

Tutorial 1

Using HTML to Create Web Pages

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 **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 toward 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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Chapter Objectives

Students will have mastered the material in this tutorial when they can:

Session 1.1

- Explore the history of the Internet and the World Wide Web
- Study the differences between HTML, XHTML, and CSS
- Create a Web page with basic HTML tags
- Apply formatting tags to affect text on a Web page

Session 1.2

- Understand image files and file types
- Add an image to a Web page
- Create ordered, unordered, and description lists
- Create nested lists
- Validate a Web page

HTML 4: The Internet and the World Wide Web

LECTURE NOTES

- Discuss what a **network** is.
- Describe the **Internet** and the **World Wide Web**.

BOXES

- Tip: You do not need to download and install a Web browser. You can use the Web browser that comes with your operating system, or you can also download a free Web browser as well. (HTML 4)

TEACHER TIP

Students won't have a problem with this section.

CLASSROOM ACTIVITIES

1. Creative Discussion: Have students made a Facebook page before? Do they realize that when they customize the page, they are using HTML? For those who have made pages, how did they edit them?
2. Quick Quiz:
 1. A(n) _____ is used to view Web pages. (Answer: Web browser)
 2. True/False: An internetwork is two or more networks connected together. (Answer: True)

HTML 4: HTML, XHTML, and CSS

LECTURE NOTES

- Discuss **XHTML**.
- Describe **CSS** and its use.
- Discuss **hypertext** and **markup language**.

BOXES

- Insight: Designing Web Pages for Multiple Browsers (HTML 5)

TEACHER TIP

Although most students are familiar with viewing Web sites, not many understand what actually happens when a page is loaded. Show them how they can view the source code for a page in their browser.

CLASSROOM ACTIVITIES

1. Creative Discussion: What Web browsers do students use? Discuss how pages can appear differently depending on the browser being used.
2. Quick Quiz:
 1. Information that is organized so you can click links to jump from one piece of information to another is referred to as _____. (Answer: Hypertext)
 2. True/False: To compose and edit a Web page, you need a text editor or editing software such as Dreamweaver. (Answer: True)

LAB ACTIVITY

Visit the World Wide Web Consortium Web site (<http://www.w3.org>). Answer the following questions: What is W3C? What is its mission? How many Web pages does it maintain? What are the benefits of becoming a member? Who invented the World Wide Web?

[HTML 5: Creating a Web Page with Basic HTML Tags](#)

LECTURE NOTES

- Discuss how to use a mock-up page in the planning stages of a Web page.
- Describe the basic XHTML elements.
- Demonstrate how to create an XHTML page including discussing how to set up the Document Type Declaration and specifying the correct Document Type Definition.
- Explain how to insert the root element, **head section**, and `body` element.
- Demonstrate how to display a Web page in a browser.
- Discuss the correct usage of comments and how to insert them.

FIGURES

- Figure 1-1, Figure 1-2, Figure 1-3, Figure 1-4, Figure 1-5, Figure 1-6, Figure 1-7, Figure 1-8, Figure 1-9, Figure 1-10, Figure 1-11

BOXES

- Reference: The Basic Structure of an HTML5 Document (HTML 8)
- Insight: Development Tools (HTML 10)
- Tip: Avoid using the numbers *1* and *0* in a filename. These are too easily mistaken for the lowercase versions of the letters *L* and *O*. (HTML 11)
- Tip: If you have more than one Web browser, use the one you like the most. (HTML 13)
- Insight: Using Multiple Web Browsers (HTML 14)
- Tip: If a comment is not properly closed with two hyphens followed by an angle bracket, then it's possible that none of the document will be displayed beyond that comment because the rest of the content will be treated as a comment. (HTML 15)

TEACHER TIP

Students don't always realize how much time they can save by planning their pages ahead of time. Stress the importance of planning to make the overall process easier. However, let them know that a mock-up is not a final project—just an initial plan.

CLASSROOM ACTIVITIES

1. Quick Quiz:

1. An XHTML page begins with the _____. (Answer: Document Type Declaration)
2. True/False: A `break` element is an example of an empty element. (Answer: True)

2. Class Discussion: What is the difference between a start tag and an end tag? Between an end tag and an empty element? Between a start tag and the start code for a comment? Between the root element and the body section?

[HTML 16: Formatting Text on a Web Page](#)

LECTURE NOTES

- Demonstrate how to format text on a Web page using the **heading elements**.
- Discuss how to use the paragraph element.
- Describe text formatting tags and what they do.
- Demonstrate how to use a **special character**.

FIGURES

- Figure 1-12, Figure 1-13, Figure 1-14, Figure 1-15, Figure 1-16, Figure 1-17, Figure 1-18, Figure 1-19, Figure 1-20, Figure 1-21

BOXES

- Proskills: Written Communication: Writing Adaptable HTML Code (HTML 18)
- Tip: You can press the Ctrl+R key combination to refresh the browser in both Internet Explorer and Firefox. (HTML 18)
- Tip: Always switch from the browser to your text editor by using the taskbar (Windows) or Dock (Mac). This is much faster than closing one program to switch to another. (HTML 20)
- Reference: Nesting Tags (HTML 20)
- Tip: It is good coding practice to type the open and end tags side by side, and *then* type the content between the tags. By typing the tags first, you are less likely to accidentally omit the end tag after typing the content. (HTML 20)
- Insight: Tips for Typing HTML Code in a Text Editor (HTML 25)

TEACHER TIP

Discuss the different types of formatting tags used in formatting a Web page. Remind students that all tags should be typed in lowercase. Students should develop the habit of checking their work to make sure that the tags they entered display the content correctly.

CLASSROOM ACTIVITIES

1. Quick Quiz:

1. Which heading size produces the largest text? (Answer: A)
 - A. h1
 - B. h2
 - C. h3
 - D. h4
 2. Which element is a block-level element? (Answer: D)
 - A. br
 - B. strong
 - C. em
 - D. p
 3. True/False: The `strong` element is used to italicize text. (Answer: False)
2. Assign a Project: Ask students to spend some time entering special characters. (See Figure 1-19.) Ask them to check to make sure that the content displayed was the intended result. What did they do when it wasn't?

[HTML 28: Using Images on a Web Page](#)

LECTURE NOTES

- Discuss image files and file types.
- Demonstrate how to insert an `` tag and discuss its **attributes**.
- Show how to insert a scaled image.

FIGURES

- Figure 1-22, Figure 1-23, Figure 1-24, Figure 1-25, Figure 1-26, Figure 1-27, Figure 1-28, Figure 1-29

BOXES

- Insight: Acquiring Images (HTML 28)
- Tip: When working on multiple Web sites it is a good idea to create a separate folder for each entire Web site. The folder should contain all of the files required for the Web site, including images and CSS files. (HTML 28)
- Reference: Using the `img` element (HTML 29)
- Tip: Whenever you type quotation marks in your HTML code, it's a good coding practice to type both quotation marks first so you avoid the mistake of omitting the closing quotation mark. Then type the content between the quotes. (HTML 29)
- Tip: The Web Accessibility Initiative (WAI) at the W3C includes a set of standards and a validator for Web page accessibility. You can find information about WAI on the W3C Web site at <http://www.w3.org/WAI/>. (HTML 31)
- Tip: You must include the end quote after the alt text. Without the end quote, browsers treat all subsequent text in the file as alt text, meaning they won't display the rest of the document. (HTML 31)
- Tip: To find the image dimensions of a file on a Mac computer, go to Finder, select the file, and then press Command+I. (HTML 32)

TEACHER TIP

Discuss with students the importance of using graphics sparingly on a Web page. Explain the importance of using the right type of image file, scaling the image, and storing it in the appropriate folder. Explain that images on the Web normally involve copyrights and are not all free for the taking.

CLASSROOM ACTIVITIES

1. Class Discussion: What is the normal width of a screen? (Answer: 640 pixels) What is the normal height of a screen? (Answer: 480 pixels) Why is knowing this information important when placing an image on a Web page?
2. Quick Quiz:
 1. True/False: HTML code uses only backslashes (\). (Answer: False)
 2. An image's _____ is the relationship between the width and the height. (Answer: aspect ratio)

LAB ACTIVITY

Have students create a Web page describing their favorite activity. They should apply the tags they have learned so far.

[HTML 35: Creating Lists](#)**LECTURE NOTES**

- Demonstrate how to insert an **unordered list**.
- Show how to insert an **ordered list**.
- Demonstrate how to insert a **description list**.

FIGURES

- Figure 1-30, Figure 1-31, Figure 1-32, Figure 1-33, Figure 1-34, Figure 1-35, Figure 1-36, Figure 1-37, Figure 1-38, Figure 1-39, Figure 1-40, Figure 1-41, Figure 1-42, Figure 1-43

BOXES

- Tip: Indenting code becomes particularly important as you add more levels of nesting. (HTML 38)
- Tip: Ordered lists are displayed with Arabic numbers (1, 2, 3, etc.) by default, but you can also use Roman numerals, uppercase letters, or lowercase letters. (HTML 42)
- Proskills: Written Communication: Writing for the Web (HTML 45)

TEACHER TIP

Help your students decide whether they should use an unordered list, an ordered list, or a description list when inserting items. Once that decision is made, then they can follow the correct steps to insert the appropriate tags.

CLASSROOM ACTIVITIES

1. Class Discussion: Which type of list should be used for driving directions? (Answer: Ordered list) Why? Which type of list should be used for listing the benefits of a health plan? (Answer: Unordered list) Why?

2. Assign a Project: Ask students to create an ordered list showing the driving directions from school to their house/apartment. Have them then create it using an unordered list. Then have them print it and turn it in.

[HTML 45: Using the Break Element](#)

LECTURE NOTES

- Show how to insert and use the `break` element correctly.

FIGURES

- Figure 1-44, Figure 1-45

TEACHER TIP

Students sometimes think of the `break` element as a block-level element. Remind them that it is not to be used like that.

CLASSROOM ACTIVITIES

1. Quick Quiz:
 1. The `
` tag should be placed at the _____ of a line. (Answer: start)
2. Class Discussion: In what instances will students want to use the `break` element? Are there alternate ways to get the same effect?

[HTML 47: The meta Element](#)

LECTURE NOTES

- Discuss how to add `<meta />` tags to help search engines find pages better.

FIGURES

- Figure 1-46

BOXES

- Tip: If you want, you can press the Enter key to split a long meta tag into multiple lines. If you choose to do this, split in place of a space. (HTML 48)
- Insight: Tips for Working with HTML Documents (HTML 49)

TEACHER TIP

One of the most useful aspects of the Web is the ability to find Web pages on any topic. Explain to students that by entering one or more keywords, they can find Web pages that contain or are otherwise associated with those keywords. Tags embedded within HTML documents help search engines find the data you are seeking.

CLASSROOM ACTIVITIES

1. Quick Quiz:
 1. True/False: Tags embedded within HTML documents help search engines find the data you are seeking. (Answer: True)
 2. _____ are those words that best identify the content of your site. (Answer: Keywords)
2. Class Discussion: What are `<meta />` tags? Why should you use `<meta />` tags on a Web page? Can you give some examples of what might be included in a `<meta />` tag?

[HTML 49: Validating a Completed File](#)

LECTURE NOTES

- Discuss how it is important to validate XHTML files, and demonstrate how to validate a file.

FIGURES

- Figure 1-47, Figure 1-48, Figure 1-49, Figure 1-50, Figure 1-51

BOXES

- **Tip:** If many messages appear when you validate a Web page, start by fixing the most obvious error, and then resubmit the code for validation. A single fix often resolves many error messages. (HTML 54)

TEACHER TIP

A good idea is to show students how to validate a page with errors and then correct those errors. Sometimes students get confused by the error messages from the validator and don't know how to interpret them.

CLASSROOM ACTIVITIES

1. Quick Quiz:
 1. True/False: Validating an XHTML file is optional. (Answer: True)
2. Class Discussion: How important is validation? When would students want to validate?

LAB ACTIVITY

Have students revisit the page they made earlier. Have them add a couple of images appropriate for their topic. They should incorporate some of the new tags they have learned. They should also add appropriate meta elements. Finally, they should validate their file for XHTML.

[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.

- **Research.** In this type of Case Problem, students need to go to the Web to find information that they will incorporate somehow in their work for the Case Problem.
- **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

- attribute (HTML 29)
- bitmap files (HTML 28)
- block-level elements (HTML 19)
- Cascading Style Sheets (HTML 4)
- character entity (HTML 22)
- chronology (HTML 43)
- clip art (HTML 28)
- compressed (HTML 28)
- cross-browser incompatibility (HTML 5)
- CSS (HTML 4)
- description list (HTML 35, 43)
- em element (HTML 20)
- empty elements (HTML 14)
- empty tags (HTML 6)
- Extensible Hypertext Markup Language (HTML 4)
- extension (HTML 5, 11)
- GIF (HTML 28)
- glossary (HTML 43)
- Graphics Interchange Format (HTML 28)
- head section (HTML 7)
- heading elements (HTML 16)
- HTML (HTML 4)
- hypertext (HTML 4)
- Hypertext Markup Language (HTML 4)
- image element (HTML 28)
- inline element (HTML 20)
- internal documentation (HTML 15)
- Internet (HTML 4)
- internetwork (HTML 4)
- Joint Photographic Experts Group (HTML 28)
- JPEG (HTML 28)
- JPG (HTML 28)
- keywords (HTML 47)
- markup language (HTML 5)
- metadata (HTML 8, 47)
- named character reference (HTML 22)
- nested (HTML 38)
- nested list (HTML 27)
- network (HTML 4)
- numeric character reference (HTML 22)
- ordered list (HTML 27, 35)
- padding (HTML 19)
- paired (HTML 6)
- PNG (HTML 28)
- points (HTML 16)
- Portable Network Graphics (HTML 28)
- rendering (HTML 4)
- ScreenTip (HTML 31)
- second-level list (HTML 38)
- special character (HTML 22)
- strong element (HTML 20)
- sublist (HTML 38)
- tags (HTML 6)
- ToolTip (HTML 31)
- unordered list (HTML 26, 35)
- unpaired (HTML 6)
- URL (HTML 11)
- validator (HTML 7)
- W3C (HTML 5)
- Web (HTML 4)
- Web browser (HTML 4)
- white space (HTML 45)
- World Wide Web (HTML 4)
- World Wide Web Consortium (HTML 5)
- XHTML (HTML 4)

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Quick Check Answers

Session 1.1

1. `html`
2. In the title bar at the top of the screen or in the tab if the Web browser supports tabs
3. To document the code, or to provide information that would be helpful to a Web developer
4. To mark the text for emphasis. This is rendered as italic by default in the Web browser.
5. `¼`
6. `&fract14;`

Session 1.2

1. Because it is a single tag and it is not paired
2. It specifies the name of the image file.
3. The ratio of the width of an image to its height
4. It adds a line break to mark the end of a line of text. The text after the `
` tag will be placed on the next line.

5. An unordered list has bullet symbols for each list item, and an ordered list uses Arabic numbers or letters for each list item. Because you can actually change the list markers on an unordered list to be numeric, it's better to think of the difference as descriptive. An ordered list implies a ranking or order of importance, but an unordered list implies the items are not in order of importance.

6. To check code for syntax errors and compliance with W3C standards