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| CENTRAL FLORIDA ASSESSMENT COLLABORATIVE |
| Individual Test Item Specifications |
| Foundations of Web Design |
| 2014 |

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**Table of Contents**

[I. Guide to the Individual Benchmark Specifications 1](#_Toc362246932)

[Benchmark Classification System 1](#_Toc362246933)

[Definitions of Benchmark Specifications 3](#_Toc362246934)

[II. Individual Benchmark Specifications 4](#_Toc362246935)

I. Guide to the Individual Benchmark Specifications

Content specific guidelines are given in the *Individual Benchmark Specifications* for each course. The *Specifications* contains specific information about the alignment of items with the Florida Standards. It identifies the manner in which each benchmark is assessed, provides content limits and stimulus attributes for each benchmark, and gives specific information about content, item types, and response attributes.

Benchmark Classification System

* Each Career and Technical Education course has its own set of course standards. The benchmarks are organized numerically, with two numbers separated by a decimal point. The first number is the standard number, and the second number is the benchmark number. You will see these numbers on the Item Specifications for each course.





**Definitions of Benchmark Specifications**

The *Individual Benchmark Specifications* provides standard-specific guidance for assessment item development for CFAC item banks. For each benchmark assessed, the following information is provided.

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| **Reporting Category** | is a grouping of related benchmarks that can be used to summarize and report achievement. |
| **Standard** | refers to the standard statement presented in the Florida Standards. |
| **Benchmark****Also Assesses** | refers to the benchmark statement presented in the Florida Standards. In some cases, two or more related benchmarks are grouped together because the assessment of one benchmark addresses another benchmark. Such groupings are indicated in the Also Assesses statement.refers to the benchmarks that are closely related to the benchmark (see description above) |
| **Item Types****Cognitive****Complexity** | are used to assess the benchmark or group of benchmark.ideal level at which item should be assessed. |
| **Benchmark Clarifications** | explain how achievement of the benchmark will be demonstrated by students. In other words, the clarification statements explain what the student will do when responding to questions. |
| **Content Limits** | define the range of content knowledge and that should be assessed in the items for the benchmark.  |
| **Stimulus Attributes** | define the types of stimulus materials that should be used in the items, including the appropriate use of graphic materials and item context or content. |
| **Response Attributes****Content Focus** | define the characteristics of the answers that a student must choose or provide.defines the content measured by each test item. Content focus addresses the broad content and skills associated with the examples found in the standards, benchmarks, or benchmark clarifications.  |
| **Sample Items** | are provided for each type of question assessed. The correct answer for all sample items is provided.  |

**II. Individual Benchmark Specifications**

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| **Benchmark Number** | 4.02 |
| **Standard** | 4.0 Demonstrate proficiency in website planning and the design process. |
| **Benchmark** | Discuss the importance of information architecture to web design and development. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
| **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to understand and discuss the art and science of organizing and labeling websites to support usability and functionality. |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Content will focus on the following terminology: classification schemes, hierarchical arrangement, front end, back end, users, interface, metadata, content management top-down approach, bottom-up approach, inherited hierarchy, class hierarchy, faceted classification, taxonomic analysis, technology design, mental model, implementation model, User Centered Design, System Centered Design, and Contextual Design, etc.  |
| **Sample Item** | What is the role of information architecture in web design and development?1. categorize the coding
2. increase the website traffic
3. organize the website to support usability
4. process in which files are organized on the server

Correct Answer: C |
| **Benchmark Number** | 4.05 |
| **Standard** | 4.0 Demonstrate proficiency in website planning and the design process.  |
| **Benchmark** | Identify stages in the web design process and describe the activities comprising each stage. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to identify and describe activities completed at each stage of the web design process. |
| **Content Limits** | None |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Specific Phases of Web Design could include: information gathering, planning, designing, developing, testing/delivery, and maintenance. Content could include definitions of each specific phase along with the activities involved with each phase. |
| **Sample Item** | Which of the following steps should be completed at the beginning of the web design process?1. create storyboard/wireframe
2. establish a budget and timeline
3. identify client goals and target audience
4. start the developing phase of the website

Correct Answer: C |

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| **Benchmark Number** | 4.06 |
| **Standard** | 4.0 Demonstrate proficiency in website planning and the design process. |
| **Benchmark** | Define the site structure by creating a content map, storyboard, and associated wireframes. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response, Extended Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able understand and explain the site structure of website using content maps, storyboards, and wireframes. |
| **Content Limits** | The portfolio question should have students plan an informational site completed in the portfolio question for Benchmark 15.1. |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Web Design Site Structure includes the following key steps: content outline, site diagram, page description diagrams and wireframes. Test questions could also focus on terms found within each phase including: content maps, storyboard, wireframes. |
| **Sample Item** | Which of the following items would be the best mockup to show a client for approval prior to building the website that shows organization of text and visual content?1. content map
2. site structure
3. storyboard
4. wireframe

Correct Answer: C |

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| **Benchmark Number** | 4.08 |
| **Standard** | 4.0 Demonstrate proficiency in website planning and the design process. |
| **Benchmark** | Discuss the legal and ethical issues related to web design. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to discuss and analyze legal and ethical situations that will arise in the web design process. |
| **Content Limits** | Questions should be limited to Copyright laws in web design. |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Content will focus on different legal issues that could include: international standard for web accessibility, cybercrime, copyright, piracy, hot linking, fraud and identify theft, phishing scams, privacy, etc. |
| **Sample Item** | At what point does a photograph become copyrighted?1. when the photographer takes the picture
2. when the photographer publishes the image
3. when the photographer applies for the copyright
4. when the photographer sells the photograph rights

Correct Answer: A |

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| **Benchmark Number** | 4.09 |
| **Standard** | 4.0 Demonstrate proficiency in website planning and the design process.  |
| **Benchmark** | Describe accessibility and its implications on web design. |
| **Also Assesses** | 14.04 Demonstrate knowledge of accessibility problems and solutions |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to describe accessibility and its implications on web design. The students will be able to describe what needs to be done to make a website accessible. |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Terms and concepts that could be included in test items: Web Accessibility Initiative (WAI), UN Convention on the Rights of Persons with Disabilities, alt text, clear navigation, proper uses of color, alternatives for audio/visual content, etc. |
| **Sample Item** | What standards have been adopted by many countries pertaining to web accessibility?1. Accessibility of Web Content (AWC)
2. Americans with Disabilities Act (ADA)
3. Web Content Accessibility Guidelines (WCAG)
4. World Wide Web Consortium (W3C)

Correct Answer: A  |

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| **Benchmark Number** | 5.01  |
| **Standard** | 5.0 Develop markup language structures.  |
| **Benchmark** | Define common markup languages and their usage. |
| **Also Assesses** | 5.04 |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to define and understand uses for common markup languages. |
| **Content Limits** | Questions should be limited HTML, XML, and XHTML and can include questions about the markup language DTD. |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Test items can include questions about the following markup languages: HTML 5, XML, XHTML, and DTD. Content could also focus on the actual instructions derived from common tags.  |
| **Sample Item** | What it the most current version of HTML?1. HTML4
2. HTML4.01
3. HTML5
4. HTML 6

Correct Answer: C |

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| **Benchmark Number** | 6.01 |
| **Standard** | 6.0 Create basic webpages  |
| **Benchmark** | Create basic webpage structures using common markup elements and attributes. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will understand which tools to use when creating basic web page structures. (i.e. common markup elements and attributes). |
| **Content Limits** | Tasks should be limited to the structure and basic html tags to add content to an HTML page. |
| **Stimulus Attributes** | Questions will give students a topic to create a website about. The topic should be informational. Content and images should be supplied. All tags needing to be used must be supported in HTML5 and XHTML. |
| **Response Attributes** | XHTML or HTML5 can be used. |
| **Content Focus** | Content should only focus on specific elements from the following markup languages: HTML 5, XML, XHTML, and DTD. Questions could also focus on usage, types, and outcome of specific markup elements and attributes. Types of elements could also be used: empty elements and paired elements.  |
| **Sample Item**Create Three HTML pages on the given topic using structure tags (including page title), heading tags, paragraph tags, line breaks, and appropriate attributes. ***Rubric:***

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| ***Points*** | ***Description of Requirements*** |
| 4 | Each page had Doctype HTML, Head, Title, and Body Tags with proper nesting |
| Each page used headings h1-h6 (Must be within the body tag) |
| Each page included at least one paragrah tag (Must be within the body tag) |
| Each page properly uses a line break and has an element attribute  |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in the project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website.*** |

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| **Benchmark Number** | 6.02 |
| **Standard** | 6.0 Create basic webpages. |
| **Benchmark** | Incorporate list structures in a webpage (i.e., ordered, unordered, definition, nested). |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will understand how to use list structures in a website. They will make decisions on the best list type for the situation. |
| **Content Limits** | The question should assess the knowledge of incorporating the correct type of list into the HTML page. The question should include a requirement of adding a list attribute. |
| **Stimulus Attributes** | A list of items that contain to the topic of the website should be given to students. The lists should not be of a specific type so students can evaluate the best list type for the situation. All tags needing to be used must be supported in HTML5 and XHTML. |
| **Response Attributes** | XHTML or HTML5 can be used |
| **Content Focus** | The content of the question will focus on: list types (ordered, unordered, definition, and nested), reversed, starting number, and type. |
| **Sample Item**Add an ordered list, unordered list and a nested or definition list in your website. Use a list attribute in one of the lists***Rubric:***

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| ***Points*** | ***Description of Requirements*** |
| 4 | An Ordered list was added correctly  |
| An Unordered list was added correctly |
| A nested or definition list was added correctly |
| A list attribute was used in one of the lists |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in the project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website.*** |
| **Benchmark Number** | 6.03 |
| **Standard** | 6.0 Create basic webpages. |
| **Benchmark** | Incorporate link structures in a webpage (i.e., external, internal, email). |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will understand how to incorporate link structures in a webpage (i.e., external, internal, email). They will also be able to write the actual HTML code required to activate the specific links within a web page. |
| **Content Limits** | Questions should assess the insertion and use of external, internal, email, and anchor links. Students are not required to create a graphical navigation bar. |
| **Stimulus Attributes** | Internal links must require all pages of the website be linked together. Websites and email addresses should be given for external and email links. A link to go to the top of the page should be used as a link to the anchor. All tags needing to be used must be supported in HTML5 and XHTML. |
| **Response Attributes** | XHTML or HTML5 can be used. |
| **Content Focus** | Content focus could include the actual HTML code required to activate specific links within a web page (external, internal, email). Terms could include: links, anchors, bookmarks, HREF, etc. |
| **Sample Item**Create navigational links on the home page with internal links to all three pages. You must also include three external links that open in a new tab or window, an email link, and a link to an anchor within a page of your website.***Rubric:***

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| --- | --- |
| ***Points*** | ***Description of Requirements*** |
| 4 | Navigational links are completed and work properly |
| Email link added  |
| 3 links to external websites which open in a new tab or browser window |
| Link to an anchor |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in the project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website.*** |
| **Benchmark Number** | 6.04 |
| **Standard** | 6.0 Create basic webpages  |
| **Benchmark** | Research and incorporate web color usage principles in a webpage. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to research and understand web color usage principles in a webpage and understand how to incorporate the colors in a website  |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Content could focus on purpose and usage of color within web pages. The questions could also focus on actual Color Hex Values. Concepts could include: color theory, primary colors, secondary colors, complimentary colors, analogous colors, color symbolism, white space, hue, saturation, tints, shades, color contrast, “lead” color, “accent” color, etc. |
| **Sample Item** | Which of the following Color Hex Values is green?1. #000000
2. #009900
3. #6600FF
4. #FF0000

Correct Answer: B |

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| **Benchmark Number** | 7.03 |
| **Standard** | 7.0 Incorporate images and graphical formatting on a webpage  |
| **Benchmark** | Incorporate graphics into a webpage design. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will be able to demonstrate their knowledge of when, why and how to utilize graphics into a webpage design. |
| **Content Limits** | This question is limited to all HTML tags and attributes for images.  |
| **Stimulus Attributes** | Images are supplied that pertain to topic of the website. All tags needing to be used must be supported in HTML5 and XHTML. |
| **Response Attributes** | XHTML or HTML5 can be used. |
| **Content Focus** | Content could focus on technical uses of graphics as well as psychological use. Terms could include: alignment, copyright, trademark, color, load time, file type, file size, file compression, upload, embedded images, HTML images, web gallery, image source, image links, background images, resizing images, using image “alt” attributes, etc.  |
| **Sample Item** Insert a banner and an additional image on each page. Use the alternate text, width, height, and class attributes (for alignment later) in the image tags.***Rubric:***

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| --- | --- |
| ***Points*** | ***Description of Requirements*** |
| 4 | Created and inserted a banner on each page |
| Added an image on every page with alternate text on all images |
| Use height and width attributes in image tags |
| Used a class tag in each image |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in the project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website.*** |

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| **Benchmark Number** | 7.05  |
| **Standard** | 7.0 Incorporate images and graphical formatting on a webpage  |
| **Benchmark** | Optimize images and graphics for use in a webpage |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will understand the differences of file types to use when incorporating graphics into a webpage design. They will also know the laws, ethics that need to be followed when using graphics and images. |
| **Content Limits** | The question is limited to items that prepare and optimize images for web use. |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | XHTML or HTML5 can be used. |
| **Content Focus** | Content will focus on optimizing images/graphics for webpages. Terms could include: load time, file type, file size, file compression, upload, image links, background images, resizing images, using image “alt” attributes, etc. |
| **Sample Item** | Which of the following file formats would be best for a logo that includes solid colors?1. gif
2. jpg
3. png
4. tiff

 Correct Answer: A  |

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| **Benchmark Number** | 8.02 |
| **Standard** | 8.0 Create a basic table structure  |
| **Benchmark** | Discuss the advantages and disadvantages of incorporating tables in a webpage design. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to discuss the advantages and disadvantages of tables in given situations. |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Focus can include the advantages of HTML tables, standard table tags and associated attributes, and actual purpose and implementation of adding tables in HTML documents. |
| **Sample Item** | In which of the following situations should an HTML table be used?I. display data on a web pageII. create columns in a web pageIII. design the page layout for a website1. I only
2. III only
3. II and III
4. I, II, and III

Correct Answer: A  |

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| **Benchmark Number** | 8.04 |
| **Standard** | 8.0 Create a basic table structure  |
| **Benchmark** | Create accessible tables using standard table elements and attributes. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will understand how to create accessible tables using standard table elements and attributes. Knowledge of table attributes including cell alignment, table width, borders, cell padding, and cell spacing. |
| **Content Limits** | All HTML and attributes pertaining to tables can be tested |
| **Stimulus Attributes** | Questions could include images of the table students are asked to create. All tags needing to be used must be supported in HTML5 and XHTML. |
| **Response Attributes** | XHTML or HTML5 can be used |
| **Content Focus** | Focus will include standard table tags, elements, and associated attributes. Content could also include: creating tables, using cells, columns, and row attributes (cell alignment, table width, borders, cell padding, and cell spacing.) |
| **Sample Item**Create a table in one of the webpages. The table should include a minimum of 5 rows and 2 columns using the table head and body grouping tags. Merge the Top row and make it a table header. ***Rubric:***

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| ***Points*** | ***Description of Requirements*** |
| 4 | Insert a table with a minimum of 5 rows and 2 columns |
| The top row is merged and includes a Table header  |
| Thead and tbody are used to correctly group the heading and body of the table |
| The table is used for data and not layout |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in the project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website.*** |

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| **Benchmark Number** | 9.01 |
| **Standard** | 9.0 Incorporate form structures in a webpage  |
| **Benchmark** | Create an accessible form using common elements, including form, field set, legend, text area, select, option, button, and input (radio, checkbox, submit, reset, image, password, hidden).  |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will understand how to create an accessible form using common elements, including form, field set, legend, text area, select, option, button, and input (radio, checkbox, submit, reset, image, password, hidden).  |
| **Content Limits** | Questions must be limited to creating an HTML form. Processing a form should not be assessed in this class. |
| **Stimulus Attributes** | Questions could include an image of the form students are to create with HTML. Tags needing to be used must be supported in HTML5 and XHTML. |
| **Response Attributes** | XHTML or HTML5 can be used. |
| **Content Focus** | Content focus will include the following form elements: text area, text input fields (text fields, password field, hidden fields), input fields (check boxes, radio buttons, text boxes), menus (pull-down menus, scrolling menus), action buttons (image buttons, reset buttons, submit buttons), labels, field sets, and legends.  |

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| **Sample Item**Create a contact form on a page of the site. The form should have a text field, text area, radio button or check box, and a reset and submit button.***Rubric:***

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| ***Points*** | ***Description of Requirements*** |
| 4 | Added a text field and a text area within the form tags |
| Added a radio button or check box within the form tags |
| Added a list selection within the form tags |
| Added a reset and submit button within the form tags |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included.  |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website.*** |

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| **Benchmark Number** | 11.01 |
| **Standard** | 11.0 Use Cascading Style Sheets (CSS).  |
| **Benchmark** | Define CSS and describe its importance in web design. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to define and explain the use of CSS to design a website |
| **Content Limits** | Questions should be limited to basic CSS and should not include CSS used for layout or positioning. |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | Responses should use styles that are not new to CSS3. |
| **Content Focus** | Content will focus on how CSS affects the entire mood and tone of a website. Concepts can include: quick updates, quick changes to entire site. Terms can include the 60 different properties in CSS Level 1 (i.e. background, border, color, display, font, list style, margins, text alignment, white-space, etc.) |
| **Sample Item** | Which of the following is **not** controlled by CSS in web design?1. add block quotes to text
2. change the appearance of text
3. create a menu bar rollover effect
4. design the layout and position of element on the page

Correct Answer: A  |

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| **Benchmark Number** | 11.06 |
| **Standard** | 11.0 Use Cascading Style Sheets (CSS). |
| **Benchmark** | Explain how inheritance and specificity affect CSS rule conflicts. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to explain how inheritance and specificity affect CSS rule conflicts and will help create clean, maintainable and flexible style sheet. |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Concepts will include: CSS rules, elements, selectors, hierarchy, given selectors (inline styles, IDs, classes, attributes, and elements), equal value rule, unequal specificity value, last rule overrides conflicting rules, universal selector, inherited selectors, and CSS Specificity Calculator. |
| **Sample Item** | An h2 tag has an embedded style changing it to red, an inline style changing it to blue, and an external style changing it to yellow. What color would the h2 text be displayed? 1. black
2. blue
3. red
4. yellow

Correct Answer: B  |

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| **Benchmark Number** | 11.07 |
| **Standard** | 11.0 Use Cascading Style Sheets (CSS).  |
| **Benchmark** | Use inline styles, embedded style sheets, and external style sheets. |
| **Also Assesses** | 11.05 Recognize and use element selectors, ID selectors, class selectors, pseudo-class selectors, and descendant selectors.11.10 Apply basic CSS properties (background, border, clear, color, float, font, height, line-height, list-style, margin, overflow, padding, position, text-align, text-indent, width, z-index, padding). |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will understand when to use the different types of CSS Style Sheets. Students will also understand the mechanics needed when creating CSS Style Sheets and where to define each type of style declarations which could include inline styles, embedded style sheets, and external style sheets.Students will be able to understand how to apply basic CSS properties (background, border, clear, color, float, font, height, line-height, list-style, margin, overflow, padding, position, text-align, text-indent, width, z-index)  |
| **Content Limits** | Questions will not require students to import CSS. Students will need to understand how to link external CSS to an HTML page. Students will be required to use different selectors and apply basic CSS properties. |
| **Stimulus Attributes** | Questions will ask students to change the appearance of a webpage by adding CSS.  |
| **Response Attributes** | None Specified |
| **Content Focus** | Content could focus on the following types of CSS Style Sheets: inline styles, embedded style, and external style sheets. Specific terms could include: CSS style declaration, definition, place, HTML, page elements, links, etc. |
| **Sample Item**Use inline, embedded, and external styles to:* add a background color to each page
* left or right align each image
* change the font, and color of paragraphs
* make the color of links change when the mouse is over the link.

***Rubric:***

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| ***Points*** | ***Description of Requirements*** |
| 4 | Changed the background color using CSS |
| Left or right aligned each image |
| Changed the font and color of paragraphs |
| Added CSS to make links change color when hovered over |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website*** |

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| **Benchmark Number** | 13.04 |
| **Standard** | 13.0 Describe the process for publishing a website. |
| **Benchmark** | Describe the various means for uploading website files (e.g., FTP, web-based tools). |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
| **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to describe and explain the steps required to upload a website to a server. |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments, and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Topics for the exam could include: FTP application, FTP clients, FTP transfer program, FTP upload program, URL, web address, host name, Domain Name, IP Address, username, password, public\_html folder, website hosting source. |
| **Sample Item** | When you FTP files to make your site live, where are you sending the files?1. local folder
2. local server
3. remote server
4. testing server

Correct Answer: C  |

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| **Benchmark Number** | 14.02 |
| **Standard** | 14.0 Describe how website performance is monitored and analyzed. |
| **Benchmark** | Use webpage validation tools. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
|  **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will be able to understand how to use webpage validation tools. They will also have knowledge of different validators and sources for these tools (i.e. W3C Markup Validation Service, W3C Feed Validation Service, CSS validator, HTML Validator Pro, etc.) |
| **Content Limits** | Students will only need to Validate HTML and CSS. |
| **Stimulus Attributes** | Questions will require students to validate and fix their code. |
| **Response Attributes** | Students will need to provide screenshots of the original validation of their pages and final validation to show any errors were fixed.  |
| **Content Focus** | Exam questions could utilize the following concepts and terms: W3C Validator, CSS validator, checklink, feed, mobile checker, unicorn, HTML validator, Dr. Watson’s site validation check, XML well checker and validator, robots checker, URL checker, Web page reports, Web accessibility checker, and color contrast. |
| **Sample Item**Use a HTML and CSS validator to ensure each page is compliant to W3C standards.***Rubric:***

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| ***Points*** | ***Description of Requirements*** |
| 4 | Use an HTML Validator to check HTML code on all pages |
| Use a CSS Validator to check all CSS |
| Fix HTML and CSS errors |
| All CSS and HTML pages are validated with no errors |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in the project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website*** |
| **Benchmark Number** | 14.03 |
| **Standard** | Describe how website performance is monitored and analyzed. ̶ |
| **Benchmark** | Describe website performance metrics (e.g., visits, time-on-page, time-on-site) and discuss their design implications. |
| **Also Assesses** | Not Applicable |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
| **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will be able to describe website performance metrics (e.g., visits, time-on-page, time-on-site) and discuss their design implications. |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions could include images, diagrams, code segments and screenshots if needed. |
| **Response Attributes** | None Specified |
| **Content Focus** | Test questions will include many different types of KPI (key performance indicators). The specific terminology could include: measures, objectives, web metrics, web analytics, visits, time on page, conversion rate, average order value, days visited, visitor loyalty, visitor bounce rate, task completion rate, share of search, perceived system performance, perceived user experience, system performance, response time, latency, users, hits & errors) |
| **Sample Item** | A company wants to increase the number of customers who visit its site. After implementing its marketing strategy, which performance metric would it monitor to find out how successful its marketing strategy was?1. sales
2. traffic
3. unique visitors
4. visits

Correct Answer: C  |

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| **Benchmark Number** | 15.01 |
| **Standard** | 15.0 Create an informational website. |
| **Benchmark** | Use GUI (Graphical User Interface) web authoring software to create a multi-page informational website. |
| **Also Assesses** | Not Applicable  |
| **Knowledge/Performance/ Both** | Performance |
| **Item Types** | Performance Task |
| **Cognitive Complexity**  | Moderate |
| **Benchmark Clarifications** | Students will be able to recognize different types of WYSIWYG software programs and understand how to use GUI web authoring software to create a multi-page informational website. This will include specific tools and options within the web authoring program. The software will be dependent on the individual school or county. |
| **Content Limits** | None Specified |
| **Stimulus Attributes** | Questions will ask students to use web authoring software to create a 5 page informational website. |
| **Response Attributes** | None Specified |
| **Content Focus** | Content will focus on the following topics: WYSIWYG web authoring software, GUI web authoring software, graphical hierarchy, interface design, browser, cache/caching, CSS Framework, embedded style, external style sheet, fixed width layout, fluid layout, static pages, dynamic pages, HTTP, image map, inheritance, inline style, landing page, liquid layout, navigation, plug-in, usability and web standards. |

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| Sample ItemUse a GUI Editor to create a five page informational website. The website must include a navigation bar, external links, content, images, lists, tables, and CSS. ***Rubric:***

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| ***Points*** | ***Description of Requirements*** |
| 4 | A five page website with proper folder structure was created |
| All internal and external links worked properly and had good usabilty |
| Added a table and list in the website where appropriate |
| Used CSS to change appeance of the website |
| 3 | Only three of the items listed above are included |
| 2 | Only two of the items listed above are included |
| 1 | Only one of the items listed above is included |
| 0 | Student did not complete the project –or—none of the items listed above are included in the project |

***This standard should be used in conjunction with the the Portfolio Assessments in Benchmarks 6.01, 6.02, 6.03, 6.04, 7.03, 7.05, 8.04, 9.01, 11.07, 1.10, and 14.02 to create a website on a given topic. Each benchmark will add to the website*** |

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| **Benchmark Number** | 17.01 |
| **Standard** | 17.0 Demonstrate mathematics knowledge and skills. |
| **Benchmark** | Demonstrate knowledge of arithmetic operations. |
| **Also Assesses** | 17.02  |
| **Knowledge/Performance/ Both** | Knowledge |
| **Item Types** | Selected Response |
|  **Cognitive Complexity**  | Low, Moderate |
| **Benchmark Clarifications** | Students will be able to use basic math to design elements of a webpage. |
| **Content Limits** | Assess math related to web design. |
| **Stimulus Attributes** | None Specified |
| **Response Attributes** | None Specified |
| **Content Focus** | Common mathematical terms and functions that could be addressed in the exams include calculation, multiply, percentage, polls, columns. |
| **Sample Item** | In the process of developing a web page, the designer has decided that they will need to develop a table. The table will consist of three rows and five columns. How many cells are in the table?1. 3
2. 5
3. 8
4. 15

Correct Answer: D |