

Northern York County School District

Curriculum Overview

Course: Web Design & Development Grade Level: 9-12		
		Approval Date: March 2023
Course Description: The pre-requisite for this course is Introduction to Graphic Design.		
Hypertext Markup Language (HTML) is the foundation of website and web application development. It allows you to ensure that your content is understood by both segments of your audience: the people who watch, read, or listen to your content, and the computers that display it. In this course, learn how to use HTML thoughtfully and craft excellent HTML through learning fundamental concepts. Cascading Style Sheets (CSS) is a stylesheet language that allows you to control the appearance of your webpages. In this course, learn the concepts that form the foundation of CSS and what you need to know to tweak existing CSS and write your own. At the end of the course, you'll walk away with a portfolio of HTML-based and CSS-based webpages/sites of your own design and development!		
 Course Objectives: Students will use CodePen and Notepad to build HTML webpages. Students will use CodePen and Notepad to style webpages with CSS. Students will use Photoshop to design websites and generate baseline HTML and CSS code. Students will use Bootstrap and Dreamweaver to develop and build out their websites. Students will create a digital portfolio of their web design and development projects. 		
Related Standards:		
Pennsylvania Technology and Engineering Stando	<u>ards</u>	
 Nature and Characteristics of Technology & Engineering: Demonstrate the use of conceptual, graphical, virtual, mathematical, and physical modeling to identify conflicting considerations before the entire system is developed and to aid in design decision making. Implement quality control as a planned process to ensure that a product, service, or system meets established criteria. 		
 Applying, Maintaining, Assessing, and Evaluating Technological Products and Systems: Interpret laws, regulations, policies, and other factors that impact the development and use of technology. 		

Design Thinking in Technology and Engineering Education:

- Apply a broad range of design skills to a design thinking process.
- Implement and critique principles, elements, and factors of design.
- Evaluate and define the purpose of a design.
- Analyze and use relevant and appropriate design thinking processes to solve technological and engineering problems.
- Optimize a design by addressing desired qualities within criteria and constraints while considering trade-offs.

Units:

- 1. Building Websites with HTML
- 2. Styling Websites with CSS
- 3. Designing Websites from Photoshop to Dreamweaver

Concepts:

- Web design
- Web development
- HTML (Hypertext Markup Language)
- Formatting text
- Linking and navigation
- Images and graphics
- Media
- Forms and interactive elements
- Tables
- CSS (Cascading Style Sheets)
- Browser developer tools
- Image optimization
- Absolute and relative paths
- Properties
- Values
- Selectors
- Inheritance and specificity
- Links
- The Box Model
- Margin and padding
- Border
- Typography for the Web
- Float, position, and clear
- Flexbox and grid
- Advanced selectors
- Responsive design and layout

Competencies:

- <u>Formatting Text with HTML</u>:
 - Paragraphs, Headlines, Bold and Italic, Lists, Quotes, Dates and Times, Code, Pre-Formatted Text, Line Breaks, Superscripts, Subscripts, Small Text
- <u>Linking and Navigation with HTML</u>: Links, URL Paths, Navigation
- <u>Images and Graphics with HTML</u>: Images, Image Formats, Responsive Images, Responsive Width, Responsive Pictures, Figures and Captions
- <u>Media with HTML</u>: Audio, Video, Captions and Subtitles, Embedding Other Media (iframes)
- Forms and Interactive Elements with <u>HTML</u>:

Form Basics, More Forms, Additional Form Element Types

- <u>Structuring Tabular Data with HTML</u>: When to Use Tables, Building Table Rows, Building Table Columns, Collecting Data, Spanning Multiple Table Rows and/or Columns
- <u>Getting Started with CSS</u>: Browser Developer Tools, Referencing CSS, Optimizing Images and Retina Displays, Absolute and Relative Paths
- <u>Core Concepts of CSS</u>: Specifications and the W3C, Syntax and Terminology, Values and Units, Color and Property Values, Type and Universal Selectors, Class and ID Selectors, Descendent Selectors, Grouping Selectors, Inheritance and Specificity, The Cascade and Importance, Adding

	 Colors, Pseudo-Class Selectors and Links, Styling Links <u>The Box Model and CSS</u>: Inline, Block, Display, Box Model Properties, Debugging the Box Model, Padding, Margin, and Border, Margin and Layouts, Content Wrappers <u>Typography with CSS</u>: Changing the Font Family, Font Weight, Font Style, Web Fonts, Font Size, Font Shorthand, Text Decoration, Text Align, Line Height <u>Float and Position with CSS</u>: Float, Clear, Collapsed Container, Layouts and the Box Model, Position, Z- Index <u>Flexbox and Grid with CSS</u>: Flexbox, Orientation and Ordering, Flexible Sizing, Alignment, Grid (Explicit and Implicit), Grid Placement Properties, Grid Columns and Firefox Grid Inspector <u>Advanced Selectors with CSS</u>: Relational Selectors, Combinators, Pseudo-Class Selectors: First and Last <u>Fluid and Responsive Layout with CSS</u>: Responsive Design, Fluid Layouts, Flexible Background Images, Media Queries, Widths, and Breakpoints
 Learning Activities: Instructional video tutorials Teacher demonstrations Individual classwork Small/large group projects 	 Performance Tasks: Various tutorial-based HTML coding projects using CodePen and Notepad Hello There, World! (HTML) webpage Various tutorial-based CSS coding projects using CodePen and Notepad Student Resume/Portfolio (HTML + CSS) webpage Topsy Turvy Cake Design (Photoshop and Dreamweaver-based) website Hello Again, World! (Photoshop and Dreamweaver-based redesign and buildout)
Other Assessment Measures: Online test/quizzes	1

Textbook/Primary Resource:

HTML Essential Training (LinkedIn Learning/Jen Simmons) www.linkedin.com/learning/html-essential-training-4

CSS Essential Training (LinkedIn Learning/Christina Truong) www.linkedin.com/learning/css-essential-training-3

Designing Websites from Photoshop to Dreamweaver (LinkedIn Learning/Sue Jenkins) www.linkedin.com/learning/designing-websites-from-photoshop-to-dreamweaver

Supplemental Resource Materials:

Teacher-generated instructional resources CodePen online coding community (www.codepen.io) Microsoft Windows Notepad software Adobe Photoshop software Adobe Dreamweaver software