



Tishk International University
Faculty of Applied Science
Information Technology Department

Colors and Boxes

Lecture 5

Spring 2026

Course Code: IT240

Grade 2

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Web Design

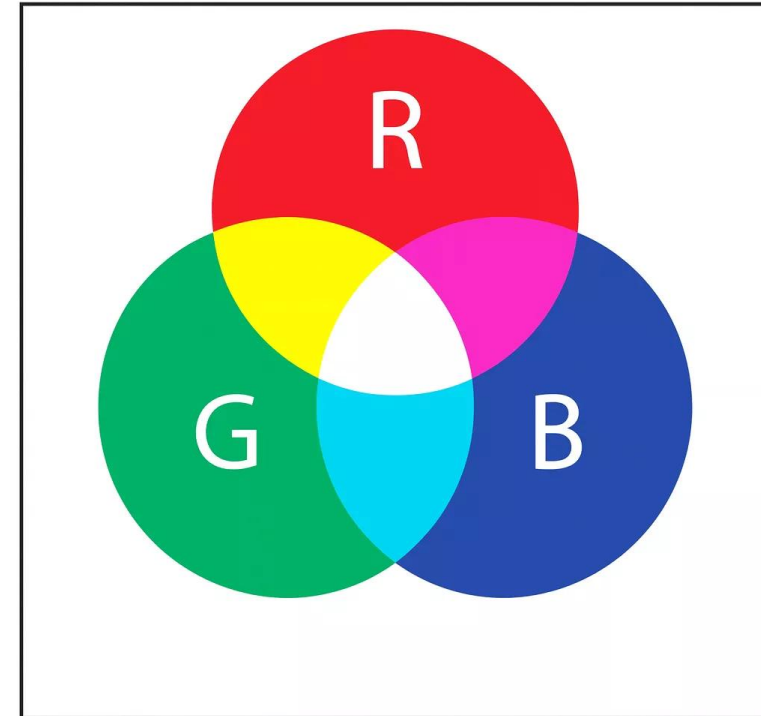
- ✓ Colors (RGB, Hex, Names)
- ✓ Background
- ✓ <div>
- ✓ Opacity
- ✓ Borders
- ✓ Margin & Padding

- **At the end of today's session, you will be able to:**
 - ✓ Define key concepts and explain color formats and spacing
 - ✓ Use colors, <div>, borders, margin, and padding in CSS
 - ✓ Compare margin vs padding and choose appropriate styles
 - ✓ Build a styled webpage

Understanding Color



- Every color on a computer screen is created by mixing amounts of red, green, and blue. To find the color you want, you can use a color picker.



- **Color Names:** There are 147 predefined color names that are recognized by browsers.

Example: DarkCyan.

- **Hex Codes:** These are six-digit codes that represent the amount of red, green and blue in a color, preceded by a pound or hash # sign.

Example: #ee3e80

- **RGB Values:** These express colors in terms of how much red, green and blue are used to make it up.

Example: rgb(100,100,90)

```
/* color name */
h1 {
    color: DarkCyan;}
/* hex code */
h2 {
    color: #ee3e80;}
/* rgb value */
p {
    color: rgb(100,100,90);}
```

Background Color



- You can specify your choice of background color in the same three ways you can specify foreground colors: RGB Values, Hex Codes, Color Names.
- If you do not specify a background color, then the background is transparent.

```
CSS chapter-11/background-color.html
body {
  background-color: rgb(200,200,200);}
h1 {
  background-color: DarkCyan;}
h2 {
  background-color: #ee3e80;}
p {
  background-color: white;}
```

Division (div)



- A `<div>` in HTML stands for “division”. It is a container element used to group other HTML elements together.
- A `<div>` is like a box that helps you organize content on a webpage and to apply CSS styles to a group of elements.

```
<div>  
  <h2>Title</h2>  
  <p>This is a paragraph inside a div.</p>  
</div>
```

- Example

```
<div class="box">  
  <h2>My Box</h2>  
  <p>This content is inside a styled div.</p>  
</div>
```

- CSS

```
.box {  
  background-color: lightblue;  
}
```

Output

My Box

This content is inside a styled div.

Division (div)



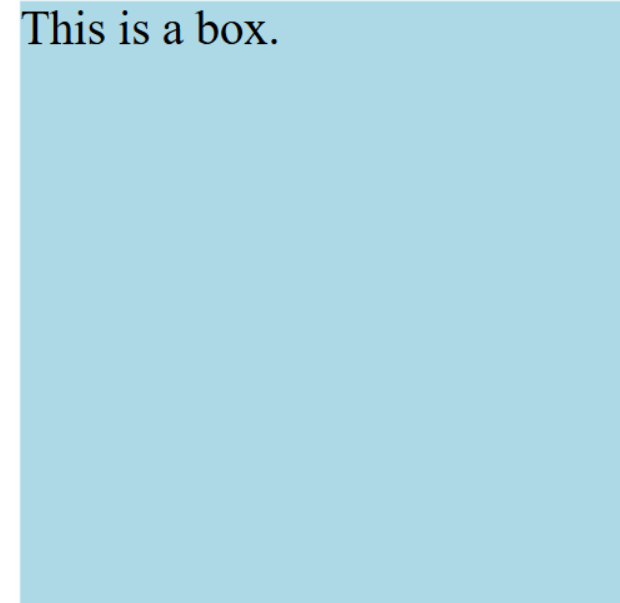
- Example

```
<div class="box">  
  <p>This is a box.</p>  
</div>
```

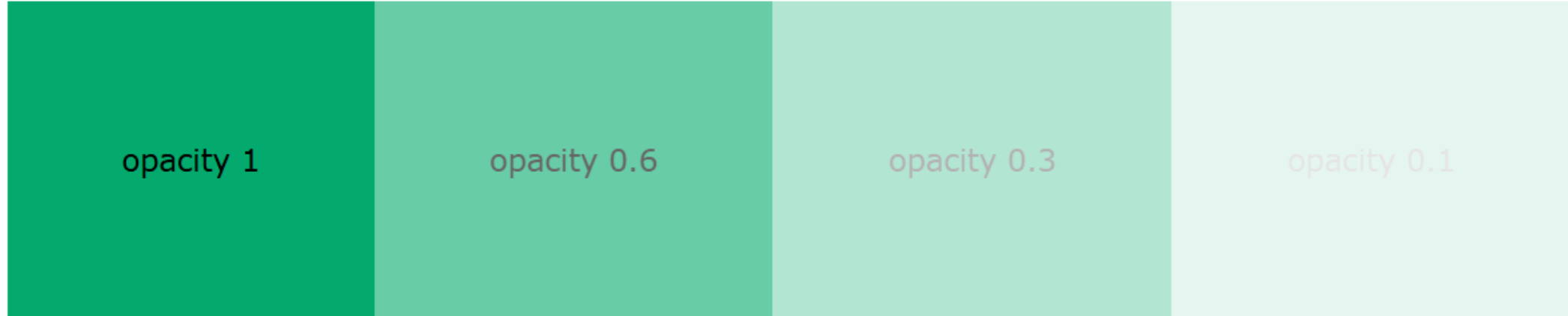
- CSS

```
.box {  
  height: 200px;  
  width: 200px;  
  background-color: lightblue;  
}
```

Output

The output of the code is a light blue square containing the text "This is a box." in a black serif font. The square is centered on the page and has a uniform light blue background color.

- The **opacity** property specifies the opacity/transparency of an element. It can take a value from **0.0** - **1.0**. The lower value, the more transparent:



- **Example**

```
<h2>Opacity Example</h2>  
  
<div class="box"></div>
```

➤ CSS

```
.box {  
  width: 200px;  
  height: 200px;  
  background-color: ■ rgb(120, 120, 255);  
  opacity: 0.2;  
}
```

Opacity Example



- Example

```
<h1 class="opcBackground">Web Design</h1>
```

➤ CSS

```
.opcBackground {  
  background-color: ■ orange;  
  opacity: 0.5;  
}
```

Output

The output shows the text 'Web Design' in a large, bold, grey serif font. It is centered within a horizontal rectangular bar that has a semi-transparent orange background, demonstrating the effect of the 'opacity: 0.5;' CSS rule.

- A **border** in CSS is the line that goes around an element (like a box).

➤ Border Properties

- A border has 3 main parts:
 1. **Width** → how thick the border is
 2. **Style** → how the border looks
 3. **Color** → the border color

➤ Different Border Styles

solid → straight line

dashed → broken line

dotted → dots

double → two lines

none → no border

- Example

```
<h2 class="myBorder">Tishk International University</h2>
```

➤ CSS

```
.myBorder {  
  border: 3px dashed red;  
}
```

Output

Tishk International University

Borders For Each Side

- Borders for each side, means you can control the border separately on the:
 - Top
 - Bottom
 - Right
 - left
- Example

```
<h2 class="myBorder">Web Design</h2>
```

```
.myBorder {  
  border-top: 3px solid ■ red;  
  border-right: 3px dashed ■ lightblue;  
  border-bottom: 3px dotted ■ orange;  
  border-left: 3px double ■ black; }  
}
```

Output

The output shows the text 'Web Design' rendered in a large, bold, black serif font. The text is enclosed in a rectangular box with four distinct borders: a solid red top border, a dashed light blue right border, a dotted orange bottom border, and a double black left border.

- A **margin** in CSS is the space outside an element's border.
 - margin
 - margin-top
 - margin-right
 - margin-bottom
 - margin-left

- Example

```
<p style="margin: 20px; border: 2px solid ■ black;">
  This paragraph has margin around it.
</p>
```

- Example

```
<div style="margin: 30px; background-color: ■ lightblue;">
  Box with margin
</div>
```

- **Padding** in CSS is the space inside an element, between the content and its border.
 - padding
 - padding-top
 - padding-right
 - padding-bottom
 - padding-left

- **Example**

```
<p style="padding: 20px; border: 2px solid ■ black;">  
  This paragraph has padding inside it.  
</p>
```

Output

This paragraph has padding inside it.

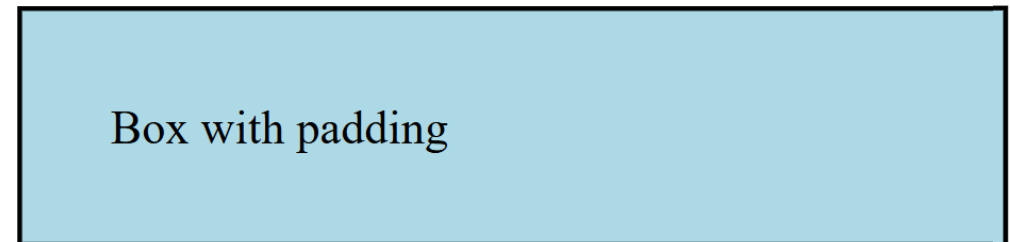
- Example

```
<div class="boxWithPadding">  
  Box with padding  
</div>
```

➤ CSS

```
.boxWithPadding {  
  padding: 30px;  
  background-color: lightblue;  
  border: 2px solid black;  
}
```

Output



Activities and Next Lecture's Topic



Activities

- Review this lecture note
- Practice

References



- **Dean, J. (2019) Web programming: With HTML5, CSS, and JavaScript. Burlington: Jones & Bartlett Learning.**
- **Duckett, J. (2011) HTML & CSS Design and Build Web Sites. Indianapolis: John Wiley & Sons.**
- **W3Schools. (n.d.). HTML tutorial.
<https://www.w3schools.com/html>.**



Thank You!