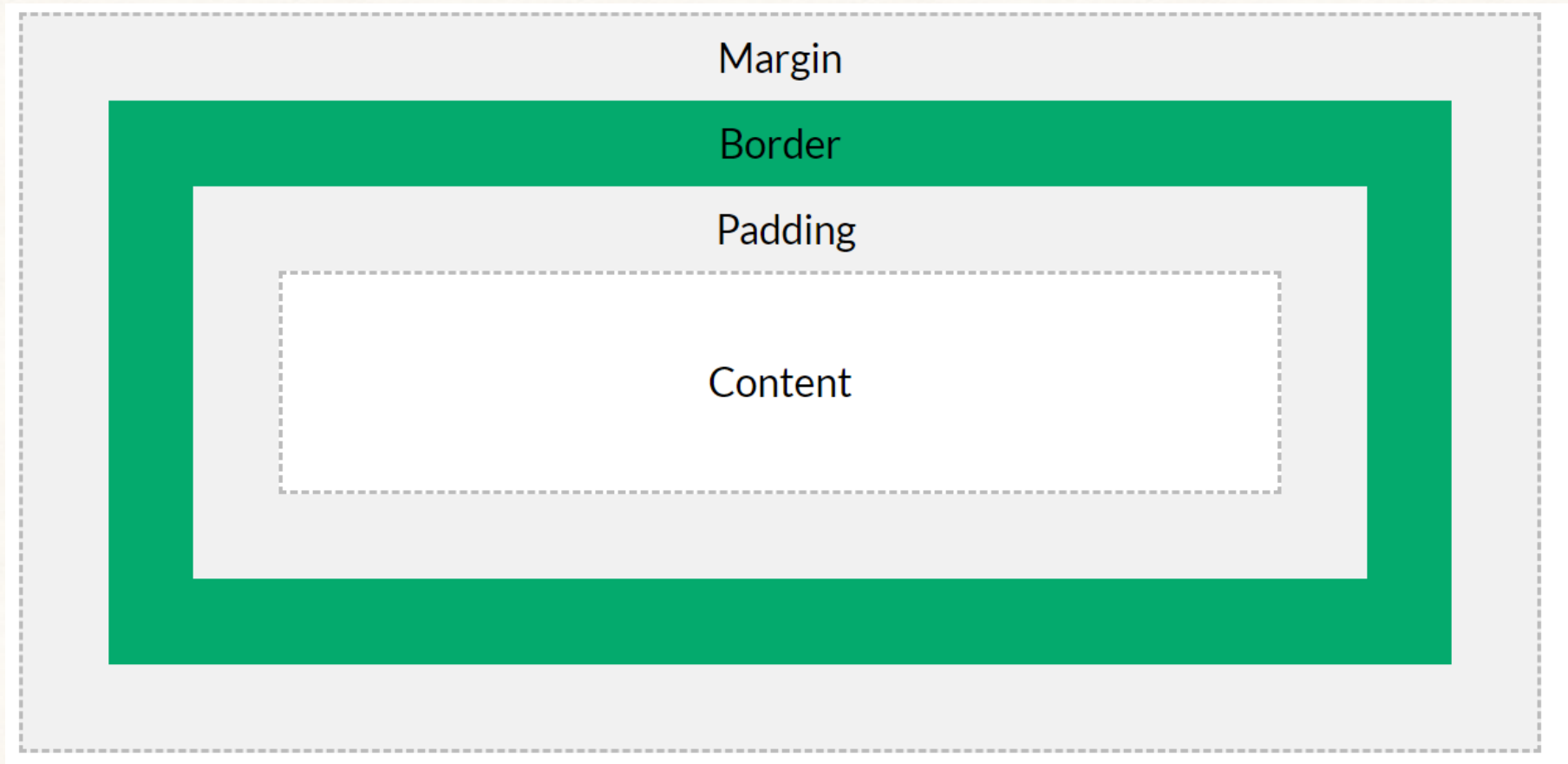
CSS box model

- A CSS box model is a compartment that includes numerous assets, such as edge, border, padding and material. It is used to develop the design and structure of a web page. It can be used as a set of tools to personalize the layout of different components. According to the CSS box model, the web browser supplies each element as a square prism.

CSS box model
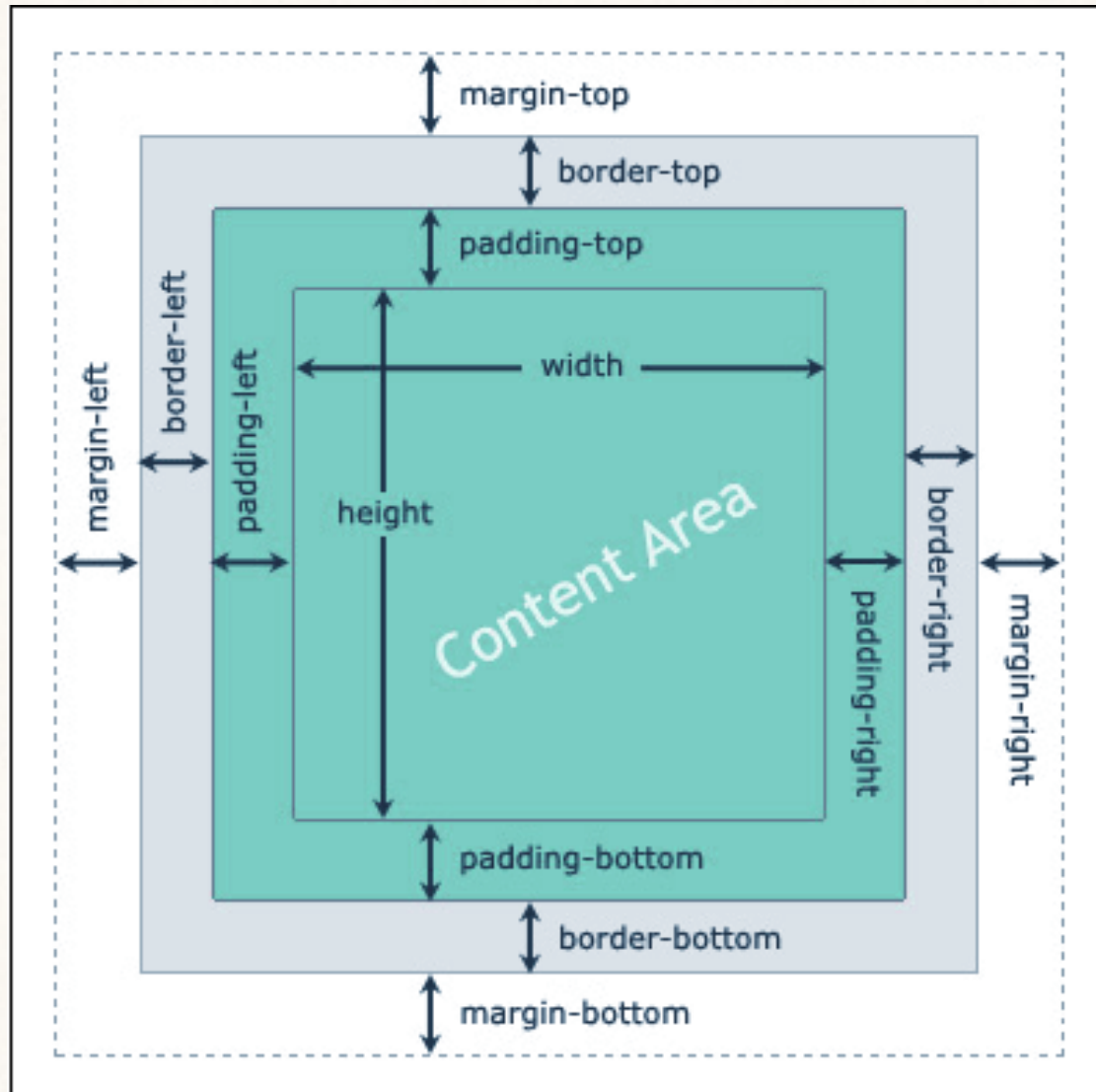
Explanation of the different parts:

Content — The content of the box, where text and images appear

Padding — Clears an area around the content. The padding is transparent

Border — A border that goes around the padding and content

Margin — Clears an area outside the border. The margin is transparent

The Box Model

The box model allows us to add a border around elements, and to define space between elements.

Example

```
div {

  width: 300px;

  border: 15px solid green;

  padding: 50px;

  margin: 20px;

}
```

Width and Height of an Element

- In order to set the width and height of an element correctly in all browsers, you need to know how the box model works.

- Important: When you set the width and height properties of an element with CSS, you just set the width and height of the content area. To calculate the full size of an element, you must also add padding, borders and margins.

Example

- This <div> element will have a total width of 350px:

```
div {

  width: 320px;

  padding: 10px;

  border: 5px solid gray;

  margin: 0;

}
```

Here is the calculation

- 320px (width)

- + 20px (left + right padding)

- + 10px (left + right border)

- + 0px (left + right margin)

- = 350px

Total width of an element

- The total width of an element should be calculated like this:

- Total element width = width + left padding + right padding + left border + right border + left margin + right margin

- The total height of an element should be calculated like this:

- Total element height = height + top padding + bottom padding + top border + bottom border + top margin + bottom margin

CSS Outline

- An outline is a line drawn outside the element's border.

- An outline is a line that is drawn around elements, OUTSIDE the borders, to make the element "stand out".

CSS has the following outline properties:

outline-style

outline-color

outline-width

outline-offset

outline

CSS Opacity / Transparency

- The opacity property specifies the opacity/transparency of an element.

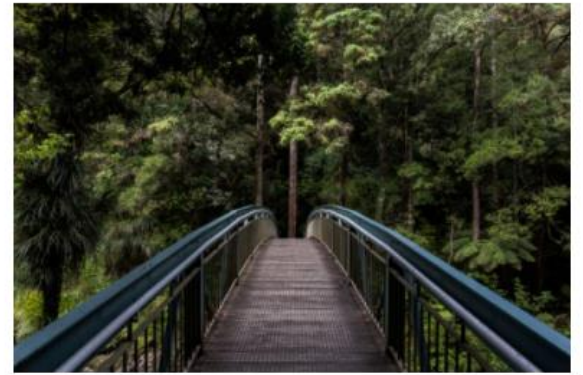- The opacity property can take a value from 0.0 – 1.0. The lower value, the more transparent:

Opacity

opacity 0.2

opacity 0.5

opacity 1
(default)

Transparent Hover Effect

- The opacity property is often used together with the :hover selector to change the opacity on mouse-over

That's all for now…