

Introduction to Web Building

HTML & CSS

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Welcome to Introduction to Web Building: HTML and CSS

By the end of this class you will be complete the following skills with HTML and CSS

- Create a basic webpage from scratch using HTML including text, images, and links
- Link to other webpages as part of a site and to other webpages on the internet
- Create an external style sheet using CSS to change the design of your site
- Use internal and inline CSS to make focused design changes

Exercises

All exercises will be done in *Notepad++*. Sample images, text, and other HTML pages are located at <https://fergusonlibrary.org/online-tech-classes>

HTML

1. Open up a blank document in Notepad++ and fill in the skeleton of your HTML page

Enter `<!DOCTYPE html>` in the first line

Enter `<html>` and `</html>` on the next two lines

In between the `<html>` tags enter `<head>` and `</head>` on two lines

After the `<head>` tags enter `<body>` and `</body>`

```
<!DOCTYPE html>
<html>
  <head>
  </head>
  <body>
  </body>
</html>
```

2. Give your webpage a title

Between the `<head>` tags enter `<title>` and `</title>` on the same line

Enter *Ferguson Library HTML Class* between the `<title>` tags

3. Start adding some text to the body of your webpage between the `<body>` tags

Enter `<h1>` and type *Fairy Tales Around the World* and close it with `</h1>`

Enter `<h2>` and type *Stories* and close it with `</h2>`

Enter `<h3>` and type *The Fox and the Crow* and close it with `</h3>`

Copy and paste the text from the first story in **fairytales.txt** file in the **Intro to HTML & CSS** folder on your desktop. Use `<p>` and `</p>` around each paragraph.

Around the last line of the story (the moral), insert `` and `` nested inside the `<p>` tags. This will mark this line as something with emphasis.

After the last line of the story, enter `
` to insert a line break.

Type *The Woodsman and the Crane* between another set of `<h3>` tags

Copy and paste the text from the second story in **fairytales.txt** in the **Intro to HTML & CSS** folder on your desktop. Use `<p>` and `</p>` around each paragraph.

4. Save your file in the **Intro to HTML & CSS** folder as **index.html**

Traditionally the main landing page of a website is named index.html and browsers will automatically look for that file when the site is first loaded.

5. Minimize **Notepad++** and open the **Intro to HTML & CSS** folder on the desktop. Double-click on **index.html** to open up your website in a web browser to see what you have done so far.

*If it does not look completely correct, you can go back to **Notepad++** and make changes. Save the file after you make changes and view your changes by returning to the browser and hitting **F5** to refresh the page.*

6. Let's properly credit the source for these fairy tales by linking using the URLs below each story title in **fairytales.txt**.

Copy the first URL from **fairytales.txt** to the clipboard

Below the last line of *The Fox and the Crow* create a new paragraph using `<p>` tags.

Between the `<p>` tags, enter `Story copied from Fairy Tales of the World` Replace [URL here] with the copied URL from **fairytales.txt**

This is the standard way to create a link on a webpage to another webpage.

Repeat the same process using the URL for *The Woodsman and the Crane*.

Save your HTML file, and refresh the page in your browser to see the added links.

Click on one of the links to see where it goes. *Use the back button in the browser to return to your HTML page.*

7. Add some images to your webpage.

There are several images in the Intro to HTML & CSS folder on your desktop we will be using for this exercise.

Above the line `<h1>Fairy Tales of the World</h1>` enter ``

Note that you do not need a closing `` tag!

*Also note that we just enter the file name, this is because the image file should be located in the same folder as your **index.html** file.*

Insert a `
` after the line `<h2>Stories</h2>` to create a line break.

After the `
`, enter ``

Since foxcrow.jpg is located in the images folder, we had to add the directory name. You can easily organize your images and files using directories like this.

Repeat the same process to insert *crane.jpg* above the second story.

Save your HTML file and refresh the page in the browser to see your images.

You will find that the crane image is VERY LARGE, so we will need to adjust the size of it.

Change the width of *crane.jpg* by adding `width="300"` between the file name and closing bracket so it should appear as ``.

Save your HTML file and refresh to see if the image resized.

Adjust the size of *foxcrane.jpg* to a **height of 200** and *banner.jpg* to a **width of 400**.

8. We are now going to build a basic table of contents that will link to each of the stories on this page as well as to other web pages.

Underneath `<h1>Fairy Tales of the World</h1>` enter `<h2>Table of Contents</h2>`

Start an unordered list on the next line with `` *The `` tag creates an unordered list with round bullets. You can use the `` tag for a ordered list that will use numbers.*

On the next line enter `The Fox and the Crow `

Go down to the line containing the title for "The Fox and the Crow" and change the starting `<h3>` tag to `<h3 id="fox">`

The `` tag is used around each item in an ordered or unordered list. The `` makes a link to the place where you set the id to "fox". This is called an anchor tag. Note that you have to close a list item with ``

Repeat the process and create a list item that links to "The Woodsman and the Crane" with the id of **"woodsman"**.

Create a third list item that says **More Stories** and link it to **stories2.html**

Finally, close out the unordered list using the `` closing tag.

Save your HTML file and refresh it in your browser to see your changes.

9. While your HTML page is good enough as it is, before moving on to CSS, we are going to add some structural items that will make styling your webpage easier.

Before the **<h2>** tag before Table of Contents, add a **<div>** tag. *<div> marks off divisions in an HTML document and can be used to target specific styling. can be used in a similar fashion in the middle of a line or paragraph.*

Use `</div>` to close the division after the `` tag

Put **<div>** tags around each of the stories, starting before the image line, and closing it after the source URL.

Save your HTML document.

Congratulations! You have now built a basic webpage using HTML!

It looks rather plain, doesn't it? So now we're going to look at how to make it prettier using CSS.

CSS

1. Open up a new document in Notepad++ and save it in the **Intro to HTML & CSS folder** as **fairytales.css**
2. Return to your HTML page and link it to your new stylesheet by using the **<link>** tag in your HTML page's **<head>** section

Under the `<title>` line, enter `<link rel="stylesheet" type="text/css" href="fairytales.css">`

The link line has three parts:

rel defines the relationship – this is a stylesheet for this HTML document

type defines to the browser what type of file is being linked to

href defines the stylesheet file – it's the same as when you make a hyperlink

This line is necessary on all HTML pages you want to style with your stylesheet. It has already been added to stories2.html.

Save your HTML page. *We did this so that we can see the changes as we start building our style sheet.*

3. Return to fairytales.css and change the **background color** of your web page
Since we are adjusting the background color of the webpage's *body* we need to style the **<body>** element.

```
body {  
    background-color: #2F004F;  
}
```

Save your stylesheet and refresh your webpage in your browser. Voila! The background changed!

Click the “More Stories” link in your Table of Contents and you can see that the background of the other page has changed as well.

4. Now that we have changed the background, it is sort of hard to see the text, so we're going to change that.

In fairytales.css, underneath the background-color line, but still inside the curly brackets, add **color: #EABFCB;**

Save the stylesheet and refresh your webpage.

This changes all of the text, but our webpage also contains headings and URLs, so let's make those stand out as well.

Underneath the closing bracket for the body tag enter

```
h1, h2, h3 {  
    color: #C191A1;  
    text-align: center;  
}
```

Since we use 3 different levels of headings, we need to change all 3 heading elements.

Note that we can do them all at once by separating the elements with commas.

Save your stylesheet and refresh in your browser. The change in the headings is subtle, but it is there.

5. You should notice that when we changed the color of the text to be more visible, the color of the hyperlinks did not change. This is because the browser sees hyperlinks as different than the text. Let's change the color to make the links more visible.

Under the last closing bracket on your CSS file enter

```
a {  
    color: #A4508B;  
}
```

This will change the color of all the links in any state. There are 4 link states:

a:link – a normal unvisited link

a:visited – a link the user has visited

a:hover – a link when the user mouses over it'

a:active – a link the moment it is clicked

You can style each of the states differently, for example have visited links be a different color. For this class we're not going to do this, but you are welcome to experiment on your own.

6. Since our webpage is displaying stories, it would be nice to make the stories stand out from the page. We're going to do this by applying a unique style specifically to the parts of the webpage containing the story by using classes.

The period (.) is used to select what class you are styling. Since we're styling stories, we will use a class called **story**

```
.story {  
    background-color: #5F0A87;  
}
```

*Note that we are using the same **background-color** declaration that we used before. Now we are setting the background color for anything that is defined as part of the **story class**. Save your CSS document and refresh your webpage. Does anything change? Probably not! We need to define which content is in the story class.*

Go back to your HTML file and find the **<div>** tag at the start of The Fox and the Crow. Edit it so that it says: **<div class="story">**

Save your HTML file and refresh it in the browser. The Fox and the Crow story block should now have a different background color than the rest of your page.

You will notice that The Woodsman and the Crane story still has the original background color. Go back to your HTML file and define it as a story class.

Save your HTML file and refresh the browser. Both stories should now have the new background color. If you click the More Stories link, you will see that the stories there also have the new background color too.

You probably noticed that the text in the stories go right against the edges of their box. Let's add in a little bit of padding to give the text a little room.

Under the background-color line add **padding: 10px;**

This will add 10 pixels of padding around the content inside anything of the story class.

7. Let's also make our table of contents stand out by putting a border around it. In this case we are going to assign our table of contents an id, and change the style based on that.

Use the id selector to style a specific element on your webpage, the id should be unique. If you want to style multiple parts of your webpage use a class instead.

The hash (#) is used to select what id you are styling.

```
#contents {  
    border-style: solid;  
    border-width: 10px;  
    border-color: #5F0A87;  
}
```

Save the CSS file and return to your HTML file.

Inside the **<div>** tag for your table of contents add **id="contents"**.

Save your HTML file and refresh your browser to see your changes.

8. You can also use CSS to style a page by creating an **internal style sheet** instead of an **external** file. An internal style sheet will only affect the design of the page it exists on. In this example, we are going to add rounded corners to the boxes surrounding you're the stories on the main page.

In the **<head>** section of your HTML page, under the **<link>** line enter

```
<style>
    .story {
        border-radius: 25px;
    }
</style>
```

Save your HTML file and refresh your browser to see if the difference.

If you click the More Stories link, you will see that the stories on that page do not have the rounded corners. This is because the styling you just did is just for the page you entered it on.

9. If you want to customize styling in a very specific place in your webpage, you can use **inline styling**. Inline styling adds CSS style code to a single element in your HTML page and will only affect that instance of the element. You use the **style** attribute to add inline styling.

We are going to center the very top image of the web page using CSS, but not going to center any of the other images on the page.

Inside the **** tag for banner.jpg add **style="display:block; margin:auto;"**

Save your HTML file and refresh your browser. You should see the top banner image is now centered.

Remember when we used the **** tags to add emphasis around the moral of The Fox and the Raven? Instead of using the **** tags, we are going to use CSS to italicize the moral and change the color to make it stand out more.

Find the last line of The Fox and the Raven in your HTML file. Delete the **** tags.

Inside the **<p>** tag add **style="color:#FF0000;font-style:italic;"**

Save the HTML file and refresh your browser to see the changes.

Congratulations! You have now built a basic webpage using HTML and CSS!

HTML Tag Reference

Tag	Description
<!-- ... -->	Define a comment
<!DOCTYPE html>	Defines the document type as HTML
<a>	Create a hyperlink Commonly used with href attribute
	Bold text
<body>	Defines the body of the document

	Single line break
<div>	Defines a section of the document
	Emphasized text (typically italicized)
<h1> to <h6>	Defines headers 1 to 6

<head>	Defines the head of the document Usually contains the title, metadata, links to external stylesheets, and internal styling
<hr>	Creates a horizontal rule
<html>	Defines an HTML document
<i>	Italicized text
	Image Usually used with the src attribute. Modify with the height and width attributes.
<p>	Defines a paragraph
	Defines a section in a document Used for shorter segments than <div>
	Strong text (typically bolded)
<style>	Defines a style definition Used in the document head to create an internal stylesheet
<title>	Sets the title of the webpage This is what shows up in the browser tab
<u>	Underlines text

CSS Property Reference

Property	Description
background-color	Specifies the background color of an element
background-image	Specifies one or more background images for an element
border	Shorthand property for border-width, border style, and border-color
border-color	Sets the color of the four borders Can also set color of each individual border (left, right top, bottom)
border-style	Sets the style of the four borders Can also set the style of each individual border
border-width	Sets the width of the four borders in pixels Can also set the width of each individual border
color	Sets the color of text
height	Sets the height of an element
margin	Sets the margin properties in one declaration Can also set each individual margin
padding	A shorthand for all the padding properties Can also set individual padding sizes
text-align	Specifies the horizontal alignment of text Can set it to left, center, right, or justify
width	Sets the width of an element

For further reference and tutorials please visit <https://www.w3schools.com>

Further Study and Practice

The Ferguson Library provides access to the Lynda.com learning site for all its members.

To access Lynda.com please visit:

<https://www.lynda.com/portal/patron?org=fergusonlibrary.org>

Suggested Courses:



- HTML Essential Training with James Williamson
- Introduction to CSS with Carrie Dils
- CSS Essential Training 1 with Christina Truong
- CSS Essential Training 2 with Christina Truong