

Web Design

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Test Type: The Web Design assessment is included in NOCTI's Teacher assessment battery. Teacher assessments measure an individual's technical knowledge and skills in a proctored proficiency examination format. These assessments are used in a large number of states as part of the teacher licensing and/or certification process, assessing competency in all aspects of a particular industry. NOCTI Teacher tests typically offer both a written and performance component that must be administered at a NOCTI-approved Area Test Center. Teacher assessments can be delivered in an online or paper/pencil format.

Revision Team: The assessment content is based on input from subject matter experts representing the following states: Minnesota, New York, Pennsylvania, South Carolina, Texas, West Virginia.



11.0801- Web Page,
Digital/Multimedia
and Information
Resource Design



Career Cluster
Information Technology



15-1134.00- Web
Developers

Written Assessment

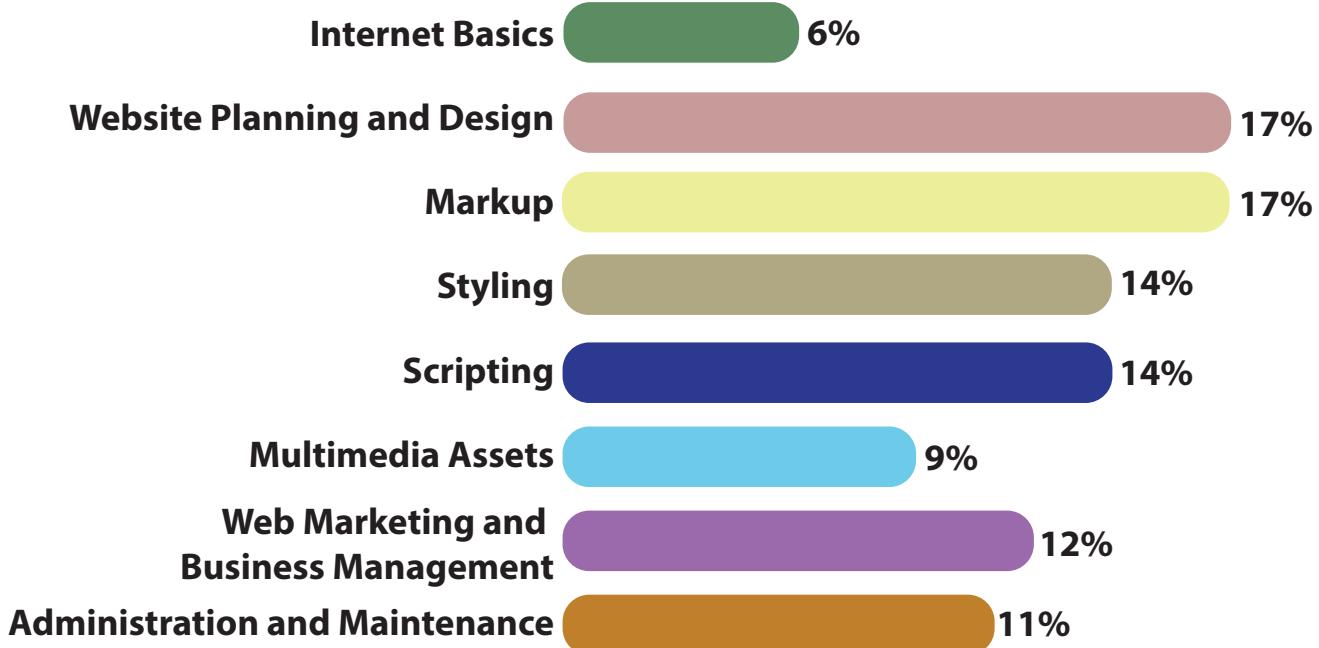
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

Administration Time: 3 hours

Number of Questions: 138

Number of Sessions: This assessment may be administered in one, two, or three sessions.

Areas Covered



Specific Standards and Competencies Included in this Assessment

Internet Basics

- Describe the process of information exchange between web server and client
- Describe the use of web browsers, search engines, and various clients within a given context of use
- Describe the function and components of a URL and how it relates to protocols, addresses, and ports

Website Planning and Design

- Describe web design and planning principles and different types of pages
- Explain various project management techniques for setting goals and performing needs assessment
- Describe the principles behind usable navigation
- Identify problems related to legacy browsers
- Describe the mechanics behind mobile websites and how they differ from non-mobile sites
- Describe the mechanics behind dynamic websites and how they differ from static sites
- Design for accessibility (e.g., ADA-Section 508 and Web Content Accessibility Guidelines)

Markup

- Demonstrate the ability to use HTML5 to create web pages
- Demonstrate an understanding of semantic markup (e.g., header, footer, navigation)
- Create and use interactive forms
- Describe how to implement tabular data using table elements

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Specific Standards and Competencies (continued)

Styling

- Describe how CSS is used and why
- Design and implement layers and style navigation bars using CSS3
- Implement a design and layout using style sheets
- Describe the use of CSS for formatting

Scripting

- Describe the difference between a scripting language and a markup language
- Describe the difference between popular client-side and server-side programming languages
- Describe the use of third-party programming interfaces, including APIs
- Describe basic JavaScript language used to manipulate elements on a webpage
- Describe how data is represented using XML and JSON

Multimedia Assets

- Identify and use graphics file formats common to the internet and differentiate between raster and vector images
- Describe how to use basic media editing tools to prepare digital images and video for use on the Web
- Describe how to use rich internet applications to add interactive media to a website
- Describe how to integrate embedded media into a website

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Specific Standards and Competencies (continued)

Web Marketing and Business Management

- Explain the issues involved in copyrighting, trademarking, and licensing
- Identify aspects of marketing related to social media
- Describe web-related mechanisms for audience development, including attracting/retaining an audience, and considerations for a global environment
- Define e-commerce terms and concepts
- Differentiate between search engine optimization and search engine marketing techniques

Administration and Maintenance

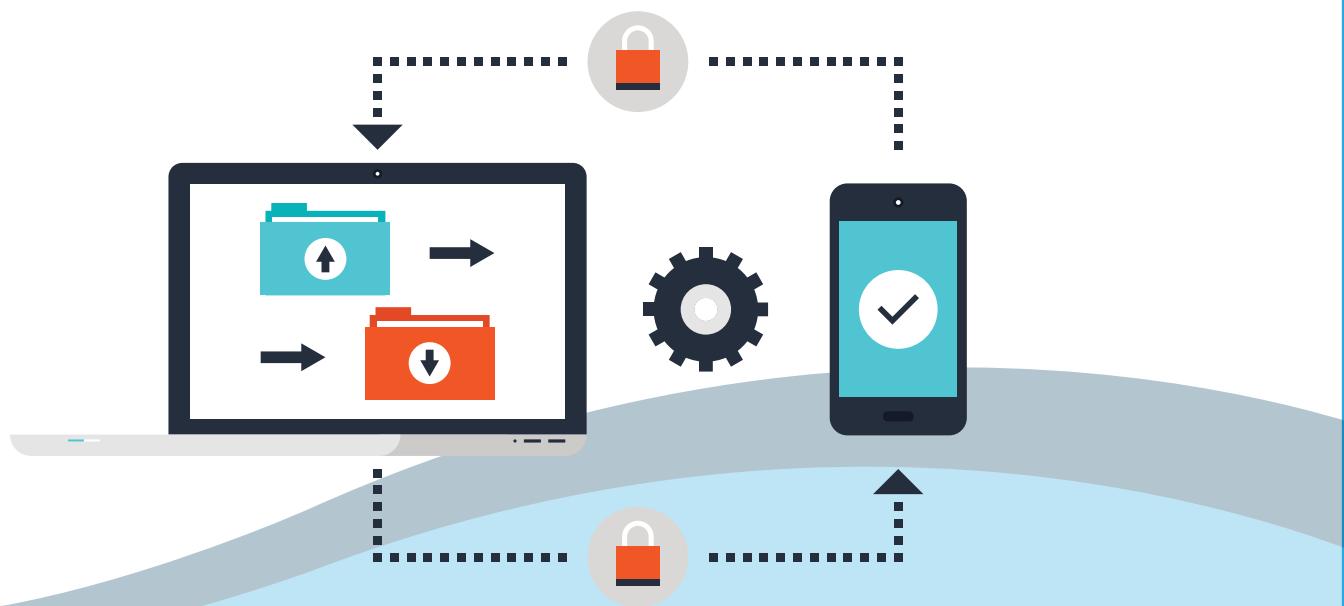
Describe the process of pre-launch and post-launch functionality testing (e.g., quality assurance)

Identify the tools required for web publishing, including content management tools

Identify hosting resources and domain management

Describe the concepts of backups, server log analysis, and benchmarks

Describe basic website security concerns and techniques



Sample Questions

In the CSS boxmodel, which property adds space between the content and the border?

- A. padding
- B. margin
- C. spacing
- D. clear

What type of code scripting is used to generate dynamic websites?

- A. transactional
- B. compression
- C. recursion
- D. server-side

Which file format supports frame-based animation?

- A. JPEG
- B. GIF
- C. TIFF
- D. IMG

Engaging an anonymous website visitor to a become a registered customer is called

- A. redirection
- B. conversion marketing
- C. behavioral targeting
- D. web metrics

Keeping the content of a website current is one challenge of

- A. website development
- B. server upgrades
- C. browser upgrades
- D. website maintenance

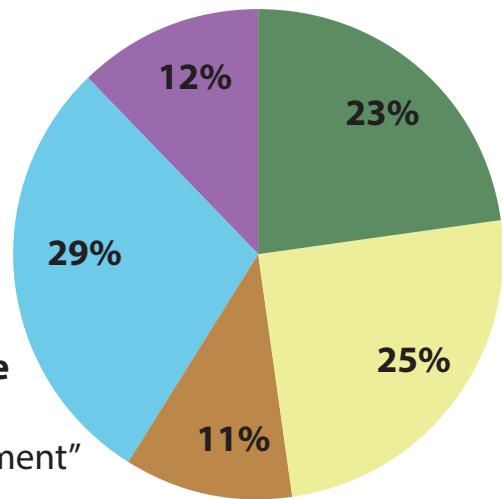
Performance Assessment

NOCTI performance assessments allow individuals to demonstrate their acquired skills by completing actual jobs using the tools, materials, machines, and equipment related to the technical area.

Administration Time: 3 hours

Number of Jobs: 5

Areas Covered:



23% Review Materials and Create a template.html File

Participant will review all materials used in the creation of the web page. Participant will create a "Website Development" folder and save all items as directed, create and save a template.html file, edit the file to include HTML5 structure, add a navigation bar, ensure the navigation contains page names, use placeholder text for page title, add text for title, and save to folder throughout jobs.

25% Create a Cascading Style Sheet (CSS)

Participant will create a cat.css file and place it in the web folder, write CSS rules for the body tag, heading 1 tag, heading 2 tag, blockquote tag, article tag, pseudo-class statements for the links and navigation, and link the CSS file to the template.html file.

11% Create a Home Page

Participant will create an index.html file; place the page title and subheading; place the text content; format the headings and paragraphs; complete text changes, links, and formatting; and place an image on the page with the appropriate properties.

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Areas Covered (continued)

29% Create Content Pages

Participant will create history.html, description.html, characteristic.html, temperament.html files, place the page titles and subheadings, place the text content on the pages, and place and format the images on the pages according to instructions.

12% Create a Newsletter Page

Participant will create newsletter.html file, place the page title and subheading, place the form on the page and insert a line of instruction, place text fields on form and set form action, and validate all form fields.

Sample Job

Create a Cascading Style Sheet (CSS)

Maximum Time: 40 minutes

Participant Activity: The participant will create a CSS file, place it in the Website Development folder, and using the information from the Website Storyboard, write the CSS rules for: body, headings, blockquote, article, pseudo-class statements for links, and navigation, and link the cat.css file to the template.html file. Participant may return to file and make adjustments as needed.

