

# EASTERN ARIZONA COLLEGE

## Advanced Computer Graphics

Course Design  
2016-2017

**Course Information**

**Division** Fine Arts  
**Course Number** ART 185  
**Title** Advanced Computer Graphics  
**Credits** 3  
**Developed by** Jeff Henley  
**Lecture/Lab Ratio** 2 Lecture/2 Lab

**Transfer Status**

ASU	NAU	UA
ART Dept Elective, GIT Dept Elective	Elective Credit	ART Departmental Elective

**Activity Course** No  
**CIP Code** 50.0400  
**Assessment Mode** Portfolio  
**Semester Taught** Upon Request  
**GE Category** None  
**Separate Lab** No  
**Awareness Course** No  
**Intensive Writing Course** No

**Prerequisites**

None

**Educational Value**

Essential to the art student wanting to learn about Graphic Arts. Techniques also pertinent to computer students, business students, and others contemplating a field where they might be expected to create well-designed, professional quality documents.

**Description**

Emphasizes the advanced concepts and features of Photoshop. Uses industry-standard, image-editing tools for designers who want to produce sophisticated graphics for the Web and for print. This course cannot be used as a curriculum requirement for the Graphic Design AAS program. It is recommended that the student have a working knowledge of Basic Adobe Photoshop.

**Supplies**

USB storage device  
 Supplemental handouts

## **Competencies and Performance Standards**

### **1. Review basic Photoshop terminology, tools, selections, and commands.**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Define basic Adobe Photoshop terminology.
- b. Utilize lasso tool.
- c. Use floating selections tool effectively.
- d. Layer using the copy command.
- e. Layer using the mask mode.
- f. Acquire knowledge of clipping groups.

#### **Performance Standards**

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can define basic Adobe Photoshop terminology
- o learner can use lasso tool
- o learner can use floating selections
- o learner can layer via the copy command
- o learner can layer using mask mode
- o learner has a working knowledge of clipping groups

### **2. Utilize the type tool.**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Utilize the vertical type tool.
- b. Utilize the horizontal type tool effectively.
- c. Use the mask mode tool.
- d. Demonstrate the type mask tool.

#### **Performance Standards**

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can use the vertical type tool
- o learner can use the horizontal type tool
- o learner can use the mask mode tool
- o learner can use the type mask tool

### **3. Demonstrate the use of free form pen and magnetic tools.**

#### ***Learning objectives***

*What you will learn as you master the competency:*

- a. Paint and design using the freeform pen tool.
- b. Edit using the magnetic selections tool.

#### ***Performance Standards***

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can paint and design using the freeform pen tool
- o learner can edit using the magnetic selections tool

### **4. Utilize the selections layer and paths tools effectively.**

#### ***Learning objectives***

*What you will learn as you master the competency:*

- a. Utilize the lasso and polygon lasso tool.
- b. Define a selection with quick mask.
- c. Utilize paths to create selections.
- d. Subtract from an image using floating selection tool.
- e. Utilize clipping groups.

#### ***Performance Standards***

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can use the lasso and polygon lasso tool
- o learner can define a selection with quick mask
- o learner can use paths to create selections
- o learner can demonstrate subtracting from a floating selection
- o learner can use clipping groups

### **5. Retouch a photograph.**

#### ***Learning objectives***

*What you will learn as you master the competency:*

- a. Assess the condition of a photograph.
- b. Utilize the pen tool and floating selections tools.
- c. Retouch using the rubber stamp tool.
- d. Change a path to make a new selection.
- e. Clone a pattern.
- f. Crop an image.

### **Performance Standards**

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o In successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can assess the condition of a photograph
- o learner can use the pen tool and floating selections tools
- o learner can retouch with the rubber stamp tool
- o learner can change a path to make a new selection
- o learner can clone a pattern
- o learner can crop the image

## **6. Restore heirloom photographs.**

### **Learning objectives**

*What you will learn as you master the competency:*

- a. Assess the condition of warped, wrinkled, or damaged photos.
- b. Characterize the features of output as they apply to heirlooms.
- c. Restore faded photographs by using the adjustment layers and curves command.
- d. Repair cracked photographs using dust and scratches filter.
- e. Remove stains from photographs.

### **Performance Standards**

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can assess the condition of warped, wrinkled, or damaged photos
- o learner can characterize the features of output as they apply to heirlooms
- o learner can restore faded photographs by using the adjustment layers and curves command
- o learner can repair cracked photographs using dust and scratches filter
- o learner can remove stains from photographs

## **7. Generate surrealistic images.**

### **Learning objectives**

*What you will learn as you master the competency:*

- a. Utilize layer opacity to visualize a composite.
- b. Utilize a variety of tools to apply a layer mask.
- c. Remove objects with the rubber stamp tool.
- d. Use guides and rotate a layer.
- e. Distort an object to achieve the proper perspective.

### **Performance Standards**

*Competence will be demonstrated:*

- in successful completion of document from lecture
- in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- learner can use layer opacity to visualize a composite
- learner can use a variety of tools to apply a layer mask
- learner can remove objects with the rubber stamp tool
- learner can use guides and rotate a layer
- learner can distort an object to achieve the proper perspective

## **8. Demonstrate the techniques used to make images appear smaller.**

### **Learning objectives**

*What you will learn as you master the competency:*

- a. Scale, adjust camera angle, and alter lighting.
- b. Set up an image as a layer.
- c. Utilize pen tool for intricate selections.
- d. Utilize pen and covert point tools effectively.
- e. Demonstrate masking.
- f. Utilize paintbrush tools for masking.
- g. Utilize shadow tool to add dimension.
- h. Sample and apply a shading color.
- i. Utilize color casting and correction tools.

### **Performance Standards**

*Competence will be demonstrated:*

- in successful completion of document from lecture
- in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- learner can scale, adjust camera angle, and alter lighting
- learner can set up an image as a layer
- learner can use pen tool for intricate selections
- learner can use pen and convert point tools effectively
- learner can demonstrate masking
- learner can utilize paintbrush tools for masking
- learner can use shadow tool to add dimension
- learner can sample and apply a shading color
- learner can use color casting and correction tools

**9. Apply the skills needed to work between applications.**

**Learning objectives**

*What you will learn as you master the competency:*

- a. Demonstrate use of pen tool.
- b. Demonstrate how to fill when working between applications.
- c. Create drop shadow template.
- d. Utilize cloning tool.
- e. Utilize filters creatively.

**Performance Standards**

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can demonstrate how to use the pen tool
- o learner can demonstrate how to fill when working between applications
- o learner can use the creating drop shadow template
- o learner can use the cloning tool
- o learner can use filters effectively

**10. Demonstrate the creative use of working with filters.**

**Learning objectives**

*What you will learn as you master the competency:*

- a. Utilize gradient editor.
- b. Filter a custom blend.
- c. Utilize lighting techniques and the texture channel.
- d. Render using clouds filter.
- e. Prepare art for 3-D transform.
- f. Work with 3-D transform's sphere shape.
- g. Create arcing text.
- h. Utilize watercolor filter.

**Performance Standards**

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner is able to use gradient editor
- o learner is able to filter a custom blend
- o learner is able to use the lighting effects and the texture channel
- o learner can render clouds filter
- o learner can prepare the art for 3-D transform
- o learner is able to work with 3-D transform's sphere shape

- o learner can create arcing text
- o learner is able to use watercolor filter

**11. Produce special effects.**

***Learning objectives***

*What you will learn as you master the competency:*

- a. Remove an area by cloning over it.
- b. Utilize pen and airbrush tools.
- c. Utilize smudge tool effectively.
- d. Align sample points.
- e. Create and import shadows.
- f. Adjusting signing and lighting to maximum effectiveness.
- g. Rotating an image.
- h. Matching skin tones.

***Performance Standards***

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can remove an area by cloning over it
- o learner can use the pen and airbrush tools
- o learner can use the smudge tool
- o learner can create and import shadows
- o learner can adjust signing and lighting to maximum effectiveness

**12. Design graphics for the web and create animations.**

***Learning objectives***

*What you will learn as you master the competency:*

- a. Optimize stain glass filter.
- b. Utilize the lighting effects filter and tone/color editing tools.
- c. Measure available space and creating navigation button.
- d. Create sequential still frames.
- e. Utilize batch editing.
- f. Animate with flow and transparency masks.
- g. Work with compression, timing, and file sorting tools.

***Performance Standards***

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- learner can optimize stain glass filters
- learner can use the lighting effects filter and tone/color editing tools
- learner can measure available space and create sequential still frames
- learner can use batch editing
- learner can animate with flow and transparency masks
- learner can work with compression, timing, and file sorting tools

**13. Demonstrate how to use ImageReady to use slicing and image mapping.**

***Learning objectives***

*What you will learn as you master the competency:*

- a. Prepare high and low frequency images.
- b. Utilize anti-aliasing and image optimizing.
- c. Create droplets.
- d. Slice images.
- e. Create image maps.

***Performance Standards***

*Competence will be demonstrated:*

- in successful completion of document from lecture
- in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- learner can prepare high and low frequency images
- learner can use anti-aliasing and image optimizing
- learner can create droplets
- learner can slice images
- learner can create image maps

**14. Utilize ImageReady to create Java Script roll-overs.**

***Learning objectives***

*What you will learn as you master the competency:*

- a. Adjust optimization.
- b. Create basic roll-over image.
- c. Finalize roll-over button.
- d. Manually edit roll-over page.
- e. Create the glow effect.
- f. Maximize the animated roll-over button as necessary.

***Performance Standards***

*Competence will be demonstrated:*

- in successful completion of document from lecture
- in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*



- o learner can adjust optimization
- o learner can create basic roll-over images
- o learner can use the roll-over button
- o learner can manually edit the roll-over page
- o learner can create the glow effect
- o learner can maximize the animated roll-over button

**15. Demonstrate how to use ImageReady in creating animated GIFs.**

***Learning objectives***

*What you will learn as you master the competency:*

- a. Utilize ImageReady script for animation.
- b. Create a bouncing ball animation.
- c. Bring cells into ImageReady to animate.
- d. Demonstrate animation disposal methods.
- e. Move a virtual camera around spatially.
- f. Translate lighting into a scene.
- g. Create a neon sign GIF animation.
- h. Create a carnival marquee.
- i. Create an invisible man GIF animation.

***Performance Standards***

*Competence will be demonstrated:*

- o in successful completion of document from lecture
- o in successful completion of instructor assigned exercises

*Performance will be satisfactory when:*

- o learner can utilize ImageReady script for animation
- o learner can create a bouncing ball animation
- o learner can bring cells into ImageReady to animate
- o learner can demonstrate animation disposal methods
- o learner can move a virtual camera around spatially
- o learner can translate lighting into a scene
- o learner can create a neon sign GIF animation
- o learner can create a carnival marquee
- o learner can create an invisible man GIF animation

***Types of Instruction***

Classroom Presentation

On Campus Laboratory

***Grading Information***

***Grading Rationale***

Portfolio evaluation

Student may choose to receive a grade or a pass/fail

***Grading Scale***

A	100-90%
B	89-80%
C	79-70%
D	69-60%
F	59% and below
P	100-70%