

# ICT26 Web Development

## Tutorial 1 HTML Introduction

### Overview

In this week's lab exercises you will learn:

- Basic HTML structure
- Creating hyperlinks and add images to a web page
- Build consistent navigation structure over multiple pages
- Use absolute and relative links correctly
- HTML5 semantic tags
- Validate the HTML page

### Guidelines

- Create a folder "ICT726\_Tutorials" in your computer for all the tutorials of this course.
- Download the files provided in the resources of tutorial 1 on Moodle and put them into "ICT726\_Tutorials/Tutorial1".
- The images related to the lab are available in the image folder.
- You can use any type of text or HTML editor (such as VScode, Sublime, Notepad++, Brackets, etc.) to write your code. If you would like to try an online editor, check <https://vscode.dev/>

**Note:** Since absolute links will only work on your computer, we recommend checking your website to make sure all the links work and use the same structure on your home computer.

### Exercises 1: First Web Page

In this exercise you will create a simple web page, which should have hyperlinks, images, lists, header, footer, navigation, articles, sections and figures.

1. Open the text editor and write the following code in a file

```
<!DOCTYPE html>
<html lang="en">

  <head>
    <meta charset="utf-8">
    <title>Share Your Travels -- New York - Central Park</title>
```

```
</head>
<body>

    <h1>Share Your Travels</h1>
    <h2>New York - Central Park</h2>
    <h3>Description</h3>
    <p>Photo by Randy Connolly</p>
    <p>This photo of Conservatory Pond in Central Park in New York
City was taken on October 22, 2011 with a Canon EOS 30D camera. </p>
    <h3>Reviews</h3>
    <div>
        <p>By Ricardo on September 15, 2012</p>
        <p>Easy on the HDR buddy. </p>
    </div>
    <hr/>

</body>
</html>
```

2. Save the file as “exercise1.html” in Tutorial 1 folder. Now open the file using a browser. The result should look similar to the figure shown below.

# Share Your Travels

## New York - Central Park

### Description

Photo by Randy Connolly

This photo of Conservatory Pond in Central Park New York City was taken on October 22, 2011 with a Canon EOS 30D camera.

### Reviews

By Ricardo on September 15, 2012

Easy on the HDR buddy.

3. Add an external link “<https://www.centralpark.com/>” to the following bold text using anchor tag.

```
<p>This photo of Conservatory Pond in Central Park in New York City was taken on  
October 22, 2011 with a Canon EOS 30D camera. </p>
```

4. Create another file “newyork.html” and link that file with the following bold text using the relative link.

```
<p>This photo of Conservatory Pond in Central Park in New York City was taken on  
October 22, 2011 with a Canon EOS 30D camera. </p>
```

#### newyork.html

```
<!DOCTYPE html>  
<title>New York</title>  
<p>Not much here to see yet except the text "New York"</p>
```

5. Add the following tag to your file from the previous exercise and then test:

```
  
  
<h3>Reviews</h3>
```

6. Add the title attribute (**title=" Central Park"**) to the image. The title attribute is used to display the tooltip.
7. Try to change the src attribute to “/images/central-park.jpg”. You will no longer see the central park image. **Why?** Because the root reference does not work when tested locally.
8. Remove the slash added in previous step. Now convert the image to link that will display the larger version of Central Park image.

```
<a href="images/large-central-park.jpg">  
      
</a>
```

9. Add the following after the Central Park image:

```
<a href="images/large-central-park.jpg">  
      
</a>
```

```
<p>Share: <br>





</p>
```

**Note:** The browser interprets each (or multiple ones in a row) carriage return in the HTML as a single space.

10. Now we use list to organize the information. HTML supports several different types of list: definition lists (dl), order lists (ol) and unordered lists (ul).

```
<body>

<h1>Share Your Travels</h1>
<h2>New York - Central Park</h2>
<ul>
  <li>Description</li>
  <li>Reviews</li>

</ul>
<h3>Description</h3>
```

11. Try different types of list and see the difference by running it in browser.
12. Change the list back to unordered list and add the anchor tags with the list items. Use `href="#"`, which indicates the current page. *This is a common technique for showing links whose destinations are not yet know.*

```
<ul>
  <li><a href="#">Description</a></li>
  <li><a href="#">Reviews</a></li>
</ul>
```

13. Now add the anchors to your document and link the "href" with those anchors. You can do this by adding "id" attribute to the tag you want to make anchor.

```
<ul>
  <li><a href="#description">Description</a></li>
  <li><a href="#reviews">Reviews</a></li>
</ul>
<h3 id="description">Description</h3>
<p>Photo by Randy Connolly</p>
<p>This photo of Conservatory Pond in <a href="http://www.centralpark.com/">Central
Park</a> in <a href="newyork.html">New York City</a> was taken on October 22, 2011
with a Canon EOS 30D camera. </p>

<h3 id="reviews">Reviews</h3>
<div>
  <p>By Ricardo on September 15, 2012</p>
  <p>Easy on the HDR buddy.</p>

</div>
```

14. Test by clicking on links in bulleted list. You may need to shrink the vertical size of your browser to see these relative links work.
15. HTML5 introduces the semantic elements that helps to maintain the structure of the markup. For example, the “header” tag. It would not add any specific formatting or style to the page but just used for better understanding the structure of the page. Add the following code and test

```
<body>
  <header>

    <h1>Share Your Travels</h1>
    <h2>New York - Central Park</h2>
    <ul>
      <li><a href="#">Description</a></li>
      <li><a href="#">Reviews</a></li>
    </ul>

  </header>
```

16. Add the footer at the end of your web page.

```
<footer>
  <p>Copyright © 2013 Share Your Travels</p>
</footer>
</body></html>
```

17. Try <strong> and <em> tags inside the footer paragraph and see the difference in the browser.
18. Other semantic tags are <nav>, <main>, <article>, <aside>, <section>, <figure> etc., that can be used to make markup clear. Add the nav tag

```
<header>

  <h1>Share Your Travels</h1>
  <h2>New York - Central Park</h2>
  <nav>
    <ul>
      <li><a href="#">Description</a></li>
      <li><a href="#">Reviews</a></li>
    </ul>
  </nav>
</header>
<article>
  <section>
    <h3>Description</h3>
    <p>Photo by Randy Connolly</p>
    ... [content omitted]
  </p>
</section>
  <section>
    <h3>Reviews</h3>
    <div>
      <p>By Ricardo on September 15, 2012</p>
      <p>Easy on the HDR buddy.</p>
    </div>
    <hr/>
  </section>
</article>
<footer>
```

19. Change <article> tags to <main> tags and test. It might make more semantic sense to use a <main> element instead of <article>.

20. Figures and captions can be used for the images that is essential but whose position on the page could change. Add the following to the large image and test.

```
<figure>
  <a href="images/large-central-park.jpg"><imgsrc="images/central-park.jpg"
alt="Central Park" title="Central Park"/></a>
  <figcaption>Conservatory Pond in Central Park</figcaption>
</figure>

<p>Share: <br/>
```

21. Finally, lets validate our HTML structure. Open a browser and go to <http://validator.w3.org>
22. In the “**Validate by File Upload**” tab, click the Browse or Choose File button and choose your exercise1.html file.
23. Click the Check button. *The site should eventually verify that your page is valid. You may or may not get a warning, but some of the warnings are relatively unimportant.*
24. Remove the closing `</ul>` element, save, and then redo steps 22-23 of this exercise. *The page will not be valid and the service may find not one but many errors. At the time of writing, the validator lists the missing `</ul>` element as error number 10. Thus, while a validator can help you find an error in your markup, the error messages do take some interpretation.*
25. Put the closing `</ul>` tag back in, save, and re-validate.

## Exercises 2: Share Your Travel Photos

In this exercise you need to convert your Exercise 1 website to look similar to the website shown in Figure 1:

- You can find the required images in “tutorial1\_resources/exercise2” folder on Moodle.
- Add the “image/logo.png” with `<h1>`
- In the unordered list, add links to the list items. This will require referencing in the **href** the **id** attribute of those list items.
- Add the icons in the under the “Conservatory Pond in Central Park” image.
- Add a new section for the related photos. In this section, add three images from the ones provided in the image folder of exercise 2. Use small images **related-square1.jpg**, **related-square2.jpg**, and **related-square3.jpg**, but link to the large images with almost the same names.
- Add an additional review with your name and comment.
- Add the navigation links in the footer with **href=“ #”**.



## Share Your Travels

### New York - Central Park

- [Description](#)
- [Related Photos](#)
- [Reviews](#)

#### Description

Photo by Randy Connolly

This photo of Conservatory Pond in [Central Park](#) in [New York City](#) was taken on October 22, 2011 with a Canon EOS 30D camera.




Conservatory Pond in Central Park

Options:     

#### Related Photos




#### Reviews

 Ricardo on 2016-05-23

Easy on the HDR buddy.

---

 By Mubashir on 2022-06-23

Looks beautiful.

---

[Home](#) | [Browse](#) | [Search](#)

Copyright © 2023 Share Your Travels

Figure 1 Completed Exercise 2



## Exercises 3: Customer Relations Management Admin

In this exercise you will be using the semantic HTML5 tags.

- Open the exercise3.html file available in exercise3 folder of tutorial 1 resources. You notice that the html file has used <div> tags are used to create divisions for different type of content in the page.
- You need to modify the code and replace the div tags with semantic HTML5 tags like <nav>, <footer>, <article> etc. Some parts make sense to wrap inside tags such as <section> or <figure>.

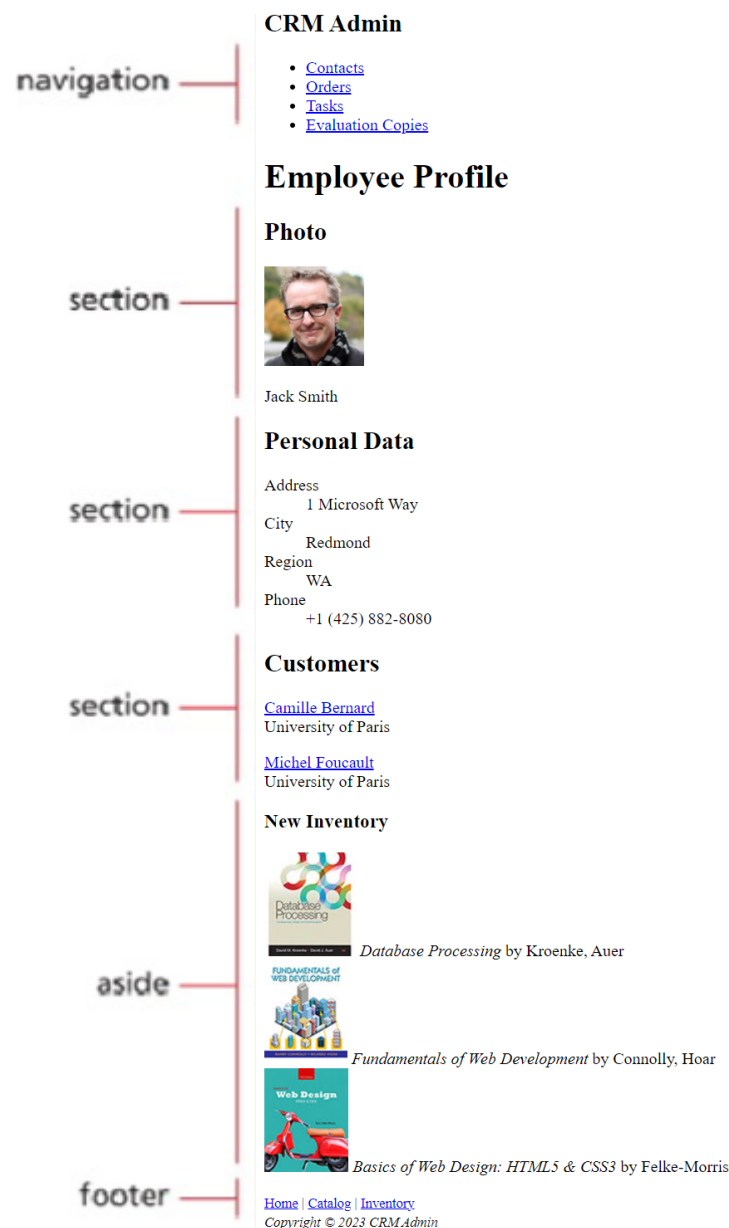


Figure 2 Customer Relations Management Admin

## Exercises 4: Art Store

In this exercise you need to create an HTML page from scratch based on the Figure 3. The images and resources are provided in exercise4 folder of the tutorial 1 resources. Make sure to use the correct semantic HTML5 tags.

### My Sample Art Store

[Home](#) | [Artist](#) | [Artworks](#) | [About Us](#) | [Search](#)

#### Mademoiselle Caroline Rivière

by [Jean-Auguste-Dominique Ingres](#)



The portrait of Mademoiselle Caroline Rivière was painted in 1806 by the French Neoclassical artist Jean Auguste Dominique Ingres, and today hangs in the Louvre. It is the third of three portraits of the Rivière family the artist painted that year.

Date: 1806

Medium: Oil on Canvas

Dimensions: 100 x 70 cm

Home: Musée du Louvre Paris;



[Add to Cart](#)



[Add to Favorites](#)

#### Related Paintings



#### Reviews

Love this painting

John Smith ★★★★★

This is one of my favorites

[Home](#) | [Art Works](#) | [Artist](#) | [About Us](#)

Copyright © 2023 My Sample Art Store

Figure 3 Art Store

## Homework:

Each page on your site is intended to be a summary of a lecture in this course. Lecture1.html, for instance, might capture our first lecture topics, which included:

- a course summary, expectations, textbook
- introduction of Internet
- Description of the difference between client-server models and HTML tags

The content for each lecture should be a consist of topics and their brief summary and does not need to be very long. Ideally, it will serve to remind you of topics covered during the lectures of this course.

## Requirements

You must create a semantically appropriate HTML5.

You must create at least 5 web pages that will define your "site". The pages must be named lecture1.html, lecture2.html, lecture3.html and lecture 4.html. There will also be a page called lab1.html.

Each of your pages must be consistent with one another. There should be:

- a consistent layout look and feel between pages
- (vertical) navigation menu with links between all 5 pages (using an unordered list)

Each of the pages must include:

- The aforementioned menu that allows on to navigate between all the site's pages
- At least one HTML comment per page
- One unique photo (of your choosing) per page enclosed in a <figure>, with a <figurecaption> linking to where it was found.
- Note: the clickable link to the source of the image should contain noting more than the text source.
- You must define "alt" and "title" attributes for all pictures.
- Valid HTML5 markup. Your site should validate without error (warnings are ok).
- Ensure a unique and descriptive <title> tag for each page using title best practices described in lecture.
- Semantic markup:
  - Use the <nav> tag to define a uniform "menu" on each page
  - Use the <article>, <header> and <footer> tags at a minimum, with other tags to be used as appropriate.
- No styles, css, JavaScript, or other advanced components to the site.

## Check List:

| Area   | Max | Grade |
|--|-----|-------|
| <b>Layout of webpages / design</b> <ul style="list-style-type: none"> <li>adheres to usability guidelines <input type="checkbox"/></li> <li>consistent between pages <input type="checkbox"/></li> </ul>   |     |       |
| <b>Navigation</b> <ul style="list-style-type: none"> <li>correct location <input type="checkbox"/></li> <li>consistent between pages <input type="checkbox"/></li> <li>links function correctly with relative links <input type="checkbox"/></li> </ul>  |     |       |
| <b>Semantic markup</b> <ul style="list-style-type: none"> <li>consistent between pages <input type="checkbox"/></li> <li>Appropriate choices of semantic tags <input type="checkbox"/></li> <li>includes a minimum of &lt;header&gt;, &lt;nav&gt;, &lt;footer&gt;, &lt;article&gt; <input type="checkbox"/></li> </ul> |     |       |
| <b>Title tags are</b> <ul style="list-style-type: none"> <li>correct, unique and valid HTML5 <input type="checkbox"/></li> </ul>   |     |       |
| <b>Images on page are</b> <ul style="list-style-type: none"> <li>unique, cited, and enclosed in appropriate caption tags <input type="checkbox"/></li> </ul>   |     |       |
| <b>All webpages validate without errors for HTML5</b> <input type="checkbox"/>   |     |       |
| <b>Content on the pages is</b> <ul style="list-style-type: none"> <li>appropriate to the task (summaries of lectures/labs) <input type="checkbox"/></li> <li>in line with assignment expectations, and</li> </ul>  |     |       |