9th Edition

Web Development and Design Foundations with HTML5
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Web Development and Design Foundations with HTML5

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Library of Congress Cataloging-in-Publication Data

Names: Felke-Morris, Terry, author.
Title: Web development and design foundations with HTML5 / Felke-Morris,
Classification: LCC QA76.76.H94 M655 2019 | DDC 006.74—dc23 LC record available at https://lccn.loc.gov/2017053503

ISBN 10: 0-13-480114-8
Preface

Web Development and Design Foundations with HTML5 is intended for use in a beginning web development course. This textbook introduces HTML and CSS topics such as text configuration, color configuration, and page layout, with an enhanced focus on the topics of design, accessibility, and Web standards. The text covers the basics that web developers need to build a foundation of skills:

- Internet concepts
- Creating web pages with HTML5
- Configuring text, color, and page layout with Cascading Style Sheets (CSS)
- Web design best practices
- Accessibility standards
- The web development process
- Using media and interactivity on web pages
- New CSS3 properties
- Website promotion and search engine optimization
- E-commerce and the Web
- JavaScript

A special feature of this text is the Web Developer’s Handbook, which is a collection of appendixes that provide resources such as an HTML5 Reference, Comparison of XHTML and HTML5, Special Entity Character List, CSS Property Reference, WCAG 2.0 Quick Reference, FTP Tutorial, and web-safe color palette.

New to This Edition

Building on this textbook’s successful eighth edition, new features for the ninth edition include the following:

- Updated coverage of HTML5 elements and attributes
- Expanded coverage of designing for mobile devices
- Updates for HTML5.1 elements and attributes
- Expanded coverage of responsive web design techniques and CSS media queries
- Updated code samples, case studies, and web resources
- An introduction to CSS Grid Layout
- Updated reference sections for HTML5 and CSS
- Additional Hands-On Practice exercises
Student files are available for download from the companion website for this textbook at www.pearson.com/cs-resources. These files include solutions to the Hands-On Practice exercises, the Website Case Study starter files, and access to the book’s companion VideoNotes. See the access card in the front of this textbook for further instructions.

**Design for Today and Tomorrow**

This textbook has a modern approach that prepares students to design web pages that work today, in addition to being ready to take advantage of the new HTML5 and CSS coding techniques of the future.

**Organization of the Text**

This textbook is designed to be used in a flexible manner; it can easily be adapted to suit a variety of course and student needs. Chapter 1 provides introductory material, which may be skipped or covered, depending on the background of the students. Chapters 2 through 4 introduce HTML and CSS coding. Chapter 5 discusses web design best practices and can be covered anytime after Chapter 3 (or even along with Chapter 3). Chapters 6 through 9 continue with HTML and CSS.

Any of the following chapters may be skipped or assigned as independent study, depending on time constraints and student needs: Chapter 7 (More on Links, Layout, and Mobile), Chapter 10 (Web Development), Chapter 11 (Web Multimedia and Interactivity), Chapter 12 (E-Commerce Overview), Chapter 13 (Web Promotion), and Chapter 14 (A Brief Look at JavaScript and jQuery). A chapter dependency chart is shown in Figure P.1.
Brief Overview of Each Chapter

Chapter 1: Introduction to the Internet and World Wide Web  This brief introduction covers the terms and concepts related to the Internet and the Web with which Web developers need to be familiar. For many students, some of this will be a review. Chapter 1 provides the base of knowledge on which the rest of the textbook is built.

Chapter 2: HTML Basics  As HTML5 is introduced, examples and exercises encourage students to create sample pages and gain useful experience. Solution pages for the Hands-On Practice are available in the student files.

Chapter 3: Configuring Color and Text with CSS  The technique of using Cascading Style Sheets to configure the color and text on web pages is introduced. Students are encouraged to create sample pages as they read through the text. Solutions for the Hands-On Practice are available in the student files.

Chapter 4: Visual Elements and Graphics  This chapter discusses the use of graphics and visual effects on web pages, including image optimization, CSS borders, CSS image backgrounds, new CSS3 visual effects, and new HTML5 elements. Students are encouraged to create web pages as they read through the text. Sample solutions for the Hands-On Practice are available in the student files.

Chapter 5: Web Design  This chapter focuses on recommended web design practices and accessibility. Some of this is reinforcement because tips about recommended website design practices are incorporated into the other chapters.

Chapter 6: Page Layout  This chapter continues the study of CSS begun earlier and introduces techniques for positioning and floating web page elements, including a two-column CSS page layout. New HTML5 semantic elements and techniques to provide HTML5 compatibility for older browsers are also introduced. Sample solutions for the Hands-On Practice are available in the student files.

Chapter 7: More on Links, Layout, and Mobile  This chapter revisits earlier topics and introduces more advanced techniques related to hyperlinks, using CSS sprites, a three-column page layout, configuring CSS for print, designing pages for the mobile web, responsive web design with CSS media queries, responsive images, the new Flexible Box Layout Module, and the new CSS Grid Layout Module. Students are encouraged to create pages as they read through the text. Sample solutions for the Hands-On Practice are available in the student files.

Chapter 8: Tables  This chapter focuses on the HTML elements used to create tables. Methods for configuring a table with CSS are introduced. Students are encouraged to create pages as they read through the text. Sample solutions for the Hands-On Practice are available in the student files.

Chapter 9: Forms  This chapter focuses on the HTML elements used to create forms. Methods for configuring the form with CSS are introduced. New HTML5 form control elements and attribute values are introduced. Students are encouraged to create sample pages as they read through the text. Sample solutions for the Hands-On Practice are available in the student files.
Chapter 10: Web Development  This chapter focuses on the process of website development, including the job roles needed for a large-scale project, the web development process, and web hosting. A web host checklist is included in this chapter.

Chapter 11: Web Multimedia and Interactivity  This chapter offers an overview of topics related to adding media and interactivity to web pages. These topics include HTML5 video and audio, Flash®, Java™ applets, CSS3 transform and transition properties, interactive CSS menu, interactive image gallery, JavaScript, jQuery, Ajax, and HTML5 APIs. Students are encouraged to create pages as the topics are discussed. Sample solutions for the Hands-On Practice are available in the student files.

Chapter 12: E-Commerce Overview  This chapter introduces e-commerce, security, and order processing on the Web.

Chapter 13: Web Promotion  This chapter discusses site promotion from the web developer’s point of view and introduces search engine optimization.

Chapter 14: A Brief Look at JavaScript and jQuery  This chapter provides an introduction to client-side scripting using JavaScript and jQuery. Sample solutions for the Hands-On Practice are available in the student files.

Web Developer’s Handbook Appendixes:  This handbook contains appendixes that include resources and tutorials that are useful for students, such as an HTML5 Quick Reference, Special Entity Characters, a Comparison of XHTML and HTML5, a CSS Property Reference, a WCAG 2.0 Quick Reference, an FTP Tutorial, and a web-safe color palette.

Features of the Text

Well-Rounded Selection of Topics  This text includes both “hard” skills such as HTML5, CSS, and JavaScript (Chapters 2, 3, 4, 6, 7, 8, 9, and 14) and “soft” skills such as web design (Chapter 5), website promotion (Chapter 13), and e-commerce (Chapter 12). This well-rounded foundation will help students as they pursue careers as web professionals. Students and instructors will find classes more interesting because they can discuss, integrate, and apply both hard and soft skills as students create web pages and websites.

Hands-On Practice  Web development is a skill and skills are best learned by hands-on practice. This text emphasizes hands-on practice through exercises within the chapters, end-of-chapter exercises, and the development of websites through ongoing real-world case studies. The variety of exercises provides instructors with a choice of assignments for a particular course or semester.

Website Case Studies  There are four case studies that continue throughout most of the text (starting with Chapter 2). An additional case study starts in Chapter 5. The case studies serve to reinforce the skills discussed in each chapter. Instructors can cycle assignments from semester to semester or allow students to choose the case study that most interests them. Sample solutions to the case studies are available for download from the Instructor Resource Center at www.pearson.com.
Web Research  Each chapter offers web research activities that encourage students to further study the topics introduced in the chapter.

Focus on Web Design  Most chapters offer additional activities that explore the web design topics related to the chapter. These activities can be used to reinforce, extend, and enhance the course topics.

FAQs  In the author’s web development courses, she is frequently asked similar questions by students. They are included in this textbook and are marked with the identifying FAQ logo.

Checkpoints  Each chapter contains two or three Checkpoints, which are groups of questions to be used by students to self-assess their understanding of the material. A special Checkpoint icon appears with each group of questions.

Focus on Accessibility  Developing accessible websites is more important than ever and this textbook is infused with accessibility techniques throughout. The special icon shown here makes accessibility information easy to find.

Focus on Ethics  Ethics issues related to web development are highlighted throughout the textbook and are marked with the special ethics icon shown here.

Reference Materials  The appendixes in the Web Developer’s Handbook offer reference materials, including an HTML5 Quick Reference, Special Entity Characters, Comparison of XHTML and HTML5, a CSS Property Reference, a WCAG 2.0 Quick Reference, an FTP Tutorial, an introduction to ARIA Landmark Roles, and a Web-Safe Color Palette.

VideoNotes  These short step-by-step videos demonstrate how to solve problems from design through coding. VideoNotes allow for self-placed instruction with easy navigation including the ability to select, play, rewind, fast-forward, and stop within each VideoNote exercise.

Margin icons in your textbook let you know when a VideoNote video is available for a particular concept or homework problem.

Supplemental Materials

Student Resources  The student files for the web page exercises, Website Case Study assignments, and access to the book’s VideoNotes are available to all readers of this textbook at its companion website www.pearson.com/cs-resources. A complimentary access code for the companion website is available with a new copy of this textbook. Subscriptions may also be purchased online.

Instructor Resources  The following supplements are available to qualified instructors only. Visit the Pearson Instructor Resource Center (www.pearson.com) for information on how to access them:

- Solutions to the end-of-chapter exercises
- Solutions for the case study assignments
Author's Website In addition to the publisher's companion website for this textbook, the author maintains a website at http://www.webdevfoundations.net. This website contains additional resources, including review activities and a page for each chapter with examples, links, and updates. This website is not supported by the publisher.

Acknowledgments

Very special thanks go to all the folks at Pearson, especially Michael Hirsch, Matt Goldstein, Erin Ault, and Lora Friedenthal.

Thank you to the following people who provided comments and suggestions that were useful for this ninth edition and previous editions:

Carolyn Andres—Richland College
James Bell—Central Virginia Community College
Ross Beveridge—Colorado State University
Karmen Blake—Spokane Community College
Jim Buchan—College of the Ozarks
Dan Dao—Richland College
Joyce M. Dick—Northeast Iowa Community College
Elizabeth Drake—Santa Fe Community College
Mark DuBois—Illinois Central College
Genny Espinoza—Richland College
Carolyn Z. Gillay—Saddleback College
Sharon Gray—Augustana College
Tom Gutnick—Northern Virginia Community College
Jason Hebert—Pearl River Community College
Sadie Hebert—Mississippi Gulf Coast College
Lisa Hopkins—Tulsa Community College
Barbara James—Richland Community College
Nilofar Kadivi—Richland Community College
Jean Kent—Seattle Community College
Mary Keramidas—Santa Fe College
Karen Kowal Wiggins—Wisconsin Indianhead Technical College
Manasseh Lee—Richland Community College
Nancy Lee—College of Southern Nevada
Kyle Loewenhagen—Chippewa Valley Technical College
Michael J. Losacco—College of DuPage
Les Lusk—Seminole Community College
Mary A. McKenzie—Central New Mexico Community College
Bob McPherson—Surry Community College
Cindy Mortensen—Truckee Meadows Community College
John Nadzam—Community College of Allegheny County
Teresa Nickeson—University of Dubuque
Brita E. Penttila—Wake Technical Community College
Anita Philipp—Oklahoma City Community College
Jerry Ross—Lane Community College
Noah Singer—Tulsa Community College
Alan Strozer—Canyons College
Lo-An Tabar-Gaul—Mesa Community College
Jonathan S. Weissman—Finger Lakes Community College
Tebring Wrigley—Community College of Allegheny County
Michelle Youngblood-Petty—Richland College

A very special thank you also goes to Jean Kent, North Seattle Community College, and Teresa Nickeson, University of Dubuque, for taking time to provide additional feedback and sharing student comments about the book.

Thanks are in order to colleagues at William Rainey Harper College for their support and encouragement, especially Ken Perkins, Enrique D’Amico, and Dave Braunschweig.

Most of all, I would like to thank my family for their patience and encouragement. My wonderful husband, Greg Morris, has been a constant source of love, understanding, support, and encouragement. Thank you, Greg! A big shout-out to my children, James and Karen, who grew up thinking that everyone’s Mom had their own website. Thank you both for your understanding, patience, and timely suggestions! And, finally, a very special dedication to the memory of my father who is greatly missed.

About the Author

Terry Ann Felke-Morris is a Professor Emerita of Computer Information Systems at William Rainey Harper College in Palatine, Illinois. She holds a Doctor of Education degree, a Master of Science degree in information systems, and numerous certifications, including Adobe Certified Dreamweaver 8 Developer, WOW Certified Associate Webmaster, Microsoft Certified Professional, Master CIW Designer, and CIW Certified Instructor.

Dr. Felke-Morris has been honored with Harper College’s Glenn A. Reich Memorial Award for Instructional Technology in recognition of her work in designing the college’s Web Development program and courses. In 2006, she received the Blackboard Greenhouse Exemplary Online Course Award for use of Internet technology in the academic environment. Dr. Felke-Morris received two international awards in 2008: the Instructional Technology Council’s Outstanding e-Learning Faculty Award for Excellence and the MERLOT Award for Exemplary Online Learning Resources—MERLOT Business Classics.

With more than 25 years of information technology experience in business and industry, Dr. Felke-Morris published her first website in 1996 and has been working with the Web ever since. A long-time promoter of Web standards, she was a member of the Web Standards Project Education Task Force. Dr. Felke-Morris is the author of the popular textbook Basics of Web Design: HTML5 & CSS3, currently in its fourth edition. She was instrumental in developing the Web Development certificate and degree programs at William Rainey Harper College. For more information about Dr. Terry Ann Felke-Morris, visit http://terrymorris.net.
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LOCATION OF VIDEONOTES IN THE TEXT
A series of videos have been developed as a companion for this textbook. VideoNote icons indicate the availability of a video on a specific topic.

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