


CO456

Web

Week 2

HTML

Module schedule



Wk.	Lecture/subject area(s)	Practical	Reading (Moseley, 2007)
1	Introduction How the Web works	Internet/Web definitions and HTML report	Ch 1 (The way the Web works)
2	HTML 1 (Introductory - inc. lists and hyperlinks)	HTML	Ch 2 pp 24-36 (HTML)
3	HTML 2 (inc. tables, images and forms)	HTML	Ch 2 pp 36-48 (HTML) Ch 3 (XHTML and frames)
4	CSS 1 (Introduction and core CSS principles)	CSS – introductory styles, embedded styles.	Ch 4 pp 76-96.
5	CSS 2 (Positioning elements).	CSS– using IDs, classes and layout control.	Ch 4 pp 97-103.
6	CSS 3 (Advanced layout & navigation)	CSS – using CSS to produce button-like navigation from HTML list elements. (CW2a to be demonstrated).	Specialised articles.
7	JavaScript 1 (Fundamentals, variables)	JS – foundation constructs.	Ch 5 pp 108-116
8	Guided Learning Week	Consolidate Internet & W3 knowledge and HTML & CSS skills.	Review Ch 1 to Ch 4.
9	JavaScript 2 (Functions, branches, loops).	JS – calling functions.	Ch 5 pp 117-124.
10	JavaScript 3 (Objects and the DOM).	JS – manipulating the DOM.	Ch 6 126-139.
11	JavaScript 4 (Forms and validation). And DHTML	JS– validating user completed forms.	Ch 6 139-145, Ch 7.
12	HTML5, CSS3, - media, forms, gradients, SVG ('Edge') and other enhancements	Web frameworks taster session 1	See practical sheets for information sources
	Vacation		
13	Advanced HTML5, CSS3 & JS frameworks (e.g. jQuery, jQuery Mobile, Box2DWeb)	Web frameworks taster session 2	See practical sheets for information sources
14	Assignment workshop 1	Assignment workshop 1	N/A
15	Assignment workshop 2	Assignment workshop 2	N/A

The Development Process

- Requirements elicitation (graphic, functional, try ideas, sketches, navigation/links)
- Design (paper solution, framework pages, web authoring package, experiment with multiple designs)
 - Many good wireframe tools – e.g. Balsamiq, several are (frustratingly) ‘freemium’. One popular ‘free’ example ... “Pencil” a GUI prototyping tool at <http://pencil.evolus.vn/>
- Code (hand coding slow but precise, avoid bloated CSS ...)
- Test
- Upload
- Repeat

Introduction to HTML (& XHTML)

Sources: <https://www.w3.org/TR/html/>

- HyperText Markup Language
- Formatting language (*not* a programming one ... A moot point!)
- Standardised by the World Wide Web Consortium (W3C)
- Current version is HTML5 (since 2014) but only fully superseded HTML4.01 in March 2018
- Still significant inconsistencies in browser interpretations
- Extends MM syntax, including <video>, <audio> and <canvas> and to integrate SVG content, thereby avoiding proprietary plugins.
- XHTML – a more structured version / standard “XHTML 1.0 is a reformulation of HTML 4.01 in XML” (W3C)
- Uses pairs of **tags** – each pair encloses an element
- Creates the application interfaces
- Provides an ability to navigate between pages
- Provides a means of capturing data via forms
- May be created in any text editor (e.g. Notepad, Textpad, Notepad++, Sublime)
- Be cautious with word processors – “curly” quotes and embedded controls
- Save with *.htm/*.html extension

HTML – the basic structure

the **html**, **head**, **body** and comment tags

```
<!DOCTYPE html> <!-- tells Web browser type of HTML doc - here this is HTML5 -->
<html>           <!-- all HTML pages start with this tag -->
  <head>         <!-- some info about the doc -->
                 <!-- e.g. the title ... appears in the browser bar -->
    <title>A simple HTML example </title>
  </head>

  <body>
    ...to demonstrate that any text entered here will be displayed within the
    web page.
  </body>
                 <!-- this pair of tags is used for 'comments' -->
                 <!-- all tags should be closed with 'fwd slash' -->
                 <!-- the BODY appears in the web page -->
</html>
```

[myFirst.html](#)

HTML - more text control + meta data

p, h, br, big, small, strong and meta tags

```
<!DOCTYPE HTML>
<html>
<head>
  <title>Life in High Wycombe</title>
  <meta name = "keywords" contents = "study, beach, sunshine, bar"/>
  <meta name = "description" contents = "How to have a good time"/>
  <meta name = "author" contents = "Me"/>
</head>
<body>
  <h1>I am a big heading ... </h1>
  <h2>I am a bit smaller </h2>
  <h3>I am even smaller</h3>
  <p>This is a paragraph ... </p>
  <p> Here are some more formatting elements ... <big>this is big</big> ...
  <small>here is small</small> ... <strong>this is strong</strong> ... <em> and this is
  emphasised</em></p>
</body>
</html>
```

[ex02.html](#)

HTML - hyperlinks

` Visit Bucks here`

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>All about hyperlinks</title>
  </head>
  <body>
    <h2>How hyperlinks work ...</h2>
    <p>Nice biscuits are <a href=http://www.britsuperstore.com/acatalog/Marks_and_Spencer_Cookies.html> here
    </a>. These cookies <a href=http://en.wikipedia.org/wiki/Web_cookie>here</a> are different ... </p>
    <p>Hyperlinks can also be used to access:
    [1] to <a href= Practical_2.docx > other documents</a>;
    [2] another paragraph <a href=#here>on this page</a> and;
    [3] even to start an email <a href="mailto:friends@theBeach.com">here</a>.</p>
    <p> ... </p><p> ... </p><p> ... </p><p> ... </p><p> ... </p>
  <p><h2><a name=here>The paragraph hyperlink</a></h2></p>
</body>
</html>
```

CAUTIONARY NOTE: Placing URI in curly “ quotes instead of straight " quotes will cause problems

[ex03.html](#)

HTML – Lists

my shopping list `breadmilkbeans`

```
<!DOCTYPE HTML>
<html><head><title>Lists ...</title></head>
<body>
  <h1>Lists ... </h1>
  <h2>... are ...</h2>
  <h3>... useful ...</h3>
  <p>Two most common list types ...</p>

  <h2>An UNORDERED list looks like this ... </h2>
    <ul><li>flash</li><li>CGI</li><li>Apache</li></ul>

  <h2>An ORDERED list looks like this ... </h2>
    <ol><li>flash</li><li>CGI</li><li>Apache</li></ol>
</body>
</html>
```

[ex04.html](#)

HTML – Tables (tags)

`<table><th><tr><td>`

[1] In addition to an obvious purpose of presenting information tables are used for Web page layout.

[2] The four essential table tags

- `<table>` the table tag
- `<tr>` a row in a table
- `<td>` a cell in a row
- `<th>` a 'table heading' cell (text usually centred and bold)

HTML – Tables (a simple table)

```
<html>
  <head>
    <title>HTML TABLES</title>
  </head>

  <body>
    <h1>HTML Tables</h1>
    <h2>... are very good ...</h2>
    <h3> ... for you ...</h3>

    <table>
      <tr><th>Author & year</th> <th>Title</th> <th>Publisher</th></tr>
      <tr><td> Maher K 2013</td><td>Apache in easy-peasy steps</td><td>Easy Peasy Ltd.</td></tr>
      <tr><td>Lusuardi C 2012</td><td>CGI 4 dimmies</td><td>Bucks Press</td></tr>
      <tr><td>Mather R 2011</td> <td>Bluff your way in Javascript</td><td>Rich Quick, USA</td></tr>
    </table>
  </body>

</html>
```

[ex05.html](#)

HTML – Tables (some more tags)

```
<table width="50%" borders="1" rules="all"><td align="left">
```

Tags may be modified with **attributes**. But this is now regarded to be *wrong . . .* Why?

- “width” may be used to specify width of tables or cells in pixels or as % of page width.
- “borders” specifies the width of the table border
- “rules” specify if you want lines between columns, rows or ‘all’ (i.e. cols and rows)
- “bgcolor” may be used to colour the background of tables and cells
- “cellpadding” specifies the space in pixels between border and content
- “cellspacing” specifies the space in pixels between cells

HTML – Tables (a table done the *wrong* way)

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>An 'improved' HTML Table</title>
  </head>

  <body bgcolor="red" text="yellow">
    <h1>... Inline styles may be fun ...</h1>
    <h2>... but are should only be used exceptionally ...</h2>
    <h3>... much better to use embedded or linked style sheets!...</h3>

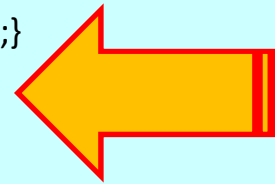
    <table width="50%" borders="1" align="left" rules="all">
      <tr bgcolor="pink"><th>Author & year</th> <th>Title</th> <th>Publisher</th></tr>
      <tr><td> Maher K 2013</td><td>Apache in easy-peasy steps</td><td>Easy Peasy Ltd.</td></tr>
      <tr><td>Lusuardi C 2012</td><td>CGI 4 dimmies</td><td>Bucks Press</td></tr>
      <tr><td>Mather R 2011</td> <td>Bluff your way in Javascript</td><td>Rich Quick, USA</td></tr>
    </table>
  </body>
</html>
```

[ex06.html](#)

HTML – Tables (a **‘PROPER’** table)

(modified from w3schools)

```
<!DOCTYPE HTML>
<html><head><title>A BETTER 'improved' HTML Table</title>
  <style>
    body {background-color: red; color: yellow;}
    table {width:70%;}
    table, th, td {border: 1px solid black; border-collapse: collapse;}
    th {background-color: pink;}
    th, td {padding: 5px; text-align: left;}
    table#t01 tr:nth-child(even) {background-color: #a7f442;}
    table#t01 tr:nth-child(odd) {background-color:#d341f4;}
    table#t01 th {background-color: black; color: white;}
  </style>
</head>
<body>
  <table id="t01">
    <h2>... Inline styles may be fun ... but there are better ways ... </h2>
    <tr><th>Author & year</th> <th>Title</th> <th>Publisher</th></tr>
    <tr><td> Maher K 2013</td><td>Apache in easy-peasy steps</td><td>Easy Peasy Ltd.</td></tr>
    <tr><td>Lusuardi C 2012</td><td>CGI 4 dimmies</td><td>Bucks Press</td></tr>
    <tr><td>Mather R 2011</td> <td>Bluff your way in Javascript</td><td>Rich Quick, USA</td></tr>
    <tr><td>Day N 2017</td> <td>Ceebot in 24 hours</td><td>Nerdy Press, Oxford</td></tr>
  </table>
</body>
</html>
```



Replace
inline styles
with CSS
...
*Can you
'guess' the
effect of
each CSS line
?*

[ex07.html](#)

EXERCISE

To practise HTML on week 1 lab questions. We will use:

- Text controls
- Hyperlinks
- Lists
- Tables
- Images