

## Image Design & Editing

**COURSE DESCRIPTION:** In Image Design & Editing, students will learn the basics of photographic composition and lighting, the basics of using a digital camera and the basics of preparing a digital darkroom. Students will also learn basic color theory and the fundamentals of image processing. This course is designed for the student who has no background in photography.

### COURSE OBJECTIVES:

After completing this course, the student will be able to:

- Successfully use a digital camera to make images.
- Explain and apply basic photographic composition to their images
- Explain and apply the various characteristics of light in making their images.
- Explain and apply the fundamental tools of image processing to their work.
- Explain the hardware and software requirements for a digital darkroom and analyze their systems in terms of those requirements.
- Explain how a digital camera works.
- Explain how they can use photographs.

**PREREQUISITES:** None

**COURSE LENGTH:** One semester

**REQUIRED TEXT:** None

**REQUIRED SOFTWARE:** The GIMP, Web Browser

### REQUIRED EQUIPMENT:

- Camera: Any digital camera of 2 megapixels or more with a minimum 3x zoom lens. Digital only zooms are permitted but not recommended.
- Computer: (Minimum) Intel Pentium II / AMD K6-2 / Macintosh G-4 based @ 450MHz or greater with 256MB of RAM or better. Windows 2000 sp4, Windows XPsp1 (Home or Professional), Macintosh OSX, or Linux 2.6.02 or better operating system.
- Internet: 56K Internet connection or better

### COURSE OUTLINE:

#### I. Camera Use

(A) Digital exposure (Objective 1, Unit 2)

1. Define exposure.
2. Identify and explain aperture and shutter.
3. Identify and explain over and under exposure.

(B) Handling (Objective 1, Unit 2)

1. Explain how to provide a solid platform for hand-held camera use.
2. Explain the proper way to hold the camera and operate it.

(C) Explain and demonstrate transferring images from a digital camera to computer. (Objective 1, Unit 2)

(D) Explain the archiving of images. (Objective 1, Unit 2)

## II. Photographic composition

- (A) The subject (Objective 2, Unit 3)
1. Identify the subject of their images in terms of the topic.
  2. Evaluate the subject of their images in terms of the topic.
  3. Put the subject in a context using supporting details.
- (B) Composition (Objective 2, Unit 4)
1. Explain and apply the rule of thirds to their images.
  2. Explain and apply the use of line as a compositional feature to their images.
  3. Define the principles of viewpoint and perspective and explain how these can be applied.
- (C) Light (Objective 3, Unit 5)
1. Explain how colors are produced.
  2. Natural light.
    - a. Define natural light.
    - b. Explain and demonstrate direction and quality of natural light.
    - c. Explain how these characteristics impact the subject.
    - d. Apply these characteristics to their work.
  3. Artificial light
    - a. Define artificial light.
    - b. Explain the differences between natural and artificial light.
    - c. Explain and identify the common sources of artificial light.
    - d. Explain the common faults of artificial light
  4. Explain how to correct common faults associate with flash lighting.

## III. Image Processing

- (A) Explain and apply the following basic processing tools: Hue and Saturation, Color Balance, Brightness and Contrast correction. (Objective 4, Unit 6)
- (B) Explain the difference between image resizing and image scaling. (Objective 4, Unit 6)
- (C) Successfully apply image scaling. (Objective 4, Unit 6)
- (D) Successfully apply sharpening to scaled images. (Objective 4, Unit 6)

## IV. Using Images

- (A) Identify ways they can use their images in their personal work. (Objective 7, Unit 8)
1. Explain the unique image requirements for each use.
  2. Explain and apply processing for uses for personal work including image scaling and sharpening.

## V. Hardware and Software

- (A) Define the hardware requirements for a digital darkroom in terms of memory needed, hard drive capacity, and archiving. (Objective 5, Unit 1)
- (B) Define and apply monitor calibration. (Objective 5, Unit 1)
- (C) Explain how a digital camera works, identifying and explaining the key components in the system. (Objective 6, Unit 1)
- (D) Explain the characteristics of lenses or lens settings. (Objective 7, Unit 1)
- (E) Define and explain software needed in a digital darkroom. (Objective 5, Unit 1)

Note: Objective numbers refer to Course Objectives as stated above. Unit numbers refer to the unit number of the course where that objective is met.