# **New Perspectives on HTML5 and CSS3**

# **Tutorial One: Getting Started with HTML 5**

# **A Guide to this Instructor’s Manual:**

We have designed this Instructor’s Manual to supplement and enhance your teaching experience through classroom activities and a cohesive chapter summary.

This document is organized chronologically, using the same heading in **blue** that you see in the textbook. Under each heading you will find (in order): Lecture Notes that summarize the section, Figures and Boxes found in the section (if any), Teacher Tips, Classroom Activities, and Lab Activities. Pay special attention to teaching tips, and activities geared towards quizzing your students, enhancing their critical thinking skills, and encouraging experimentation within the software.

In addition to this Instructor’s Manual, our Instructor’s Resources CD also contains PowerPoint Presentations, Test Banks, and other supplements to aid in your teaching experience.

**For your students:**

Our latest online feature, CourseCasts, is a library of weekly podcasts designed to keep your students up-to-date with the latest in technology news. Direct your students to <http://coursecasts.course.com>, where they can download the most recent CourseCast onto their mp3 player. Ken Baldauf, host of CourseCasts, is a faculty member of the Florida State University Computer Science Department, where he is responsible for teaching technology classes to thousands of FSU students each year. Ken is an expert in the latest technology and sorts through and aggregates the most pertinent news and information for CourseCasts so your students can spend their time enjoying technology, rather than trying to figure it out. Open or close your lecture with a discussion based on the latest CourseCast.

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**Tutorial Objectives**

Students will have mastered the material in Tutorial One when they can:

Session 1.1

* Explore the history of the web
* Create the structure of an HTML document
* Insert HTML elements and attributes
* Insert metadata into a document
* Define a page title

Session 1.2

* Mark page structures with sectioning elements
* Organize page content with grouping elements
* Mark content with text-level elements
* Insert inline images
* Insert symbols based on character codes

Session 1.3

* Mark content using lists
* Create a navigation list
* Link to files within a website with hypertext links
* Link to e-mail addresses and telephone numbers

**Exploring the World Wide Web**

LECTURE NOTES

* Describe the function of a network, a server, a client, and a client-server network.
* Discuss the differences between a LAN and a WAN.
* Define the Internet and describe the multiple types of devices that use Internet today.
* Define hypertext and the need for hypertext documents.
* Explain the concept of linking web pages together.
* Define World Wide Web.
* Describe the function of a web server, a web page, and a web browser.

BOXES

* None

FIGURES

* None

TEACHER TIP

Explain to the students that anything they put onto a web page and store on a web server is viewable not just by their family and friends but by people all over the world. It is important for them to understand the consequences of placing too much private information on the web.

CLASSROOM ACTIVITIES

* Class Discussion: Ask the students which web browser they prefer to use and what features they like. Have the students use any search engine to look for other web browsers. Suggest that they try different ones available to them for free such as Safari, Internet Explorer, and Firefox.
* Class Discussion: Have the students use a search engine to find information on privacy issues related to young people putting too much information on the Internet. Then, have them create a list of do’s and don’ts about privacy.

**Introducing HTML**

LECTURE NOTES

* Define a markup language and explain how it is used.
* Explain HTML and the purpose of tagging elements using HTML.
* Discuss the history of HTML and its relationship to XHTML.
* Describe theW3C and how it designs and manages HTML standards.
* Discuss the progression of the original HTML to HTML5, including XHTML
* Explain the invention of HTML5 by the Web Hypertext Application Technology Working Group (WHATWG).
* Discuss the deprecated features of the older versions of HTML5.

BOXES

* Tip: You can finds out which browser and browser versions support the features of HTML5 by going to the website *caniuse.com* (HTML 6)

FIGURES

Figure 1-1

TEACHER TIP

Explain to students the evolving history of HTML in the form of a timeline.

CLASSROOM ACTIVITIES

* Class Discussion: Ask the students to research about HTML 4.01 and all the older versions of XHTML and create a presentation highlighting the advantages and disadvantages of each version.

**Tools for Working with HTML**

* Discuss the different tools and applications used for creating HTML documents and managing websites.
* Explain how to test the program code using validators.
* Discuss the importance of creating websites to support mobile devices.

BOXES

* Tip: You can analyze each browser for its compatibility with HTML5 at the website [*www.html5test.com*](http://www.html5test.com)(HTML 7)

FIGURES

* None

TEACHER TIP

Emphasize that HTML is not a programming language. Help students to understand that it is quite different and simple to learn. Explain to students the differences between the XML, HTML, and XHTML. When developing or working with Web pages on the Internet, they will encounter pages created in the various versions.

CLASSROOM ACTIVITIES

* Student Discussion: Lead the class in a discussion of what features they like and dislike on the websites they visit regularly. Then have them relate those features to the version of HTML that provides those features.

**Exploring an HTML Document**

LECTURE NOTES

* Discuss the various HTML tags, elements, and attributes.
* Define the syntax of document type declaration (DOCTYPE).
* Describe the effect of standards mode and quirks mode on the appearance of a Web page.
* Explain a two-sided, a starting tag, and an ending tag.
* Define empty elements.
* Explain nested elements.
* Define the general structure of an HTML file with proper syntax of the HTML tags.
* Discuss the use of element attributes and the general syntax to specify the attributes.
* Define attribute minimization
* Define white space and explain how the browser renders it.
* Discuss the html, head, and body elements.
* Explain the use of doctype and how validators use it.

BOXES

* Tip: All HTML files have the file extension .html or .htm. (HTML 8)
* Reference: Creating the Basic Structure of an HTML File (HTML 10)
* Tip: Attributes can be listed in any order, but they must be separated from one another by a blank space and enclosed within single or double quotation marks. (HTML 11)
* Reference: Adding an Attribute to an Element (HTML 12)
* Tip: HTML file names should be entered in lowercase letters and have no blank spaces.(HTML 14)
* Proskills: Written Communication: Writing Effective HTML Code

FIGURES

* Figure 1-2, Figure 1-3, Figure 1-4, Figure 1-5

TEACHER TIP

Discuss with the students the need to follow the correct syntax when creating their Web pages. Some browsers are very forgiving in their interpretation of the HTML code and will often ignore syntax errors. Therefore, if the author is not diligent in following the syntax, their pages may appear correctly in some browsers, while being rendered incorrectly in others.

Also, emphasize on the importance of understanding whitespace. Students often forget that browsers ignore spaces, tabs, and line breaks.

CLASSROOM ACTIVITIES

* Class Demonstration: If you have a computer and an Internet connection in the classroom show the students on how they can use the browser to view the HTML code for the Web sites they visit. Some sites are very complex and others are very simple. Tell them not to be intimidated by the complex sites.

Class Discussion: Have the students go to their favorite Web site and look at the HTML code. Then discuss any methods the Web sites may use to try and obscure their code. Ask the student why they think an author would want to hide their code.

**Creating the Document Head**

LECTURE NOTES

* Explain metadata.
* Discuss how the page title is set.
* Explain how metadata is added to the document and discuss character encoding.
* Discuss the importance of including a page title and explain how the search engines use it.

BOXES

* Reference: Adding a Document Title (HTML 16)
* Tip: Document titles should be no more than 64 characters in length to ensure that text fits on the browser title bar. (HTML 16)
* Tip: The title element and the charset meta element are both required in a valid HTML5 document. (HTML 17)
* Reference: Adding Metadata to the Document (HTML 17)
* Tip: The <meta> tag that defines the character encoding should always be the first meta element in the document head. (HTML 17)

FIGURES

* Figure 1-6, Figure 1-7, Figure 1-8, Figure 1-9

TEACHER TIP

Give a description of each HTML metadata elements. Emphasize on the importance of adding metadata elements and its attributes in the document that the student creates.

**Adding Comments to your Document**

LECTURE NOTES

* Define the comment tag used in a HTML file and provide its general syntax to code.
* Explain the importance of including comments in HTML documents.

BOXES

* Tip: Always include comments when working with a team so that you can document the development process for other team members. (HTML 18)
* Reference: Adding a comment to an HTML document(HTML 18)
* Insight: Conditional Comments and Internet Explorer (HTML 20)

FIGURES

Figure 1-10

TEACHER TIP

Emphasize on the importance of documenting the HTML code. The students can refer the comments that they added while using or editing it in the future. Explain them how adding comments is useful while working in a team as in the absence of one developer, another member can take over it.

CLASSROOM ACTIVITIES

* Class Discussion: Have the students look at the code for several Web sites and discuss the quality of comments in the code. Ask questions about the comments to see if the students can decipher the intent of the comments. Were the comments describing the function of the code? Were there reminders to the author to fix or complete any sections of the page? Was a page description included in the comments?
* Group Project: Break the class into several small groups and have them work together to design a page comment header containing such things as the authors name, date the page was created, revision history of the page, and any other information they feel would be important.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from the section, “To add a comment to the document head” on page 15.
* Complete the lab assignment on page HTML 15 titled, “To view Dave’s Web page:.”

**Writing the Page Body**

LECTURE NOTES

* Explain the sectioning of elements.
* Discuss the differences between the sections in HTML4 and sections in HTML5.
* Describe grouping elements and its types.
* Discuss the purpose of text-level and inline elements.
* Explain the nesting of text-level elements.

BOXES

* Tip: Sectioning elements can be nested within each other, for example, an article might contain its own header, footer, and collection of navigation links. (HTML 24)
* Reference: Defining Page Sections (HTML 25)
* Reference: Defining Page Groups (HTML 27)
* Reference: Defining Text-Level Content (HTML 30)

FIGURES

* Figure 1-11, Figure 1-12, Figure 1-13, Figure 1-14, Figure 1-15, Figure 1-16, Figure 1-17, Figure 1-18

TEACHER TIP

There are a large number of text-level elements. Take time to explain each of them to the class. But also ensure the students understand that it is not necessary to use every one of them. Sometimes they can be distracting, so they should be used with care.

CLASSROOM ACTIVITIES

* Class Discussion: Have the students find plain text Web pages, then ask them how they would dress the pages up using the tags from this lesson.
* Quick Quiz:
  1. Which text-level element is used to format a reference to a book or magazine article? (Answer: the cite tag)
  2. True/False: Computer code should be formatted using the code tag. (Answer: True)

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from each of the following sections:
  + HTML 28 “To group an article content by paragraph”
  + HTML 30 “To explore the use of text-level elements”

**Linking an HTML Document to a Style Sheet**

LECTURE NOTES

* Define stylesheet and the syntax to link the stylesheet with an HTML document.
* Explain the use of Cascading Style Sheets (CSS).

BOXES

* Reference: Linking an HTML document to an External Style Sheet (HTML 32)
* Tip: Because the link element is another example of metadata, it’s always added to the document head. (HTML 32)

FIGURES

* Figure 1-19, Figure 1-20

TEACHER TIP

Because not all browsers will render an HTML document the same, it is necessary to test your HTML code in multiple browsers. Reinforce this concept with the students and remind them that they should install and use a minimum of three browsers. The students must apply the styles to the document’s content to control over the page’s appearances.

CLASSROOM ACTIVITIES

* Class Discussion: It is not always easy to view the external style sheets that other Web sites use to control the layout of their Web pages. Show the students how they can find the name and location of the .css file, and then using that path and filename they can load the style sheet into their browser for viewing.
* Quick Quiz:
  1. Which attribute indicates the types of link relationship? (Answer: the rel attribute)
  2. True/False: Link element is an example of a metadata. (Answer: True)

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from the following section:
  + HTML 32 “To link HTML document to a stylesheet”

**Working with Character Sets and Special Characters**

LECTURE NOTES

* Discuss with the students why special characters may be needed by a Web page.
* Define a character set.
* Define ASCII and Unicode.
* Explain character encoding and define the general syntax for adding character directly into a webpage using the encoding value,
* Discuss the various types of character entity references.

BOXES

* Reference: Inserting Symbols from a Character Set (HTML 34)
* Insight: Presentational attributes (HTML 36)

FIGURES

* Figure 1-21, Figure 1-22

TEACHER TIP

Students will like the ability to get characters that they cannot get by normal typing. They will, however, have a hard time learning this. Emphasize that they may want to keep the characters.html page handy, as memorizing all of the codes would be a very daunting task.

CLASSROOM ACTIVITIES

* Class Discussion: Ask students to think of how many times they have used special characters when typing papers. Which one do they feel they would use the most in their Web page? Why?
* Quick Quiz:
  1. What is the full form of nbsp (Answer: nonbreaking space)
  2. True/False: Character encoding reference must begin with “@” and end with a period. (Answer: False)

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from the following section:
  + HTML 35 “To insert a character encoding reference number and an entity reference”

**Working with Inline Images**

LECTURE NOTES

* Discuss about embedded content and embedded elements.
* Explain interactive elements
* Define inline images.
* Discuss about line breaks and empty element tags.
* Explain why the use of the width and height attributes is recommended.

BOXES

* Tip: Always include the altattribute; it is required in XHTML code and is highly recommended as a way of accommodating users running nonvisual web browsers. (HTML 36)
* Reference: Embedding an Inline Image (HTML 37)
* Tip: Include the alt attribute as a blank text string if the image file does not convey any text message to the user. (HTML 37)
* Insight: Supporting HTML5 with Legacy Browsers (HTML 39)

FIGURES

* Figure 1-23, Figure 1-24, Figure-1-25

TEACHER TIP

The use of figures and figure captions has not been this easy in past versions of HTML. Look for examples of how this technique was done in the past and compare the code. This is much simpler and faster to create.

CLASSROOM ACTIVITIES

* Class Discussion: Ask the students why they think the s tag is required in XHTML. Later, have them do a quick search on the Internet to see if they can find the reason behind it.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from the following section
  + HTML 37 “To insert the company logo at the top of the page”

**Working with Block Quotes and Other Elements**

LECTURE NOTES

* Define block quotes and its purpose.

BOXES

* Proskills: Problem Solving: Making your Page Accessible with ARIA (HTML 44)

FIGURES

* Figure 1-26, Figure 1-27, Figure 1-28, Figure 1-29, Figure 1-30, Figure 1-31

TEACHER TIP

Share with the students that most browsers render block quotes by intending the quoted material to separate from it from the website author’s work. However, the students can create their own style using a customized style sheet as discusses earlier.

CLASSROOM ACTIVITIES

* Class Discussion: Ask the students about the scenarios where block quotes can be included. Later, ask each one of them to write the code on the white/chalk board for other students to see an example snippet.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from the following section:
  + HTML 40 “To create a review page for a newly opened Italian restaurant.”

**Working with Lists**

LECTURE NOTES

* Discuss the three types of lists that supported by HTML.
* Describe the purpose and the general structure of ordered and unordered lists.
* Explain the implementation of nested lists.
* Define description lists and its structure.
* Describe the implementation and use of navigation lists.

BOXES

* Insight: Creating a Nested List (HTML 50)
* Tip: Description lists are referred to as definition lists in HTML4. (HTML 51)
* Insight: Marking Dates and Times (HTML 55)

FIGURES

* Figure 1-32, Figure 1-33, Figure 1-34, Figure 1-35, Figure 1-36, Figure 1-37

TEACHER TIP

Students will find it useful to see a demonstration page of the different list types. Show examples of each list type and discuss situations where lists would be useful.

CLASSROOM ACTIVITIES

* Class Discussion: Have the students go to various websites and guess the types of lists used in each instance. Later, refer the source code and check if they are right.
* Discuss on the user interface for the pages with lists and without lists. Compare them and discuss on the advantages of using the lists.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from each of the following sections
  + HTML 48 “To create an ordered list”
  + HTML 49 “To create an unordered list”
  + HTML 50 “To create a nested list”
  + HTML 54 “To create a description list”
  + HTML 56 “To create a navigation list”

**Working with Hypertext Links**

LECTURE NOTES

* Discuss the use of hypertext links and define its general structure.
* Define uniform resource locator.
* Discuss the concept of rollover effect with an example.
* Explain the process of converting an inline image into a link.

BOXES

* Tip: Keep your filenames short and descriptive so that users are less apt to make a typing error when accessing your website. (HTML 57)
* Reference: Marking a Hypertext Link (HTML 58)
* Tip: You can give your websites a uniform design by including the same navigation list on each page so that users can easily move from one page to the next. (HTML 60)

FIGURES

* Figure 1-38, Figure 1-39

TEACHER TIP

Explain the students that anything that they put on a Webpage should look presentable and user-interactive. Show them the websites that look great and the ones with less graphical user interface (GUI) components. Emphasize on the use of hyperlinks for better navigation.

CLASSROOM ACTIVITIES

* Class Discussion: Have the students go to various websites to get acquainted of GUI components used. Later, ask them to implement the ideas in their previous Webpage. Identify the difference and the way the webpage had enhanced.
* Discuss on the user interface for the pages with image and hyperlinks. Discuss the advantages of using them.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab. Follow the instructions from the following section
  + HTML 59 “To mark an image as a hypertext link”

**Specifying the Folder Path**

LECTURE NOTES

* Discuss the use of the root folder.
* Discuss difference between absolute and relative paths.
* Explain how to set a base path.

BOXES

* Tip: You can reference the current folder using a single period (.) character. (HTML 61)
* Proskills: Decision Making: Managing Your Website (HTML 62)

FIGURES

* Figure 1-40

TEACHER TIP

Discuss the structure of the folders using any of the devices. Explain the root folders and its sub folders. Discuss the ways to access the files in these folders using various types of paths.

CLASSROOM ACTIVITIES

* Class Discussion: Discuss the importance of folder structure. Ask the students ways to structure the site as it grows into hundreds of pages.
* Quick Quiz:
* True or False: Relative paths are long and cumbersome than absolute paths. (Ans: False)
* Which element is added to the document head for defining a different starting point for relative paths? (Ans: base element)

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab.

Follow the instructions from the text and perform the following activity.

* + Create links between files in same folder.
  + Create links between files in different folder.

**Linking to a Location within a Document**

LECTURE NOTES

* Discuss the purpose of *id* attribute while marking locations.
* Explain the importance of linking an element to an *id*.
* Discuss the general syntax and functions of anchors and *name* attribute.

BOXES

* Tip: In general, a web page should not span more than one or two screen heights. Studies show that users often skip long pages where the content runs off the screen. (HTML 63)
* Tip: ID’s are case-sensitive: an ID of “top” is different from an ID of “TOP”. (HTML 63)
* Reference: Linking to a Location Within a Document (HTML 64)

FIGURES

* None

TEACHER TIP

Remind the students that if they assign the same *id* to more than one element, the browser will jump to the first occurrence of that ID value.

CLASSROOM ACTIVITIES

* Class Discussion: Ask the students to find out the reason on why the use of anchors is a deprecated feature of HTML and is not supported in applications of XHTML.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab.

Follow the instructions from the text and perform the following activity.

* + To link an element within a document

**Linking to the Internet and Other Resources**

LECTURE NOTES

* Define protocol and its functions.
* Discuss the use hypertext transfer protocol (HTTP) in webpages.
* Explain the general syntax and the parameters of the URLs used in linking the web resource.
* Explain the process of converting an e-mail address into a hypertext link using the URL.
* Discuss the importance of linking phone numbers in the webpages.

BOXES

* Insight: Understanding Domain Names (HTML 65)
* Tip: To link to more than one e-mail address, add the addresses to the mailto link in a comma-separated list. (HTML 66)
* Insight: E-mail Links and Spam (HTML 67)
* Tip: Currently, Skype on the desktop uses callto: in place of the tel: scheme for telephone links. There are program scripts available on the web that you can use in order to work with both protocols. (HTML 67)

FIGURES

* Figure 1-41, Figure 1-42, Figure 1-43

TEACHER TIP

Students will find it useful to see example of various URL schemes that are used in various websites and applications. Also, emphasize that adding emails links and phone numbers to random websites is not safe. Discuss about email harvesters and spamming.

CLASSROOM ACTIVITIES

* Class Discussion: Ask the students to research on various URL schemes and examples for it. Share it with the class and explore the use of these schemes in various ways.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab.

Follow the instructions from each of the following sections

* + HTML 66 “To link an e-mail address in the webpage”
  + HTML 68 “To link phone number in the webpage”

**Working with Hypertext Attributes**

LECTURE NOTES

* Describe the functions and general syntax of various attributes used in hypertext links.
* Discuss the importance of using target attribute in hypertext links.

BOXES

* Proskills: Written Communication: Creating Effective Hypertext Links (HTML 69)

FIGURES

* Figure 1-44

TEACHER TIP

Remind the students using the target attribute they can control the webpage that is opened. Discuss the target options such as \_self, \_blank, \_parent, and \_top.

CLASSROOM ACTIVITIES

* Class Discussion: Discuss the problems of using target in hypertext links. Share with them the reasons on why web designers provide the user with the choice of opening a link in a new tab or window, instead of using target and making the users restricted on viewing webpages.

LAB ACTIVITY

* Have the students use an editor of their choice to modify the file they created in the last lab.

Follow the instructions from the following section

* + To create a webpage and view it in a current window or tab.
  + To create a webpage and view it in a new unnamed window or tab.

**End of Tutorial Material**

* **Review Assignments:** Review Assignments provide students with additional practice of the skills they learned in the tutorial using the same tutorial case, with which they are already familiar.
* **Case Problems:** A typical NP tutorial has four Case Problems following the Review Assignments. Short tutorials can have fewer Case Problems (or none at all); other tutorials may have five Case Problems. The Case Problems provide further hands-on assessment of the skills and topics presented in the tutorial, but with new case scenarios. There are four types of Case Problems:
* **Apply**. In this type of Case Problem, students apply the skills that they have learned in the tutorial to solve a problem.
* **Create**. In a Create Case Problem, students are either shown the end result, such as a finished Web site, and asked to create the document based on the figure provided, or students are asked to create something from scratch in a more free-form manner.
* **Challenge**. A Challenge Case Problem involves three or more Explore steps. These steps challenge students by having them go beyond what was covered in the tutorial, either with guidance in the step or by using online Help as directed.
* **ProSkills Exercises:** This feature is new for Office 2010 and Windows 7. ProSkills exercises integrate the technology skills students learn with one or more of the following soft skills: decision making, problem solving, teamwork, verbal communication, and written communication. The goal of these exercises is to enhance students’ understanding of the soft skills and how to apply them appropriately in real-world, professional situations that also involve software application skills. ProSkills exercises are offered at various points throughout a text, encompassing the concepts and skills presented in a standalone tutorial or a group of related tutorials.

**Glossary of Key Terms**

* address element (HTML 43)
* article (HTML 39)
* ASCII (HTML 33)
* aside element (HTML 325
* attributes (HTML 36)
* blockquote element (HTML 39)
* body (HTML 2)
* character encoding (HTML 17)
* character entity reference (HTML 22)
* character set (HTML 33)
* cite element (HTML 30)
* client (HTML 4)
* client-server network (HTML 4)
* closing tag (HTML 2)
* comments (HTML 18)
* comment tag (HTML 18)
* deprecated (HTML 6)
* description list (HTML 27)
* doctype (HTML 8)
* Document Type Declaration (HTML 8)
* elements (HTML 8)
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* entity (HTML 34)
* Extensible Hypertext Markup Language (HTML 5)
* Extensible Markup Language (HTML 5)
* file server (HTML 4)
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* script (HTML 15)
* section (HTML 24)
* server (HTML 4)
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