**Instructional Days:** 22-25

**Topic Description:** Students complete final projects.

**Objectives:**

The students will be able to:

* Incorporate all objectives of the unit into the final project.

**Outline of the Lesson:**

* Explanation of final project (15 minutes)
* Final project (135 minutes)
* Gallery walk and vote on final projects (15 minutes)
  + If unit is taught online, look below for an alternative

**Student Activities:**

* Complete final project.
* Participate in gallery walk to view and vote on completed projects.
  + If unit is taught online, look below for an alternative

**Teaching/Learning Strategies:**

* Final project
  + Explain final project choices.
  + Help students with projects as necessary.
* Gallery walk
  + Encourage students to ask each other questions as they view the websites.
  + Have students vote on their favorite.
  + Alternatively, if you are teaching this unit online you can post links to all of the final projects so that the students may see each other’s work. Then you can poll the students to see which their favorite was either using a form online or a message board.

**Resources:**

* Final Project
* Final Project Sample Rubric

**Final Project**

Your task is to create a website that includes

* Images and text with references to sources
* Pages with headers, navigation and content
* An external css file to define layout and styling

You may choose any of the following topics

* An ethical dilemma
* A career
* A worldwide or community problem
* A new technology
* Social media

**Ethical Dilemma Web Site**   
Your task is to analyze an ethical dilemma. Choose one of the four dilemmas listed below or get approval for a different one. You must consider the alternatives and give reasons for the why and the why not you should do what is described. Then you must choose what you would do and explain why. The website should include pages that

* Describe the dilemma you have chosen.
* Give 3 reasons why you should do what is described.
* Give 3 reasons why you should NOT do what is described.
* Describes what you will do and explains why.

Ethical Dilemmas:

1. People illegally download music over the internet. Although it’s free, it is still illegal. What do you choose to do? Why?
2. Your parent loses his/her job. You could help out by selling illegal dvds on the streets. What should you do?
3. You have the ability to hack into the school computer system. You can change people’s grades. Would you change your own? Why or why not? What if you could change the grade for a basketball player who has a scholarship to play for a big university?
4. Someone you know works at a store that sells iPods. He steals some and asks if you want to buy one for half the price the store sells it for? Should you buy it? Why or why not?

**Career Website**

Research a career and create a website that provides information about it.

The website should include pages that

* Provide a brief description of the career
* Explain the education required
* Describe tasks performed in the career, salaries and how computer science is used in the career.

**Worldwide or Community Problem Website**

Research a worldwide or community problem and create a website that provides information about it. The website should include pages that

* Provide a brief description of the problem.
* Explain how the problem is affecting people.
* Describe possible solutions to the problem and what people reading the website can do to help solve it.

**A New Technology**

Research a new technology and create a website that provides information about it. The website should include pages that

* Provide a brief description of the technology.
* Possible benefits of the technology.
* Possible risks of the technology.
* Why are you interested in this technology?

**Social Media**

Research one social media site/tool and create a website that provides information about it. The website should include pages that

* Provide a brief description of the social media
* Positive impacts of the social media, with examples
* Negative impacts of the social media, with examples
* Do you use this form of social media? Why or why not?

**Final Project Sample Rubric:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Do you have?** | **Points Possible** | **Yes/No** | **Points Earned** |
| **Website Content** |  |  |  |
| A home page with an image and a brief description of your topic | 5 |  |  |
| 3 or more additional pages on your site | 15 |  |  |
| Images that support your topic | 10 |  |  |
| Cite the source(s) of you images | 5 |  |  |
| Complete information for your topic | 10 |  |  |
| Cite the source(s) of your information | 5 |  |  |
| **Website Design** |  |  |  |
| Have a background color or image. | 5 |  |  |
| Incorporate one of the layout styles into your website | 5 |  |  |
| Include rollover images | 5 |  |  |
| Links to all the pages of your website on each page. | 10 |  |  |
| Integrate the lightbox slideshow, sliding images, or mootools accordion into your website. | 5 |  |  |
| Use one shared external .css file for your site. | 5 |  |  |
| Peer Grading | 15 |  |  |
| Your project is voted best by your peers. (EXTRA CREDIT) | up to 10 |  |  |
| **Total** | 100 |  |  |

**Flash Animation Supplement**

(These activities can be used as the last days prior to the final project if students finish other projects prior to the time allotted.)

**Instructional Day: 1**

**Topic Description:** Adobe Flash (formerly Macromedia Flash) is a proprietary web animation platform. The introductory lesson demonstrates how to use stop action photography and Flash to create a flipbook effect.

**Objectives:**

The student will be able to:

* Use stop action photography in animated flip books.
* Create a simple flash animation by importing a series of images.

**Outline of the Lesson:**

* Preview the stop action photography study of the galloping horse (5 minutes)
* Demonstration of how to clip each image in Photoshop (5 minutes)
* Demonstration of how to import a series of images into Flash and how to play the movie (10 minutes)
* Practice of the import procedure (5 minutes)
* Creation of a movie from stop action photography (25 minutes)
* Share student work (5 minutes)

**Student Activities:**

* Preview the stop action photography study of the galloping horse from the Flash section of the tutorial website.
* View how to clip each image in Photoshop.
* View how to import a series of images into Flash and how to play the movie.
* Create a movie.
* Share completed work.

**Teaching/Learning Strategies:**

* Preview of the stop action photography study of the galloping horse from the Flash section of the tutorial website
  + Discuss the historical significance of Eadweard Muybridge and stop action photography.
  + Preview various Eadweard Muybridge photographic studies.
* Demonstration of how to clip each image in Photoshop
  + Create eleven separate images.
  + Follow a numerical naming convention: 01.jpg, 02.jpg...11.jpg.
* Demonstration of how to import a series of images into Flash and how to play the movie.
  + Guide students as they follow the procedure after it is demonstrated.
* Creation of a movie
  + Suggest students download another Eadweard Muybridge stop action photographic study and follow the same procedure or have them photograph their own stop action study.
  + Circulate room and help students choose and complete projects.
* Share student work

**Resources:**

* http://www.georgebenainous.com/web (flash—flipbook)
* http://www.adobe.com/cfusion/designcenter/search.cfm?product=Flash&go=Go

**Instructional Day:** 2

**Topic Description:** An animation technique called tweening is explored in Adobe Flash.

**Objectives:**

* The student will be able to:
* Use frame/timeline based animation.
* Use an automatic frame based animation technique called tweening.
* Create several examples of tweened animations.

**Outline of the Lesson:**

* Demonstration of tweening techniques (15 minutes)
* Creation of a visual composition (30 minutes)
* Share student work (10 minutes)

**Student Activities:**

* View tweening techniques (outlined in the tutorial website).
* Create a visual composition.
* Share completed work.

**Teaching/Learning Strategies:**

* Demonstration of tweening techniques (outlined in the tutorial website)
  + motion, size, rotation, color
  + Discuss elements of design as they pertain to objects in motion.
* Creation of a visual composition
  + Explain the requirements for one or more of the following sample projects and guide students as they create their versions.
    - Create a visual composition using Flash tweening. (Remember to put each tween on a separate layer). Study the ideas of symmetry (balance) and asymmetry (imbalance) in motion.
    - Create a visual composition using Flash tweening applied to initials. Students can use their own initials. (Type can be tweened in Flash.)
* Share student work

**Resources:**

* http://www.georgebenainous.com/web (flash—tweening)
* http://www.adobe.com/cfusion/designcenter/search.cfm?product=Flash&go=Go

**Instructional Day:** 3

**Topic Description:** The movie clip is the basic unit of Flash animation which allows for reusability and scripting.

This lesson is an introduction in the creation of movie clips.

**Objectives:**

The student will be able to:

* Explain the concept of a Flash movie clip.
* Differentiate between a movie clip and an instance of a movie clip.
* Create a movie clip based on keyframed animation.

**Outline of the Lesson:**

* Demonstration of creating a movie clip (10 minutes)
* Demonstration of how to reuse multiple instances of a movie (5 minutes)
* Creation of a horse movie clip (20 minutes)
* Creation and implementation of movie clips (20 minutes)

**Student Activities:**

* View examples of Flash movie clips.
* Create various Flash movie clips based on the galloping horse study as outlined in the Flash section of the tutorial website.
* Design and create follow-up movie clips.
* View the creation of a movie clip.
* View how to reuse multiple instances of a movie clip.
* Create the horse movie clip as outlined in the tutorial website.
* Create and implement movie clips.

**Teaching/Learning Strategies:**

* Demonstration of examples of Flash movie clips
  + Explain how to create a keyframed animation based on the galloping horse example from the Flash section of the tutorial website.
  + Guide students as they create various Flash movie clips based on the galloping horse study as outlined in the Flash section of the tutorial website.
  + Guide students as they design and create follow-up movie clips.
* Demonstration of creating a movie clip.
* Demonstration of how to reuse multiple instances of a movie clip
  + including a secondary tweening
* Creation of a horse movie clip as outlined in the tutorial website
* Creation and implementation of movie clips.
  + Guide students as they create their own ideas and then implement.

**Resources:**

* http://www.georgebenainous.com/web (flash—movie clips)
* http://www.adobe.com/cfusion/designcenter/search.cfm?product=Flash&go=Go

**Javascript Supplement**

**Instructional Day:** 1

**Topic Description:** Introduce basic Javascript; add interactivity to web pages.

**Objectives:**

* The student will be able to:
* Add a Javascript to an html page.
* Link to an external Javascript file.
* Create alerts and prompts in Javascript.
* Write basic math statements in Javascript.

**Outline of the Lesson:**

* Demonstration of Javascript basic markup code samples (5 minutes)
* Creation of Javascript’s (10 minutes)
* Extension of code samples provided in tutorial website (40 minutes)

**Student Activities:**

* View code samples from tutorial website.
* Create initial Javascript’s.
* Extend code samples provided in tutorial website.

**Teaching/Learning Strategies:**

* Demonstrate how to create and link to a Javascript file.
* Guide students in the creation of initial Javascript files.
* Extension of code samples provided in tutorial website
  + Demonstrate how to extend the code samples.
  + Students extend the code samples.

**Resources:**

* http://www.georgebenainous.com/web (javascript—basic scripting) Javascript tutorial
* http://www.w3schools.com/JS/default.asp

**Instructional Day:** 2

**Topic Description:** Introduce Javascript functions. Create modular, reusable code and use Javascript to learn fundamental programming concepts.

**Objectives:**

* The student will be able to:
* Use the correct syntax rules for creating functions in Javascript.
* Create Javascript math functions.
* Create Javascript functions which apply css styling to a div.

**Outline of the Lesson:**

* Demonstration of Javascript function code samples (10 minutes)
* Creation of a Javascript function (10 minutes)
* Extension of code samples provided in tutorial website (35 minutes)

**Student Activities:**

* View Javascript code samples from tutorial website.
* Create a simple Javascript function.
* Extend code samples provided in tutorial website and create math functions.

**Teaching/Learning Strategies:**

* Demonstrate how to create a Javascript function.
* Guide students in the creation of initial Javascript functions.
* Extension of code samples provided in tutorial website
  + Demonstrate how to extend the code samples provided in the tutorial website.
  + Students extend the code samples to create their own math functions.

**Resources:**

* http://www.georgebenainous.com/web (javascript—functions) Javascript tutorial
* http://www.w3schools.com/JS/default.asp