Web Design

(WEB DESIGN)

4574

Web Design is a business course that provides instruction in the principles of web design using HTML/XHTML and current/emerging software programs. Areas of instruction include audience analysis, hierarchy layout and design techniques, software integration, and publishing. Instructional strategies should include peer teaching, collaborative instruction, project-based learning activities, and school and community projects.

- Recommended Grade Level: 10-12
- Recommended Prerequisites: Digital Communication Tools and Computer Applications
- Credits: A one-credit or two-credit course over one or two semesters
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- A Career Academic Sequence, Career-Technical program, or Flex Credit course
- Course content standards/performance expectations and Indiana Academic Standards integrated at: http://www.doe.in.gov/octe/bme/curriculum/contentstandards.htm
- Teacher Requirements: http://doe.in.gov/dps/licensing/assignmentcode
- Career Clusters: A recommended component for career pathways in the following Indiana career clusters:
  - Arts, AV Technology & Communication
  - Business, Management, & Administration
  - Information Technology
  - Marketing, Sales & Service
- Career pathway information: http://www.doe.in.gov/octe/facs/CrrClstrGrid.html

Course Content Standards and Performance Expectations

WD 1 **History/Background of Internet and WWW** (LA11.1.1)(LA12.1.1)

WD 1.1 **Content Standard:** Students demonstrate a basic knowledge of the Internet and the tools used to access information.

Performance Expectations

WD 1.1.1 Identify key events in the history of the WWW, Internet, and Intranet
WD 1.1.2 Analyze the affect of the Internet on society (LA11.1.3)(LA12.1.3)
WD 1.1.3 Compare and contrast the different modes of accessing information via the Internet (LA11.1.3)(LA12.1.3)
WD 1.1.4 Define Internet terminology (LA11.1.1)(LA12.1.1)
WD 1.1.5 Recognize file types and file extensions such as html, htm, com, gov, org, pdf, zip, txt, jpg, gif, bmp, wav, mp3, midi, wma, url (LA11.1)(LA12.1)
WD 1.1.6 Create and manage proper folder structure

WD 2 **Planning, Developing, and Maintaining a Web Site** (LA11.5.8)(LA12.5.8) (H.7.1, H.7.2, H.7.3)

WD 2.1 **Content Standard:** Students plan a web site.

Performance Expectations

WD 2.1.1 Create a plan for a web site having at least two levels and translate it into a site map (LA11.6.1)(LA11.6.2)(LA12.6.1)(LA12.6.2)

WD 2.1.2 Explain and demonstrate the principles of good web page design (LA11.5.8)(12.5.8)
WD 2.1.3 Determine the purpose and target audience of the web site (A1.9.6)
WD 2.1.4 Evaluate web page design and layout with attention to the effective use of space, balance, symmetry, and color (A1.9.6)

WD 2.2 **Content Standard:** Students design and develop a basic web site using HTML/XHTML. (LA11.5.7)(LA12.5.7)

Performance Expectations
WD 2.2.1 Explain the need for developers to create and maintain HTML/XHTML script
WD 2.2.2 Plan a basic HTML/XHTML document considering subject, audience, layout, color, links, and graphics (LA11.7.1)(LA12.7.1)
WD 2.2.3 Utilize HTML/XHTML tags that display and format web content to create a basic web page in a text editor (<html>, <head>, <title>, <body>,</html >,</head>, </title>, </body>)
WD 2.2.4 Utilize HTML/XHTML attribute tags
WD 2.2.5 Create an ordered/unordered list utilizing HTML <ol>, <li> tags (A1.1.5)

WD 2.3 **Content Standard:** Students utilize graphics and multimedia in a HTML/XHTML document. (A1.9.1)(A1.9.6)

Performance Expectations
WD 2.3.1 Insert and align graphics using the <img src=…>
WD 2.3.2 Resize a graphic image using the HEIGHT and WIDTH attributes
WD 2.3.3 Realign images that will affect the text layout of a document
WD 2.3.4 Explain the concept of an image map
WD 2.3.5 Create an image map for a given graphic
WD 2.3.6 Insert audio into a document by linking an image to an audio file , <img src=…> and

WD 2.4 **Content Standard:** Students create links within a HTML/XHTML document.

Performance Expectations
WD 2.4.1 Differentiate between absolute and relative linking to other documents (LA11.1.3)(LA12.1.3)
WD 2.4.2 Link to other web sites utilizing the , tag
WD 2.4.3 Link to other HTML documents utilizing the ,
WD 2.4.4 Create a target/anchor that links to another section of the same document <a name=….>,,
WD 2.4.5 Link one web page to another page by clicking a graphic image utilizing a combination of the , with <img src=…>
WD 2.4.6 Create email links

WD 2.5 **Content Standard:** Students create and format a table in a HTML/XHTML document. (A1.9.1)(A1.9.6)

Performance Expectations
WD 2.5.1 Diagram and construct a table
WD 2.5.2 Write the code to insert a table in a document using <table>
WD 2.5.3 Construct a table using the <tr> and <td> tags to create table rows and columns in a document
WD 2.5.4 Utilize the ROWSPAN and COLSPAN attribute on a document
WD 2.5.5 Apply BORDER= attributes to a table (BORDERCOLOR=, BORDERSIZE=)

WD 2.5.6 Control the dimensions of a table by utilizing attributes (CELLPADDING=, CELLSPACING=, WIDTH=)
WD 2.5.7 Align text in a table utilizing the ALIGN= attribute

WD 2.6 **Content Standard:** Students produce a basic HTML/XHTML document using frames. (A1.9.1)(A1.9.6)

Performance Expectations
WD 2.6.1 Compare/contrast the usage of frames (LA11.1.3)(LA12.1.3)
WD 2.6.2 Design and format a web page using various frame layouts including banner, navigation bar, and main document window
WD 2.6.3 Identify the purpose of and use the tags <frame>, <frameset>, and <noframes>

WD 2.7 **Content Standard:** Students produce a basic HTML/XHTML document using forms. (A1.9.1)(A1.9.6)

Performance Expectations
WD 2.7.1 Discuss the concept of a form on a web document and the various tags that can be contained within the form (e.g. text entry fields, radio buttons, submit button)
WD 2.7.2 Design a basic form from given specifications, utilizing a variety of input controls (e.g. text entry fields, radio buttons)
WD 2.7.3 Write the code for the following
- text entry field
- radio buttons
- check box button(s)
- pull-down menu
- scroll box
- pull-down menu
- submit/reset button

WD 2.7.4 Code selected default values for all input tags
WD 2.7.5 Distinguish between the GET and POST methods to process collected data (LA11.1.3)(LA12.1.3)

WD 2.8 **Content Standard:** Students demonstrate knowledge of content management.

Performance Expectations
WD 2.8.1 Test site/application after content is updated to ensure integrity
WD 2.8.2 Test web sites on different browsers, platforms, and screen resolutions
WD 2.8.3 Verify compliance of web pages with government and industry accessibility standards
WD 2.8.4 Perform updates in a timely manner
WD 2.8.5 Update and review links
WD 2.8.6 Log all update activities

WD 3 **Graphics development**

WD 3.1 **Content Standard:** Students demonstrate the principles of good design and graphics utilizing commercial based software. (e.g. Adobe Photoshop, Microsoft Paint, Macromedia Fireworks, Macromedia Flash) (H.9.1)

Performance Expectations
WD 3.1.1 Compare and contrast the uses and benefits of various graphic file formats (e.g. gif, png, jpeg, jpg, bmp, tiff) (LA11.1.3)(LA12.1.3)

WD 3.1.2 Use free downloadable or existing clipart files and convert them to appropriate Web format and size
WD 3.1.3 Demonstrate the impact of color combinations to various audiences and cultures.
WD 3.1.4 Create transparent and animated GIFs
WD 3.1.5 Edit, crop, and resize existing clipart files(A1.3.1)
WD 3.1.6 Edit, crop, and resize existing photographs from a scanner and/or digital camera (A1.3.1)
WD 3.1.7 Optimize and export graphics to improve web page loading time
WD 3.1.8 Utilize proper typography in relation to graphic creation

WD 4 Management and Communications

WD 4.1 **Content Standard:** Students demonstrate management and communication skills to maintain a web site.

Performance Expectations
WD 4.1.1 Serve as a team member and/or project manager to develop web projects
WD 4.1.2 Maintain and modify an existing web site utilizing a plan

WD 5 Legal Issues and Ethics

WD 5.1 **Content Standard:** Students recognize and apply proper legal issues and follow proper ethics.

Performance Expectations
WD 5.1.1 Demonstrate effective and ethical ways to search for, communicate, and transfer information using Internet technology
WD 5.1.2 Apply proper copyright laws in all web-related projects
WD 5.1.3 Explain differences of software copyright, such as freeware, shareware, and public domain (LA11.5.7)(LA12.5.7)
WD 5.1.4 Describe personal safety issues of Internet use, including viruses, hacking, secure sights, and personal identity issues
WD 5.1.5 Adhere to corporation computer use policy(s)
WD 5.1.6 Evaluate the validity of information on web sites

WD 6 HTML Editing Software to Create & Maintain Web Pages

WD 6.1 **Content Standard:** Students use commercial Web design software (i.e., Macromedia Dreamweaver) to create attractive Web pages.

Performance Expectations
WD 6.1.1 Create web pages using commercial web design software using content standards 2.2 through 2.8
WD 6.1.2 Convert and import a Word, Excel, and/or PowerPoint document into a web page

Indiana Academic Standards Integrated into Web Design

English/Language Arts

Standard 1
READING: Word Recognition, Fluency, and Vocabulary Development
11.1.1 Trace the history of significant terms used in political science and history.
11.1.3 Analyze the meaning of analogies encountered, analyzing specific comparisons as well as relationships and inferences.
12.1.1 Understand unfamiliar words that refer to characters or themes in literature or historical events.
12.1.3 Analyze the meaning of analogies encountered, analyzing specific comparisons as well as relationships and inferences.

Standard 5
WRITING: Applications (Different Types of Writing and Their Characteristics)
11.5.7 Use precise technical or scientific language when appropriate for topic and audience.
12.5.7 Use precise technical or scientific language when appropriate for topic and audience.

Standard 6
WRITING: English Language Conventions
11.6.1 Demonstrate control of grammar, diction, paragraph and sentence structure, and an understanding of English usage.
11.6.2 Produce writing that shows accurate spelling and correct punctuation and capitalization.
12.6.1 Demonstrate control of grammar, diction, and paragraph and sentence structure, as well as an understanding of English usage.
12.6.2 Produce writing that shows accurate spelling and correct punctuation and capitalization.

Standard 7
LISTENING AND SPEAKING: Skills, Strategies, and Applications
11.7.1 Summarize a speaker's purpose and point of view and ask questions to draw interpretations of the speaker's content and attitude toward the subject.
12.7.1 Summarize a speaker's purpose and point of view, discuss, and ask questions to draw interpretations of the speaker's content and attitude toward the subject.

Mathematics

Standard 1
Operations With Real Numbers
A1.1.5 Use dimensional (unit) analysis to organize conversions and computations.

Standard 3
Relations and Functions
A1.3.1 Sketch a reasonable graph for a given relationship.

Standard 9
Mathematical Reasoning and Problem Solving

A1.9.1 Use a variety of problem-solving strategies, such as drawing a diagram, making a chart, guess-and-check, solving a simpler problem, writing an equation, and working backwards.

A1.9.6 Distinguish between inductive and deductive reasoning, identifying and providing examples of each.

Art

Standard 7
Creating Art: Production

H.7.1

PROFICIENT: Demonstrate skill in observation from real life (not photographs or flat imagery) to present convincing, accurately rendered objects or subject matter.

ADVANCED: Demonstrate skill in observation from real life (not photographs or flat imagery) to present convincing, accurately rendered objects or subject matter and demonstrate personal style.

H.7.2

PROFICIENT: Make informed choices about specific subject matter or concepts and defend those choices when given a range of objects or spaces.

ADVANCED: Select subject matter, symbols, and ideas to communicate personal statements and describe the origin of symbols and why they are of value in artworks.

H.7.3

PROFICIENT: Identify the origin, function, and meaning of symbols used in their work.

ADVANCED: Borrow symbols from art and describe the origin, function, and value of these functions in their personal work.

Standard 8
Students understand and apply elements and principles of design effectively.

H.8.1

PROFICIENT: Evaluate the effectiveness of elements and principles in works of art and use this evaluation to inform their own work.

ADVANCED: Create multiple solutions in works that demonstrate competence in producing effective relationships between elements, media, and function.

H.8.2

PROFICIENT: Create works of art that use specific principles to solve visual problems.

ADVANCED: Create works that use specific elements, principles, and functions to solve problems and communicate ideas.

Standard 9
Students develop and apply skills using a variety of two dimensional and three dimensional media, tools, and processes to create works that communicate personal meaning.

H.9.1

PROFICIENT: Create artworks that demonstrate skill and understanding of different media, processes, and techniques.

ADVANCED: Begin, define, and solve challenging visual problems, demonstrating skill and in-depth understanding of media and processes.

Standard 10
Students reflect on, revise, and refine work using problem solving and critical thinking skills.

H.10.1
PROFICIENT: Demonstrate thoughtful revision and refinement of original work based upon reflection upon critique, practice, and research.
ADVANCED: Finalize an artistic idea by demonstrating fluency, flexibility, elaboration, and originality.

H.10.2
PROFICIENT: Initiate and define multiple solutions to problems in original work by means of reflection, analysis, synthesis, and evaluation.
ADVANCED: Initiate and define multiple solutions to visual arts problems by means of reflection, analysis, synthesis, and evaluation.

H.10.3
PROFICIENT: Demonstrate respect for one's own work and the work of others.
ADVANCED: Demonstrate respect for one's own work and the work of others.