**HTML and JavaScript BASICS, 4th Edition**

**Lesson 2: Basic Organization Techniques**

**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 headings in **plum** that you see in the textbook. Under each heading you will find (in order): Lesson Objectives, Teacher Materials, a Prepare section that focuses students’ attention on the objectives in the lesson, Instructor Notes and Teacher Tips that summarize the section, Figures and Boxes found in the section, Classroom Activities, Projects to Assign, Key Terms, and Assess. 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 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 players. 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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**Lesson Objectives**

Students will have mastered the material in Lesson 2 when they can:

* Format page information with single and double spacing.
* Organize page information with lines.
* Implement attributes and values.
* Change Web page color defaults by altering attributes and values with both HTML and CSS.
* Create a hyperlink to another location within a Web page.
* Make a hyperlink to a URL or Web page on the Web.
* Link to another Web page on your own computer.

# **Data Files**

Students will not need data files to complete this lesson.

# **Teacher Materials**

* Learner text.
* PowerPoint presentation from the **PowerPoint Presentations** drop-down menu on the *Instructor Resources* CD.
* Solutions to review questions and projects from the **Solutions to Exercises** drop-down menu on the *Instructor Resources* CD.
* ExamView® test questions from the **Test Bank & Test Engine** drop-down menu on the *Instructor Resources* CD.

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# **Prepare**

* Set up a projection system and show the PowerPoint presentation for the lesson, if desired.
* Give necessary instructions to students about lab guidelines.
* Prepare questions from ExamView.

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# **Technical Notes**

* Students will need access to the Internet to complete the exercises in this chapter.

# **Instructor Notes and Teacher Tips**

* Review Objectives and ask students about their experience with formatting pages using HTML.
* Emphasize that the <p></p> and <br/> tags are the most useful in organizing text on a Web page.
* Visit several Web pages pointing out the different background colors. Background colors can be changed by adding the background attribute and giving the tag a color value.
* Review the importance of the hexadecimal numbering system when assigning colors.
* Demonstrate adding a horizontal rule to a page by using the <hr/> tag.
* Introduce students to creating hyperlinks using anchor tags. Point out that with the use of anchor tags, you can link to another place within your own document, to a Web page anywhere on the Web, or to another Web page on your own computer.
* Discuss the terms Uniform Resource Locator (URL) and Hypertext Transfer Protocol (HTTP) and their importance in creating links on the Web.
* Visit the portfolio page of some Web designers. Demonstrate to students that the online portfolio skill they learned in Step-by-Step 2.5 is being used everyday by Web designers to list links to their client’s Web sites.
* Discuss the importance of text color, and how text color can be determined by creating a CSS style definition.

# **30: Building Better Web Pages**

* The main difference between a great and a dull page comes down to the little things – the choice of lettering, colors, and pictures and the selection of elements that help with the overall organization of the pages.
* You can use many HTML/XHTML techniques to make your pages presentable.
* Hypertext links, also called hyperlinks, allow users to navigate to another Web site, Web page, or place within the current document.

**Deprecation**

* Many tried-and-true tags are being deprecated, which means they are being downgraded, devalued, or even becoming obsolete.

**Single and Double Spacing**

* The two easiest tags you can use to organize a page are the <p></p>, or paragraph, tags and the <br />, or break, tag. The <p></p> tags create a double space around the text. The <br /> tag creates a single-spaced break.
* In Step-by-Step 2.1, students will learn how to improve the readability and organization of a Web page.

BOXES

* Extra for Experts: XHTML is based in part on HTML 4.01, so the languages are similar. Both XHTML and HTML 4.01 are stricter than the early versions of HTML and are meant to aid in a smoother transition to CSS and XML. Most browsers are backward compatible; that is, they do read the older HTML tags. Nevertheless, going forward, it’s best to adhere to the stricter specifications for writing tags taught in this text.
* Extra for Experts: If you are using Notepad, you don’t need to set the word-wrap feature, but using it does make the text easier to read because you do not have to read across a long line of text. To turn on the feature, click Format on the menu bar, and then click Word Wrap. Keep in mind, though, that word-wrap settings have no impact on your HTML code or how a page is displayed by a browser.
* Warning: The br tag does not need a pair or a separate closing tag but should still be closed. To create the tag and close it at the same time, enter a space after the letters br and enter a slash / before the right angle bracket like this: <br />. The space isn’t essential. For that matter, you still don’t really need to close this tag, but it’s good form to do so.

FIGURES

* Figure 2-1: Enter these tags and words exactly as shown
* Figure 2-2: An unorganized Web page
* Figure 2-3: Enter the <p></p> and <br /> tags
* Figure 2-4: The <p></p> and <br /> tags clean up a Web page

CLASSROOM ACTIVITIES

1. Discussion Questions:
2. Do you use the term hypertext links, hyperlinks, or links when discussing a link on a Web page? What is the most common color for a hyperlink that has not been visited? What is the most common color of a visited link?
3. Have you heard of the term “deprecated” before? Describe what it means in your own words.
4. Which tag creates a single-spaced break? Which tag creates a double-spaced break?
   1. Lab Activity:
5. Divide the class into small groups. Ask each group to visit 10 Web sites and to record the colors of the hyperlinks when they are unvisited, and then when they are visited. What did they find?

# **33: Adding Lines and Background Colors**

* HTML and XHTML tags can be enhanced. For example, to change the background color of your page, you can add the background attribute (or special quality) and give the tag a color value (or a definition of the attribute).

**Named Colors**

* You can enter color names, such as red, blue, and green, as text values.

**Colors by Number in Hexadecimal**

* Color values can be changed to virtually every color in the rainbow by using special numerical or hexadecimalvalues. Hexadecimal digits operate on a base-16 number system rather than the base-10 number system we normally use.
* Hexadecimal numbers use the letters A, B, C, D, E, and F along with the numbers 0 to 9 to create 16 different digits.

**Horizontal Rules Rule**

* Another widely used tag is the <hr />, or horizontal, rule. This tag simply creates a horizontal line across the page.
* In Step-by-Step 2.2, students will change color values using words and hexadecimal numerical values.

BOXES

* Net Business: Bad Color Choices. Some Web page builders select clashing backgrounds and colors that make Web pages difficult to read. It is considered bad form to create hard-to-read Web pages. Before you publish your Web page to the Web, test your pages and make sure that all the text appears clearly on the page and that your color choices don’t detract from what you are trying to say.

Also, when making your selections, it is a good idea to think about the needs of visually impaired persons and those who suffer from color blindness. Mixing red and green color shades in an incorrect way can cause color-blind people to struggle with the text. Making your font sizes too small can cause trouble for those who have poor vision. Using a dark background with dark letters can make a page difficult for anyone to read.

FIGURES

* Figure 2-5: Changing background colors
* Table 2-1: Color values expressed as hexadecimal numbers
* Figure 2-6: Adding background colors and lines
* Figure 2-7: Powerful lines

CLASSROOM ACTIVITIES

* 1. Quick Quizzes:
     1. True or False? In HTML, a property is a definition of the attribute.

**Answer:** False. A value is a definition of the attribute.

* + 1. Hexadecimal digits operate on a base-\_\_\_\_ number system.

**Answer:** 16

* 1. Discussion Questions:
  2. Review Figure 2-5 on page 34 and discuss the difference between a value and an attribute.
  3. Write out the base-16 hexadecimal system and the base-10 number system we normally use side by side. Compare how different numbers would be written in each system.
  4. Lab Activity:

1. Research HTML names and hexadecimal values online. Write down the hexadecimal numbers for the colors of blue listed on page 34. What are the differences and similarities between the hexadecimal numbers for each of these colors?

# **38: Placing Hyperlinks Inside Your Document**

* + Links can be graphics or words.
  + Hyperlinks are created with special tags called anchor tags.
  + Creating a link within a document requires a two-step process. The first <a> tag you insert creates a hypertext link to a location within your document. The second anchor tag identifies the exact location in your Web page to which you want to link.
  + In Step-by-Step 2.3, students will learn how to insert links in an HTML document.

BOXES

* Extra for Experts: The term *pixel* is short for picture element, which is the smallest single dot of color your monitor is capable of producing on the screen as determined by its resolution settings. You would need a magnifying glass to see one.
* Warning: The pound sign # can be created by holding the Shift key down and pressing the number 3. The quotation marks (“) are created by holding down the Shift key and pressing the apostrophe (‘) key.
* Ethics in Technology: Respect the WWW. A Web page shouldn’t be offensive. You’re responsible for what you create and post or publish online. RESPECT the Web. When creating your Web pages, consider these guidelines:

**R = Responsible:** Assume personal responsibility and create only principled andd appropriate pages.

**E = Everybody:** Try to create Web pages that everybody can enjoy, appreciate, and consider of value.

**S = Simple:** Make your Web pages easy to navigate. Make information simple to find.

**P = Purposeful:** Have a clear purpose for every Web page you put on the Web. Don’t post or upload unnecessary pages.

**E = Ethical:** Make sure all the content of every Web page you post corresponds to your values and has a beneficial purpose.

**C = Correct:** Make sure all the words on your page are spelled correctly, all the sentences are grammatically correct, and all the hyperlinks work.

**T = Totally Worth Visiting:** Try to create pages that others will think are totally worth their time to visit.

FIGURES

* + Figure 2-8: A hyperlink text
  + Figure 2-9: Insert internal linking tags

CLASSROOM ACTIVITIES

1. Quick Quizzes:
   1. The term pixel is short for \_\_\_\_.

**Answer:** picture element

1. What type of tag do you use to create a hyperlink?

**Answer:** Anchor.

2. Discussion Questions:

1. Review the hyperlink code on the bottom of page 38. Which part of this code is the anchor tag?
2. What are the three main ways you can use anchor tags?
3. Discuss the Ethics in Technology box on page 41. Which of the seven guidelines listed is the most important?

3. Critical Thinking:

1. Review the Ethics in Technology box on page 41. Which of the seven guidelines listed is the most important? Why? Write a short essay supporting your choice.

# **41: Creating Hypertext Links to the Web**

* + Uniform Resource Locators (URLs) allow a Web browser to pinpoint an exact HTML file on a Web server, or computer, or on the Web.
  + HTTP stands for Hypertext Transfer Protocol. It is a digital language that Web servers use to communicate with Web browsers.
  + In Step-by-Step 2.4, students will apply links to Web sites and Web pages.

BOXES

* Warning: Your browser won’t automatically update the Web page with the changes you made to the file. To view the changes you made to the Web page, you can open the page again, you can press the F5 function key on a Windows computer, or you can click the Reload or Refresh button on the browser toolbar.

FIGURES

* + Figure 2-10: A Windows folder or directory organization
  + Figure 2-11: Hypertext linking tags
  + Figure 2-12: Hyperlinks in your Web browser

CLASSROOM ACTIVITIES

1. Quick Quizzes:
   1. What does URL stand for?

**Answer:** Uniform Resource Locator.

* + 1. When you see https:// in a URL, the “s” stands for \_\_\_\_.

**Answer:** secure

2. Discussion Question:

1) Review the URL on page 41. Which part of the URL is the name of a file? Which part is the name of the Web server? What does the www stand for?

1. Lab Activity
   1. Find a list of all of the domain name extensions, such as .com, .biz, and .edu. If you were to add five more extensions to the list, what would they be? Why?

# **46: Linking to Your Work**

* + A list of pages is helpful if you need to create an online portfolio page demonstrating all of the Web pages you have created.
  + In Step-by-Step 2.5, students will learn to link their work from a single master table of contents or index-style page.

BOXES

* + Warning: The way this code is written, all of your HTML files must be located in the same folder for the hyperlinks to work correctly.

FIGURES

* + Figure 2-13: Creating links to Web pages you have created
  + Figure 2-14: Links to previously created Web pages

CLASSROOM ACTIVITIES

1. Discussion Questions:

1. Review Step-by-Step 2.5. What parts of the exercise did you find to be the most challenging?
2. What are some other ways you could use a page of links, like the one you created in this exercise?
   1. Quick Quiz:
      1. True or False? A list of pages is helpful if you need to create an online portfolio page of Web sites you have created.

**Answer:** True.

# **49: Coloring Text**

* + With CSS, you define your styles in advance between the <style> tags. CSS allows you to define colors for the entire page without having to change specific lines of code.
  + In Step-by-Step 2.6, students will learn how to change color attributes and values with a few simple CSS commands.

BOXES

* Technology Careers: Changing Standards. If you choose a career in Web design, you’ll need to learn all you can about HTML, XHTML, XML, and CSS standards. *Standards* are powerful because they inform Web browser developers and programmers of the rules they need to meet to develop and display Web pages properly.

When Web standards are applied properly by browser developers, it doesn’t matter if the person viewing the Web page is running a Macintosh or a Windows machine or even a Linux workstation. The reason HTML Web pages can be viewed by people all over the world on different platforms is that everyone must stick to the same standards.

New standards, new tags, and new commands are being added all the time. After enough changes have been proposed and approved, a standards committee will certify a new version of the standards that all browsers must understand. New sets of standards are published every few years. If you want to enter this industry, it is important to keep up with the changes.

Newly approved versions of standards are indicated by numbers, for example, HTML 1, HTML 2, HTML 3, HTML 4, and so on. You can learn more about HTML, CSS, and XHTML standards online. In fact, there is a project that has you do exactly that at the end of this lesson. If you are considering a career in this field, this will be a critical activity for you to complete.

* + Net Business: Perfect Proofreading Tips. Proofreading HTML tags can be difficult. Even the slightest error can drastically change the look of a Web page. Here are some common errors to look for.
  + Make sure all your angle brackets <> are facing in the proper direction.
  + Often, Web page writers misuse the Shift key when making angle brackets or creating a slash. This results in a comma, a period, or a question mark where the slash or angle brackets should appear.
  + If all the defined text doesn’t change, make sure your CSS definitions appear between the <head> </head> tags.
  + If you want a double space instead of a single space, use a <p></p> tag instead of a <br /> tag.
  + Check all of your tags to make sure they are closed properly, like <hr />. If bullets appear long after a list, perhaps you forgot to close the unordered list tag </ul>.

FIGURES

* + Table 2-2: Text color
  + Figure 2-15: Changing the text color on a Web page
  + Figure 2-16: Text colors changed using CSS definitions

CLASSROOM ACTIVITIES

1. Lab Activity:
2. Complete Step-by-Step 2.6, substituting your own colors for red, blue, and green.

2. Discussion Question:

1) Review Table 2-2 on page 50. What do you notice to be the correct format of text color values in CSS? What type of brackets do you use? Your style definitions must appear between which tags?

1. Review the Technology Careers box on page 52. Take a survey of the class to see who might be considering a career in Web design? Why are standards important?
2. Discuss the Net Business box on page 52. What other proofreading tips could you add to the list?

# **Key Terms**

* **Attribute:** A special quality you can add to HTML and XHTML tags. (33)
* **Deprecated:** Downgraded, devalued, or becoming obsolete. (30)
* **Hexadecimal:** Digits that operate on a base-16 number system. (34)
* **Hyperlinks:** Another term for hypertext links. (30)
* **Hypertext links:** Users click these to navigate to another Web site, another Web page, or to a specific location within the current document. (30)
* **Hypertext Transfer Protocol (HTTP):** Digital language that Web servers use to communicate with Web browsers. (41)
* **Standards:** Rules developers must meet when developing Web pages. (52)
* **Uniform Resource Locator (URL):** Identifies a path to a specific HTML file. (41)
* **Value:** A definition of an HTML or XHTML attribute. (33)

# **Projects to Assign**

* In Project 2-1, students will find five examples of hard-to-read, unorganized, or boring Web pages.
* In Project 2-2, students will work in a team to design and create a Web page for a new product launch.
* In Project 2-3, students will identify the pros and cons of working as a member of a team versus working alone.
* In Project 2-4, students will research HTML, XHTML, and CSS standards on the Internet.
* In Critical Thinking Activity 2-1, students will create an internal hyperlink to move from the bottom of a document to the top of a document.
* In Critical Thinking Activity 2-2, students will change the color values of heading tags.
* In Critical Thinking Activity 2-3, students will update their portfolio list.
* In the Capstone Simulation project, students will use HTML to create a page of links to their favorite Web sites.

# **Assess**

* Administer the ExamView test for Lesson 2.

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