

**CTE Standards Unpacking
Web Development I & II**

Course: Web Development I & II

Course Description: Web Development I is a course designed to guide students in a project-based environment implementing web development techniques. Through the use of hypertext markup language (HTML5) coding, Cascading Style Sheets (CSS), and JavaScript students will plan, design, develop, deploy, and maintain website projects. Students will learn fundamentals for a career in web development as they complete projects and create their own website. Web Development II reviews and builds on the concepts introduced in Web Development I including live production and scripting.

Career Cluster: Information Technology

Prerequisites: Computer Applications, Introduction to Information Technology (recommended), and Computer Information Technology (recommended)

Program of Study Application: Web Development I & II is an option inside the Programming Pathway.

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| INDICATOR #WD 1: Identify basic principles of how the Internet is constructed, how it functions and how it is used. | | |
| SUB-INDICATOR 1.1 (Webb Level: 1): Identify the infrastructure required to access the Internet. | | |
| SUB-INDICATOR 1.2 (Webb Level: 1): Summarize Internet development and functions | | |
| SUB-INDICATOR 1.3 (Webb Level: 1): Recognize the purpose of domains | | |
| SUB-INDICATOR 1.4 (Webb Level: 2): Define the function of a Domain Name Server (DNS) | | |
| SUB-INDICATOR 1.5 (Webb Level: 1): Define important Internet communications protocols and their roles in delivering basic Internet services | | |
| SUB-INDICATOR 1.6 (Webb Level: 1): Demonstrate knowledge of standard copyright rules. | | |
| SUB-INDICATOR 1.7 (Webb Level: 2): Explain the use and purpose of acceptable use policy (AUP) | | |
| Knowledge (Factual): Explain infrastructure and development of the Internet. Purpose, function and protocol of domains. The social, legal and ethical issues related to the internet usage. | Understand (Conceptual): The overall construction and operation of the internet. | Skills (Application): Demonstrate an understanding of the components involved in creating an internet web page. |

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| Benchmarks Students will be assessed on their <i>ability</i> to: <ul style="list-style-type: none"> • Explain the role of an Internet Service Provider (ISP) • Illustrate the relationship between web servers, routers, packets, internet, protocol (IP) addresses, and firewalls. • Differentiate between dynamic and static hosts • Discuss domain name registration. • Explain the various types of internet communications protocols. • Explain the social, legal and ethical issues related to the internet usage. | |
| <i>Academic Connections</i> | |
| ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard): | Sample Performance Task Aligned to the Academic Standard(s): |

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| INDICATOR #WD 2: Demonstrate creation of web pages. | | |
| SUB-INDICATOR 2.1 (Webb Level: 2): Demonstrate knowledge required to create a web page | | |
| SUB-INDICATOR 2.2 (Webb Level: 2): Demonstrate appropriate file structure and naming | | |
| SUB-INDICATOR 2.3 (Webb Level: 2): Create web pages with appropriate HTML structure and standards that can be validated using World Wide Web Consortium validator (W3C) | | |
| SUB-INDICATOR 2.4 (Webb Level: 3): Demonstrate the use of elements and attributes. | | |
| SUB-INDICATOR 2.5 (Webb Level: 2): Incorporate meta tags for page documentation and search engine optimization (SEO) | | |
| SUB-INDICATOR 2.6 (Webb Level: 4): Implement advanced elements to create web pages (Web Development 2) | | |
| Knowledge (Factual): Incorporating advanced elements and attributes. | Understand (Conceptual): The steps involved to create a web page. | Skills (Application): Create a webpage. |
| Benchmarks Students will be assessed on their <i>ability</i> to: <ul style="list-style-type: none"> • Create a simple webpage. • Use logical file structure to build websites. • Properly nest elements. • Incorporate elements and attributes, such tags, formatting, semantics, and | | |

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| meta tags. <ul style="list-style-type: none"> • Create a dynamic webpage to include moving pictures, videos, etc... |
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Academic Connections

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| <p>ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):</p> <p>ELA Reading Standards for Informational Text: *RI.9-12: Indicators 1-5</p> <p>ELA Writing Standards: *W. 9-12: Indicators 1- 9</p> <p>http://doe.sd.gov/octe/documents/ccELA_612.pdf</p> | <p>Sample Performance Task Aligned to the Academic Standard(s):</p> <p>Create a personal webpage</p> <p>Create a webpage for a business or organization</p> <p>Create a multi-media presentation that describes the different types of internet service providers. Use logical file and properly nest elements</p> <p>Interview or survey businesses to discover needs when creating a website. What do they want/prefer to meet client needs?</p> <p>*Analyze previously created sites to determine strengths and weaknesses</p> |
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| INDICATOR #WD 3: Format web pages using Cascading Style Sheets (CSS). | | |
| SUB-INDICATOR 3.1 (Webb Level: 2): Apply essential aspects of the CSS | | |
| SUB-INDICATOR 3.2 (Webb Level: 2): Apply CSS to a website | | |
| SUB-INDICATOR 3.3 (Webb Level: 3): Use selectors in a CSS | | |
| SUB-INDICATOR 3.4 (Webb Level: 4): Format page layout with advanced CSS (Web Development II) | | |
| Knowledge (Factual): | Understand (Conceptual): | Skills (Application): |
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Benchmarks

Students will be assessed on their *ability* to:

Academic Connections

ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):

ELA Reading Standards for Informational Text:

-RI.9-12: Indicators 1-5

ELA Writing Standards:

-W. 9-12: Indicators 1- 9

<http://doe.sd.gov/octe/documents/ccELA 612.pdf>

Sample Performance Task Aligned to the Academic Standard(s):

Create a website

Format a web page that includes aspects of CSS, including selectors. The final page layout should be formatted in advanced CSS.

INDICATOR #WD 4: Plan, design, implement, and maintain website(s).

SUB-INDICATOR 4.1 (Webb Level: 2): Analyze project requirements

SUB-INDICATOR 4.2 (Webb Level: 2): Plan site design and page layout

SUB-INDICATOR 4.3 (Webb Level: 4): Create content for website (Web Development II)

SUB-INDICATOR 4.4 (Webb Level: 4): Upload and maintain a site. (Web Development II)

Knowledge (Factual):

Understand (Conceptual):

Skills (Application):

Benchmarks
 Students will be assessed on their *ability* to:

Academic Connections

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|---|---|
| <p>ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):</p> <p>ELA Reading Standards for Informational Text: -RI.9-12: Indicators 1-5</p> <p>ELA Writing Standards: -W. 9-12: Indicators 1- 9</p> <p>http://doe.sd.gov/octe/documents/ccELA_612.pdf</p> | <p>Sample Performance Task Aligned to the Academic Standard(s):</p> <p>Create a website from start to finish that offers an analysis of the requirements, a plan for design and layout, appropriate content, final upload and maintenance.</p> <p>Compare/contrast various websites to see if they meet requirements and techniques used in creating them.</p> |
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INDICATOR #WD 5: Explore advanced web concepts. (Web Development II)

SUB-INDICATOR 5.1 (Webb Level: 3): Demonstrate the use of scripting and other interactive tools

SUB-INDICATOR 5.2 (Webb Level: 2): Explore other web technologies

| Knowledge (Factual): | Understand (Conceptual): | Skills (Application): |
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Benchmarks

Students will be assessed on their *ability* to:

Academic Connections

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| <p>ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):</p> <p>ELA Reading Standards for Informational Text: -RI.9-12: Indicators 1-5</p> <p>ELA Writing Standards: -W. 9-12: Indicators 1- 9</p> <p>http://doe.sd.gov/octe/documents/ccELA 612.pdf</p> | <p>Sample Performance Task Aligned to the Academic Standard(s):</p> <p>Create and demonstrate a website that uses scripting and other interactive tools and may include other web technologies.</p> <p>Create a paper/multi-media presentation that highlights the different types of scripting and interactive tools that can be used when creating a website.</p> |
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INDICATOR #WD 6: Explore careers in Web Development.

SUB-INDICATOR 6.1 (Webb Level: 2): Explore Information Technology (IT) Web Development careers

SUB-INDICATOR 6.2 (Webb Level: 2): Demonstrate job skills for programming industries.

| Knowledge (Factual): | Understand (Conceptual): | Skills (Application): |
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Benchmarks
Students will be assessed on their *ability* to:

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| <i>Academic Connections</i> | |
| <p>ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):</p> <p>ELA Reading Standards for Informational Text: -RI.9-12: Indicators 1-5</p> <p>ELA Writing Standards: -W. 9-12: Indicators 1- 9</p> <p>ELA Speaking and Listening Standards: -SL. 9-12: Indicators 1-6</p> <p>http://doe.sd.gov/octe/documents/ccELA 612.pdf</p> | <p>Sample Performance Task Aligned to the Academic Standard(s):</p> <p>Research jobs in the IT field related to programing and web design</p> <p>Multi-media presentation/research paper on different kids of IT fields and jobs.</p> |

Additional Resources

Please list any resources (e.g., websites, teaching guides, etc.) that would help teachers as they plan to teach these new standards.