

# Web Design 1 with Kevin and Steph

## PROGRAM SYNOPSIS

This tutorial provides an introduction to HTML and describes some of the most common elements in building a website. It also provides links to additional tutorials, reference materials and available code/programming editors.

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## WHAT IS HTML

Hyper Text Markup Language (HTML) is a mark-up “publishing” language that uses elements (tags) to allow web browsers to display web content. Tags are used for site structure, text and image formatting, and page layout (positioning). Most tags include an open tag `<html>` and a closed tag `</html>`. Tags must also be nested properly: first to open, last to close. HTML files are saved with the `.html` extension.

A basic page may look like this:

```
<html>
<head><title>Web Page Example</title></head>
<body>
<h1>First Header</h1>
<p>Paragraph on my web page</p>
</body>
</html>
```

This section describes some of the most common tags. W3Schools provides a full list at <http://www.w3schools.com/tags/default.asp>.

### Structural elements

**Html:**        `<html> </html>`    Defines an HTML document.

**Head:**        `<head> </head>`    This area contains metadata information used by search engines such as title, keywords, description, etc. It contains information that describes the web standards associated with the document and links to additional scripts and style sheets used by the web page or in the website. The `<title>` tag provides the title that is displayed across the top of the browser window.

**Body:**        `<body> </body>`    This contains content to be displayed on screen.

## Body elements (what is viewed on the screen)

**Divisions:** `<div> </div>` creates containing blocks that may be nested. Div's can be used to differentiate the header, content, and footer areas, and the content area may include div's to divide the area into columns.

**Headers:** `<h1> </h1>` h1 through h6 are recognized by all browsers.

**Paragraph:** `<p> </p>` space is added to the top and bottom lines.

**Lists:** Lists require tags to open/close the entire list and also tags for each line.

| <u>Unordered list (bullets)</u>                 | <u>Ordered list (numbered)</u>             | <u>Combined</u>                            |
|---|--|--|
| <code>&lt;ul&gt;</code>                         | <code>&lt;ol&gt;</code>                    | <code>&lt;ol&gt;</code>                    |
| <code>&lt;li&gt;Bulleted text&lt;/li&gt;</code> | <code>&lt;li&gt;Item one&lt;/li&gt;</code> | <code>&lt;li&gt; Item 1&lt;/li&gt;</code>  |
| <code>&lt;li&gt;Bulleted text&lt;/li&gt;</code> | <code>&lt;li&gt;Item two&lt;/li&gt;</code> | <code>&lt;ul&gt;</code>                    |
| <code>&lt;/ul&gt;</code>                        | <code>&lt;/ol&gt;</code>                   | <code>&lt;li&gt;Bullet 1&lt;/li&gt;</code> |
|   |  | <code>&lt;li&gt;Bullet 2&lt;/li&gt;</code> |
|   |  | <code>&lt;/ul&gt;</code>                   |
|   |  | <code>&lt;li&gt;Item 2&lt;/li&gt;</code>   |
|   |  | <code>&lt;/ol&gt;</code>                   |

**Character formatting:** text may also be formatted with tags that are placed inside basic tags such as `<div>`, `<h1>`, `<h2>`, `<p>`, etc.

|              |                                       |            |   |
|--------------|---------------------------------------|------------|---|
| Bold:        | <code>&lt;b&gt; &lt;/b&gt;</code>     | Italic:    | <code>&lt;i&gt; &lt;/i&gt;</code>           |
| Emphasized:  | <code>&lt;em&gt; &lt;/em&gt;</code>   | Strong:    | <code>&lt;strong&gt; &lt;/strong&gt;</code> |
| Big:         | <code>&lt;big&gt; &lt;/big&gt;</code> | Small:     | <code>&lt;small&gt; &lt;/small&gt;</code>   |
| Superscript: | <code>&lt;sup&gt; &lt;/sup&gt;</code> | Subscript: | <code>&lt;sub&gt; &lt;/sub&gt;</code>       |

*Example:*

`<p><b>This displays bold text.</b></p>`.

**Anchors:** `<a> </a>` Creates a link to another document (using the "href" attribute) or a bookmark inside a document (using the "name" attribute).

*Example:*

`<a href="http://www.xyz.com">This is a link to my website.</a>`

**Images:** `` inserts an image and title. *This tag closes itself: />.* "Src" is the URL of the image. "Alt" is alternative text that is displayed if the image is not available. You may insert "title" to display mouse-over text. It is also a good idea to include the image dimensions (in pixels) so that your image sizes properly.

*Example:*

```

```

**Formatting and positioning:** You can provide both format and position information within tags in HTML. In the examples below, the `<div>` tag surrounds the content with a margin of space, 10% on each side, `<h1>` tag creates red text.

```
<div style="margin: 10%">
  <h1 style="color: #FF0000">
```

### Special Characters

There are many symbols and special characters or characters that do not display properly in all browsers and require special coding. Following are common special characters. The code replaces the character.

| Char. | Name   | Description        |
|-------|--------|--------------------|
| <     | &lt;   | Less than          |
| >     | &gt;   | Greater than       |
| &     | &amp;  | Ampersand          |
| "     | &quot; | Quotation          |
|       | &nbsp; | non-breaking space |

A list of default characters set in most browsers can be found here:  
[http://www.w3schools.com/tags/ref\\_entities.asp](http://www.w3schools.com/tags/ref_entities.asp).

### Comments

You can "comment out" text in your html document that will not be displayed by the browser. Comments include notes and instructions to yourself, or sections of code that you do not want displayed in a browser, but also do not want to delete. A comment is opened with `<!--` and closed with `-->`.

```
<!-- this is what it looks like to comment out text -->
<!-- <p>This is code that I am not ready to publish.</p> -->
```

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## USING COLOR

Colors are defined using a hexadecimal (hex) notation based on RGB values from 0 (00) to 255 (FF). The hex value is preceded by pound sign (#). Some basic colors may be defined with their name – blue, black, red – but it is safest to use the hex code. It is also important to remember that neither monitors nor browsers are able to display all possible colors and do not represent colors in the same way.

| Color | Hex     | RGB          | Color  | Hex     | RGB              |
|-------|---------|--------------|--------|---------|------------------|
| Black | #000000 | rgb(0,0,0)   | White  | #FFFFFF | rgb(255,255,255) |
| Red   | #FF0000 | rgb(255,0,0) | Green  | #00FF00 | rgb(0,255,0)     |
| Blue  | #0000FF | rgb(0,0,255) | Yellow | #FFFF00 | rgb(255,255,0)   |

A list of colors that are safe on all browsers can be found here:

[http://www.w3schools.com/tags/ref\\_colornames.asp](http://www.w3schools.com/tags/ref_colornames.asp).

[Http://kuler.adobe.com](http://kuler.adobe.com) is also a fun site where you can use browse existing color themes or create your own. Graphics programs such as Photoshop and Illustrator are also able to display “out of gamut” warnings (showing you what colors won’t display properly), or list only web-safe colors in the color palette.

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## SITE ARCHITECTURE

### Your Website: filenames and folders

The “home page” file should be named “index.html.” Browsers recognize this file as the home page: when you type “www.xyz.com”, the browser looks for “www.xyz.com/index.html”. This also applies to subfolders: “www.xyz.com/subfolder/” looks for “www.xyz.com/subfolder/index.html”.

If you are using iSchool web space, the index.html and all other website files are placed within the “public\_html” folder. It is common to have separate subfolders for images (often titled “images”), CSS files, and other non-web files, like pdf’s. Any other subfolders depends on how many files your site contains and how you organize them.

### Site Planning

Before you begin writing code, consider the architecture of your website. This generally refers to folder structure, graphic layout, and functionality of the site. A

planned architecture will not only assist your users by creating an easy-to-navigate site, it will help you manage your files as your website grows.

At a minimum, a skeleton structure is incredibly useful. This may be as simple as an outline or organizational chart drawn out or created in Word or PowerPoint. Programs like Omnigraffle (for Mac) and Visio (Windows) provide low-fidelity mock-ups and diagramming tools. More elaborate design tools include products like Photoshop and Illustrator, with greater color control and imaging capabilities.

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## SITE VALIDATION

Please validate your code! It will save you future headaches and ensure your code is read appropriately on as many browsers as possible. Validators will read your code and indicate the line of the code in error and a description of the error. Many of the markup editors have tools or add-ons that will indicate incorrect code. There are also online validators where you can provide an URI (web address), upload a file or submit code.

HTML validator: <http://validator.w3.org/>

CSS validator: <http://jigsaw.w3.org/css-validator/>

Check for broken links: <http://validator.w3.org/checklink>

While HTML and CSS are universal, not all browsers and operating systems represent the languages in the same fashion. In addition to validating, it is also a good idea to preview your websites on different browsers (Internet Explorer, Firefox, etc.) and different platforms (Mac, Windows, etc).

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## WEB EDITORS

You don't need to purchase an expensive program like Dreamweaver to create web pages. You can write code in simple text programs like TextEdit on Macs and Notepad on Windows. There are also free editors available that make coding easier like color-coding your tags or indicating when your code is not valid. You may wish to try a few different programs to see which you prefer:

TextWrangler (Mac): <http://www.barebones.com/products/TextWrangler/>

Smultron (Mac): <http://tuppis.com/smultron/>

Notepad ++ (Windows): <http://notepad-plus.sourceforge.net/uk/site.htm>

SciTE (Windows and Linux): <http://www.scintilla.org/SciTE.html>

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## USING TEMPLATES AND SOURCE CODE

If you find a site you like, you can view the source code for ideas. In the browser menu, go to View > Page Source or View > Source. You can also usually right-click on the web page. Look for a “view source” or “view page source” option.

Templates are abundant on the web – free or for purchase, and are also often provided in programs like Dreamweaver. On the Internet, you can search using various combinations of free, open source, html, website, css, templates, etc. You are provided with a single file or set of files (HTML, CSS, image files, etc.), often with descriptions or instructions included in the code comments. In some cases, you may be requested to include the Creative Commons license or to indicate the template source (“Design by Monty Python at xyz.com”). Following are a few sites:

Matthew James Taylor: <http://matthewjamestaylor.com/> (great instructions)  
Open Source Templates: <http://www.opensourcetemplates.org/>  
Open Source Web Design: <http://www.oswd.org/>  
Open Design Community: <http://www.opendesigns.org/>

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## RESOURCES

The IT Lab has a library of books on HTML, CSS, XML, Java, Dreamweaver and so much more! Here are more sources online:

w3schools: <http://www.w3schools.com/> Tutorials and reference materials.

W3C: <http://www.w3.org/> The consortium for web standards. Validators.

Usability.gov: <http://www.usability.gov/>. Guides for creating usable sites.

<http://www.sitepoint.com/article/html-css-beginners-guide/> HTML and CSS: The Absolute Beginner's Guide – An excellent step-by-step guide to creating a website using XHTML and CSS. Truly an exemplary tutorial!

<http://www.WebmasterBase.com/article/655> Diary of a Webmaster Part 1 – My Site Design Checklist - a must read article. Walks through color schemes, cross-browser compatibility, navigation, css, images, and more.

SitePoint's reference and articles sections have \*many\* resources on how/where to start, things to understand, and steps to take.