

# Web development & deployment

## Project Overview

In this project, student teams use their client-approved design documents for the technical build of a website. Teams will learn about technical features to enhance the look and feel, consistency, and usability of their websites. They will also learn how to conduct technical and usability tests of their client websites and make any necessary revisions.

The main focus of this project is for students to develop reusable content, templates, and Cascading Style Sheets (CSS) based on the page layout described in their design documents and production storyboards. The emphasis is on collaboratively building websites for their clients by using web standards to complete their home pages and content pages. Each team will test and deploy its site, make any necessary revisions based on client review, and then redeploy the site. Teams will create a presentation for their clients explaining how the site accomplishes the client goals.

*Student product:* Client website

**Note:** Portions of this project align to the Adobe Certified Associate objectives. Within the instruction steps and technical guides, the specific learning objectives for the exam(s) are referenced with the following format: <sup>1.1</sup>

## Project Objectives

At the completion of the project, students will have developed the following skills:

### Project management skills

- Following and executing a project plan
- Following and executing a wireframe and prototype
- Following up and following through on roles and responsibilities
- Defining and prioritizing tasks
- Producing deliverables and meeting deadlines
- Managing files and using file-naming conventions
- Executing a review and redesign cycle
- Executing quality assurance tests

### Design skills

- Providing consistency and accessibility
- Providing universal navigation
- Integrating images, text, and multimedia
- Planning graphics and multimedia based on needs and audience
- Creating web pages using web standards
- Designing with CSS
- Organizing pages with CSS
- Understanding HTML
- Using basic HTML
- Creating templates and reusable designs
- Adapting content for readability and emphasis

- Designing for multiple screens
- Considering screen size and device requirements
- Incorporating layout and color consistently
- Designing a quality assurance test

### Research and communication skills

- Communicating ideas clearly
- Presenting a website to a group
- Taking notes on critique
- Providing meaningful but not overly critical feedback
- Listening and interpreting information and feedback
- Demonstrating the realization of redesign goals
- Conducting usability analysis
- Creating quality assurance tests

### Technical Skills

#### *Photoshop*

- Optimizing images
- Creating buttons
- Resizing images
- Rotating images
- Cropping images

#### *Fireworks*

- Creating navigation bars
- Creating pop-up menus

#### *Dreamweaver*

- Understanding the Dreamweaver workspace
- Setting up a web project
- Setting document properties
- Using the Insert panel
- Using the Files panel
- Using the Assets panel
- Inserting images
- Inserting text
- Creating lists
- Creating data tables
- Using CSS starter layouts

- Using CSS text styles
- Creating, modifying, and troubleshooting Cascading Style Sheets
- Creating templates
- Developing a website for multiple screens
- Checking files in and out
- Inserting HTML5 video
- Checking links
- Testing in different operating systems and multiple browsers
- Publishing web files

### Project Activities

- *Activity:* Getting started with Adobe Dreamweaver
- *Activity:* Introduction to HTML and CSS
- *Activity:* Web production collaboration and organization best practices
- *Activity:* Working with CSS
- *Activity:* Implementing reusable web design
- *Activity:* Editing images and graphics
- *Activity:* Inserting content in Dreamweaver
- *Activity:* Working with interactive media elements
- *Activity:* Creating forms and data tables
- *Activity:* Designing for multiple screens
- *Activity:* Technical testing in Dreamweaver
- *Activity:* Testing for usability
- *Activity:* Publishing with Dreamweaver
- *Activity:* Promoting a website
- *Activity:* Presenting design projects

### Background preparation resources

[Technical and content information](#)

[Keywords](#)

[ISTE NETS\\*S Standards for Students](#)

[Adobe Certified Associate objectives](#)

## Project Steps

1. Explain that in this project, students will use their design documents, storyboards, and prototypes from Project 2 to build, test, and publish their client websites using Adobe Dreamweaver. Introduce the goals of the project:
  - Learn web development best practices
  - Implement reusable designs
  - Build a website with web standards
  - Design for multiple screens
  - Conduct technical and usability tests
  - Publish, present, and promote a website
2. Remind students to continually refer to and assess their project plans throughout the site build to make sure they are on task, team members are aware of responsibilities, and deliverables are completed by the expected due dates.<sup>1.6</sup>

3. *Activity: Getting started with Adobe Dreamweaver*      ACA Exam Objectives: [3.1](#), [3.3](#), [3.6](#), [4.1](#), [4.2](#), [4.3](#), [5.1](#)  
(Suggested time: 100-150 minutes)

Follow these steps to utilize this activity for this project:

- a. In this activity, you will introduce students to the interface, terminology, and workspaces in Adobe Dreamweaver.
- b. During this activity, demonstrate the following:
  - How to work with the Dreamweaver workspace
  - Setting up a web project
- c. Ask students to open a new document, save it, define the site structure, and name the file index.html as the homepage for their project.

4. *Activity: Introduction to HTML and CSS*      ACA Exam Objectives: [2.1](#), [4.1](#), [5.6](#)  
(Suggested time: 50-100 minutes)

Use the presentation in this activity to review and discuss best practices for using HTML and CSS (including HTML5).

5. *Activity: Web production collaboration and organization best practices*  
(Suggested time: 50 minutes)

ACA Exam Objectives: 3.5, 4.3, 6.4

Follow these steps to utilize this activity for this project:

- a. This activity introduces best practices for efficient collaboration and organization, including file management, file organization, checking files in and out, and Subversion integration. Use this activity to teach or review how to:
  - Manage files and using file-naming conventions
  - Use the Files panel
  - Check files in and out.
- b. Ask students to propose ways they might organize their files in Dreamweaver and conventions that might help manage their files and folders, such as using names that help others recognize the contents of a folder or file. Decide as a class what conventions you will use and explain that they should employ these practices as they work on a team to build, test, and publish their client website.
- c. Give students time to get their file and folder structure set up and ready to begin website production.

**Note:** Knowledge of Subversion integration and check in/check out functions are part of the Adobe Certified Associate, Web Authoring exam. If you are unable to install Subversion, introduce and discuss the usefulness of these features to prepare your students for the exam.

6. *Activity: Working with CSS*  
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 2.5, 3.3, 5.1, 5.2, 5.3, 5.8

Follow these steps to utilize this activity for this project:

- a. Use this activity to introduce your students to designing with CSS by teaching how to:
  - Organize pages with CSS
  - Create, modify, and troubleshoot Cascading Style Sheets
  - Create, edit, and customize CSS rules
  - Use CSS text styles
  - Use CSS starter layouts
  - Use Live View
- b. From the specifications in their design documents, ask students to build a home page using CSS. Explain that students should create the CSS layout and add the CSS rules and styles for their website as outlined in their design document.
- c. Have the students continue creating the style sheets for their client sites, applying what they have learned about creating and editing styles to implement the styles required by their design comps for the home page they created.

**Note:** Depending on the level of your students, you may want to discuss vendor prefixes. Until web standards are accepted across all modern web browsers, vendor prefixes are often needed within CSS style sheets.

7. *Activity:* Implementing reusable web design  
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 2.1, 4.9, 5.5, 5.8

Follow these steps to utilize this activity for this project:

- a. This activity introduces the best practices for implementing reusable web design, including universal navigation and templates.
- b. Using their wireframes, storyboards, and prototypes, ask each team to decide what reusable components will appear on all pages of the site.<sup>2,5</sup>
- c. Ask student teams to use Dreamweaver to create a template for their content pages, following their storyboards and wireframes. Their templates should incorporate the Cascading Style Sheets they created. Students may need to supplement their CSS with new styles or create new CSS for their content pages.
- d. Ask students to use their templates to create the rest of the pages for their client websites, inserting elements from the Assets panel as appropriate. Explain that by using a template, all team members can work on the pages while maintaining uniformity of site design.

8. *Activity:* Editing images and graphics  
(Suggested time: 100-150 minutes)

ACA Exam Objectives: 5.4, 2.1, 2.6, 3.1, 3.2, 3.3, 4.1, 4.3, 4.4, 4.5, 5.1, 2.5, 3.4, 4.4, 4.6

Follow these steps to utilize this activity for this project:

- a. Use this activity to teach your students how to edit images and create graphic elements using Photoshop and Illustrator by discussing the difference between vector and bitmap images and demonstrating how to create vector artwork, how to adjust colors, and how to crop, rotate, resize, and transform images and graphics.
- b. Ask students to use Photoshop and/or Illustrator to create the common graphic elements from their final comps, such as creating a navigation bar in Photoshop. Remind them that the look of their graphics should coordinate with their site designs.
- c. Ask students to import each asset and graphic element, such as logos, buttons, and mottos, from Photoshop and/or Illustrator into the Dreamweaver Assets panel, including the library, for later use throughout the site. Explain they will use these graphics on their home and content page templates and encourage them to create as many reusable assets and graphics as possible and use them across their content pages.

**Note:** Remind students they can edit and scale Photoshop images and assets from within Dreamweaver by using Photoshop Smart Objects.<sup>4,5,5.4</sup>

9. *Activity:* Inserting content in Dreamweaver  
(Suggested time: 50–150 minutes)

ACA Exam Objectives: 3.2, 3.4, 4.4, 4.5, 4.6, 4.11, 5.3

Follow these steps to utilize this activity for this project:

- a. This activity introduces students to inserting content, including images, text, and links, in Dreamweaver.
- b. Ask students to insert images, text, and other assets they may have, including those from the Assets panel and library, in the appropriate places according to their design decisions.
- c. Ask students to link text between web pages.
- d. Ask students to apply previously created CSS styles to text and links on their home and content pages.

10. *Activity:* Working with interactive media elements  
(Suggested time: 50–150 minutes)

ACA Exam Objectives: 1.2, 2.1, 4.7, 4.8

Follow these steps to utilize this activity for this project:

- a. Use this activity to discuss and demonstrate the best practices for adding video, audio, and other interactive media elements to a web page, including Edge Animate, Flash, and HTML5 video.
- b. Ask students to add any necessary interactive media elements, according to their design documents.

11. *Activity:* Creating forms and data tables  
(Suggested time: 50 minutes)

ACA Exam Objectives: 1.2, 4.10, 4.11, 4.12

Use this activity to teach your students the uses for and how to create forms and data tables. If client websites required either of these elements, give students time to add these elements to their websites.

**Note:** If students are preparing for the Adobe Certified Associate, Web Authoring exam, be sure to cover creating data tables and importing tabular data from a Microsoft Excel spreadsheet.<sup>4.12</sup>

12. Using the skills they have learned ask students to continue to build their client websites and prepare an initial version for client review.
13. At this juncture it is recommended that students show their clients what they have built so far. Remind students of what they learned earlier in the *Working with clients* activity. One way of doing this, especially if you want students to learn specific technical techniques to prepare for the Adobe Certified Associate, Web Authoring exam, might be to have them build test pages or sample features to show their clients how the technical features would be implemented or as a learning exercise for students to complete. Students should make any changes to the website as required by the client review.

14. *Activity:* Designing for multiple screens  
(Suggested time: 50 minutes)

ACA Exam Objectives: 1.5, 2.1, 2.2

Follow these steps to utilize this activity for this project:

- a. In this activity you will introduce and discuss various devices for viewing web content and making design decisions based on the screens, specifically how to:
  - Consider screen size and device requirements
  - Use Fluid Grid Layouts
  - Use CSS Media Queries
  - Deploy web content to multiple screens.
- b. Ask your students to use either Fluid Grid Layouts or CSS Media Queries to prepare their client sites for at least one screen other than a desktop.

15. Using what they have learned, ask your students to begin to finalize their client website, in preparation for technical and usability testing.

16. *Activity:* Technical testing in Dreamweaver  
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 1.4, 2.2, 6.1

Follow these steps to utilize this activity for this project:

- a. This activity introduces the topic of quality assurance (QA) and how to conduct technical testing, including accessibility requirements, checking links, and previewing websites on different operating systems and in multiple browsers.
- b. You might want to pair teams to test each other's sites or have members of each team follow the test checklist on their own site. Make sure testers write down the bugs and problems they find so the team knows everything they need to fix.
- c. Allow teams time to revise their site based on their technical tests.

17. *Activity:* Testing for usability  
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 6.2, 6.3, 5.2

Follow these steps to utilize this activity for this project:

- a. Use this activity to introduce the topic of usability testing and have students create a usability-test interview sheet for testers to fill out as they conduct usability tests.
- b. For usability testing, pair students from different teams. Ask one partner to test the other's site, following the usability-test worksheet. The other partner should observe the tester and document the tester's actions, looking for latent behavior. After the first tester finishes, have partners switch roles and perform the usability test for the other student's site. <sup>6.2</sup>

**Note:** If students are preparing for the Adobe Certified Associate, Web Authoring exam, discuss various methods for collecting ongoing user feedback and site-evaluation information, such as forms, site reports, e-mail requesting feedback, surveys, and so on.<sup>6.3</sup>

c. Ask teams to revise their sites based on the information from the usability test.

18. In preparation for publishing and promoting their sites, ask teams to conduct an overall design review. Pair teams and have them explain their client's goals and audience. Then have them conduct a design review of the client's website by evaluating the site's design, noting strengths and areas for improvement.

19. Allow teams time to make any necessary changes based on the design review and then finalize their website.

20. *Activity:* Publishing with Dreamweaver  
(Suggested time: 50 minutes)

ACA Exam Objectives: 4.2, 6.5

Follow these steps to utilize this activity for this project:

- a. Use this activity to teach your students how to publish web files, including how to set up a remote server and use FTP servers.
- b. To connect this activity to real-world job skills discuss the common practice in web design and development firms of publishing to a testing server or internal development server prior to live publication.
- c. If students have access to a remote server, allow time for them to publish their sites.<sup>6.5</sup> Ask students to use a web browser to open their newly published sites, navigate to each page, and make sure all files were successfully published and function as they should.

**Note:** If you can't allow students to publish their own files, you might spend more time discussing the steps you demonstrate and engaging in extension activities to help students better understand the publishing process.

21. *Activity:* Promoting a website  
(Suggested time: 50-100 minutes)

ACA Exam Objectives: 5.7

Follow these steps to utilize this activity for this project:

- a. Use this activity to introduce Search Engine Optimization (SEO) and describe the primary components of a website that search engines crawl to find relevant search results, including meta tags.
- b. Have students research and implement specific tactics for optimizing their client website for search engines.

22. *Activity*: Presenting design projects  
(Suggested time: 50-10 minutes)

ACA Exam Objectives: 2.6, 1.4, 2.6, 1.6, 1.4, 1.4

Follow these steps to utilize this activity for this project:

- a. This activity introduces your students to presenting their work to a variety of audiences, including clients. Use the tips in this activity to help your students learn how to communicate their ideas clearly.
- b. Ask students to create formal presentations and then present the site to their clients. Make sure at least one team member takes notes on the client's comments.
- c. Allow students time to redesign their sites based on client feedback. Ask students to finalize and re-publish their websites.

## Extension Activities

You can extend the project in the following ways:

- *Multi-screen*: Have students take the websites they built and adapt them for a third device and/or screen size.
- *HTML5*: Students can extend their website content to take advantage of the new elements in HTML5, such as section, article, aside, header, footer, and canvas. For more information about these new elements, see <http://dev.w3.org/html5/markup/elements.html#elements>
- *Advanced topics in CSS*: If students seem to be more advanced, you might have them research the Dreamweaver help system and articles from the CSS Developer Center ([www.adobe.com/devnet/dreamweaver/css.html](http://www.adobe.com/devnet/dreamweaver/css.html)) to understand how they can use advanced CSS techniques.
- *Peer teaching*: If some teams use a guide to learn about a technical feature, have them hold a mini-seminar to teach the rest of the class. Their presentation could include the following:
  - A working example
  - Short explanations of when and why to use the feature (design challenges it helps to solve)
  - Step-by-step demonstration of how to use the feature
- *Using local experts*: Assign students as resource specialists. For example, have four students act as local experts to help others use a software product. With these extra hands and heads, you will be able to manage the classroom without being the sole software expert. As students become more familiar with the software, more students will be able to serve as local experts.
- *Distributed skill-building*: Another way to teach Dreamweaver skills is to distribute skill expertise among the students. Demonstrate and briefly introduce skills such as creating data tables, inserting images, using text and text properties, and inserting outside content by using copy-and-paste or file import. Following this brief introduction, divide the students into small groups and ask each group to become experts for one of the skills, applying it to a content page they create. After they have mastered their specific skill, ask each group to present the application of the skill to the class and explain their methodology. This explanation and presentation will help others understand how to use the technique while they continue to work on their content pages.

- *Sample usability guideline*: Setting visitor performance and preference goals helps developers build better websites. It can also make usability testing more effective. For example, some Internet sites have set a goal that information will be found 80% of the time and in less than one minute.
- *Analytics*: Have students research the field of web and marketing analytics and how to measure website performance. If students have time, have them set up an analytics account on behalf of their client and add code to the client website to track website statistics.
- *Publishing techniques*: Form small groups of students to research techniques on publishing websites. Consider techniques students might encounter if they were to publish from a home computer, such as using FTP clients or wizards from site-hosting services. After each group has learned about its technique, have the group briefly present it to the class. Their presentation might include the positive and negative points of using the technique, a short demonstration or handout explaining how to use the technique, and a description of the technology behind the technique.
- *More tags, prefixes, and includes*: To further challenge students, ask student groups to look up a website and identify the tags, prefixes, and includes and what each does in rendering the web page.

## Assessment

This is a high level view of what student should create during this project. Refer to the assessment rubrics in each activity for more detailed/specific assessment rubrics for each part of the project.

	<b>0 - Does not meet expectations</b>	<b>3 - Meets expectations</b>	<b>5 - Exceeds expectations</b>
<b>Client website</b>	Absent or incomplete.	Students complete a client site that conveys the site's goals, purpose, and audience. The client site follows the wireframes, design comps, storyboards, and prototypes the client approved. The client site implements reusable design elements such as CSS and templates and adheres to web standards. The client site is published and works across browsers.	Students complete a client site that clearly conveys the site's goals, purpose, and audience. The client site follows the wireframes, design comps, storyboards, and prototypes the client approved. The site clearly employs design principles. The client site successfully implements reusable design elements such as CSS and templates and adheres to web standards. The client site is successfully published and works across browsers, as well as for multiple screen sizes.
<b>Team process</b>	Absent or incomplete.	Student teams track milestones and due dates in project plan. They work with all members of the team to distribute work equally and meet deadlines.	Student teams track milestones and due dates in project plan. They work with all members of the team to distribute work equally and meet deadlines. Student teams use technologies such as check in and check out and develop workflows that help all team members work efficiently.
<b>Time management</b>	Absent or incomplete.	Student allots time for each phase of the design and development process. Completes most phases on schedule.	Student thoughtfully and effectively allots time for each phase of the design and development process. Completes all phases on schedule.

## Background preparation resources

- To view video tutorials aligned with the skills required to complete this project, visit Adobe TV: <http://tv.adobe.com>
- For more teaching and learning resources on the topics in this project, search for resources from the community on the Adobe Education Exchange: <http://edex.adobe.com/>
- For an overview of the interface and for more information on the technical aspects of *Adobe Dreamweaver*, see *Dreamweaver Help*.
- For an overview of the interface and for more information on the technical aspects of *Adobe Photoshop*, see *Photoshop Help*.

## Keywords

- alternative text
- Cascading Style Sheets (CSS)
- Class style
- Tag style
- ID style
- HTML5
- CSS3
- accessibility
- usability
- hyperlink
- link
- absolute link
- site-root-relative link
- document-relative link
- link target
- named anchor
- Dreamweaver library
- search engines
- check in
- check out
- meta tags
- subversion integration
- synchronizing
- file cloaking
- pathname
- FTP
- server
- technical testing

## ISTE NETS\*S Standards for Students

This project is aligned to the ISTE NETS\*S Technology Standards. Depending on the subject and content area the student selects you may research your own state content standards to see how this project aligns to your state requirements.

### ISTE NETS\*S: Curriculum and Content Area Standards – NETS for Students

#### 1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

- 
- a. apply existing knowledge to generate new ideas, products, or processes.
  - b. create original works as a means of personal or group expression.
  - d. identify trends and forecast possibilities.
2. Communication and Collaboration  
Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:
    - b. communicate information and ideas effectively to multiple audiences using a variety of media and formats
3. Research and Information Retrieval  
Students apply digital tools to gather, evaluate, and use information. Students:
    - a. plan strategies to guide inquiry.
    - b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
    - c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks
4. Critical Thinking and Problem Solving  
Students use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources. Students:
    - a. identify and define authentic problems and significant questions for investigation.
    - b. plan and manage activities to develop a solution or complete a project.
    - d. use multiple processes and diverse perspectives to explore alternative solutions
5. Digital Citizenship  
Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:
    - a. advocate and practice safe, legal, and responsible use of information and technology.
    - b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
    - c. demonstrate personal responsibility for lifelong learning.
6. Technology Operations and Concepts  
Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:
    - a. understand and use technology systems.
    - b. select and use applications effectively and productively.
    - d. transfer current knowledge to learning of new technologies.

### Adobe Certified Associate, Web Authoring objectives

- 1.2 Identify web page content that is relevant to the website purpose and appropriate for the target audience.
- 1.4 Demonstrate knowledge of website accessibility standards that address the needs of people with visual and motor impairments.
- 1.5 Make website development decisions based on your analysis and interpretation of design specifications.
- 1.6 Understand project management tasks and responsibilities.
- 2.1 Demonstrate general and Dreamweaver-specific knowledge of best practices for designing a website, such as maintaining consistency, separating content from design, using standard fonts, and utilizing visual hierarchy.
- 2.2 Produce website designs that work equally well on various operating systems, browser versions/ configurations, and devices.
- 2.5 Demonstrate knowledge of flowcharts, storyboards, and wireframes to create web pages and a site map (site index) that maintain the planned website hierarchy.
- 2.6 Communicate with others (such as peers and clients) about design and content plans.
- 3.1 Identify elements of the Dreamweaver interface.
- 3.2 Use the Insert panel.
- 3.3 Use the Property inspector.
- 3.4 Use the Assets panel.
- 3.5 Use the Files panel.
- 3.6 Customize the workspace.
- 4.1 Demonstrate knowledge of Hypertext Markup Language.
- 4.2 Define a Dreamweaver site.
- 4.3 Create, title, name, and save a web page.
- 4.4 Add text to a web page.
- 4.5 Insert images and apply alternative text on a web page.
- 4.6 Link web content, using hyperlinks, e-mail links, and named anchors.
- 4.7 Include video and sound in a web page.
- 4.8 Include animation and interactivity in a web page.
- 4.9 Insert navigation bars, rollover images, and buttons created in a drawing program on a web page.
- 4.10 Import tabular data to a web page.
- 4.11 Import and display a Microsoft Word or Microsoft Excel document to a web page.
- 4.12 Create forms.

- 5.1 Set and modify document properties.
- 5.2 Organize web-page layout with relative and absolutely positioned div tags and CSS styles.
- 5.3 Modify text and text properties.
- 5.4 Modify images and image properties.
- 5.5 Create web page templates.
- 5.6 Use basic HTML tags to set up an HTML document, format text, add links, create tables, and build ordered and unordered lists.
- 5.7 Add head content to make a web page visible to search engines.
- 5.8 Use CSS to implement reusable design.
- 6.1 Conduct technical tests.
- 6.2 Identify techniques for basic usability tests.
- 6.3 Identify methods for collecting site feedback.
- 6.4 Manage assets, links, and files for a site.
- 6.5 Publish and update site files to a remote server.

### **Adobe Certified Associate, Visual Communication objectives**

- 1.4 Communicate with others (such as peers and clients) about design plans.
- 2.1 Demonstrate knowledge of image resolution, image size, and image file format for web, video, and print.
- 2.6 Understanding key terminology of digital images.
- 3.1 Identify elements of the Photoshop user interface and demonstrate knowledge of their functions.
- 3.2 Demonstrate knowledge of layers and masks.
- 3.3 Demonstrate knowledge of importing, exporting, organizing, and saving.
- 4.1 Demonstrate knowledge of working with selections.
- 4.3 Transform images.
- 4.4 Adjust or correct the tonal range, color, or distortions of an image.
- 4.5 Demonstrate knowledge of retouching and blending images.
- 5.1 Demonstrate knowledge of preparing images for web, print, and video.

### **Adobe Certified Associate, Video Communication objectives**

- 2.6 Communicate with others (such as peers and clients) about design and content plans.

### **Adobe Certified Associate, Interactive Media Communication objectives**

- 1.6 Communicate with others (such as peers and clients) about design and content plans.
- 5.2 Identify techniques for basic usability tests.

## Adobe Certified Associate, Graphic Design & Illustration objectives

- 1.4 Communicate with others (such as peers and clients) about design plans.
- 2.5 Understand key terminology of graphics
- 3.4 Demonstrate an understanding of vector drawing concepts.
- 4.4 Demonstrate knowledge of how to use scanned or photographic images.
- 4.6 Demonstrate knowledge of how to modify and transform objects.

## Adobe Certified Associate, Print & Digital Media Publication objectives

- 1.4 Communicate with others (such as peers and clients) about design plans.

### For more information

Find more teaching materials for using Adobe software in your classroom on the Adobe Education Exchange: <http://edex.adobe.com/>.



**Adobe**

Adobe Systems Incorporated  
345 Park Avenue  
San Jose, CA 95110-2704  
USA  
[www.adobe.com](http://www.adobe.com)

Adobe and the Adobe logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries. All other trademarks are the property of their respective owners.

© 2013 Adobe Systems Incorporated. All rights reserved.