## CS 70.13 Course Outline as of Fall 2019

# CATALOG INFORMATION

Dept and Nbr: CS 70.13          Title: FIXING IMAGES/PHOTOSHOP
Full Title: Image Correction and Restoration with Adobe Photoshop
Last Reviewed: 4/21/2014

| Units | | | Course Hours per Week | | Nbr of Weeks | Course Hours Total | | |
|---|---|---|---|---|---|---|---|---|
| Maximum | 3.00 | | Lecture Scheduled | 3.00 | 17.5 | Lecture Scheduled | | 52.50 |
| Minimum | 3.00 | | Lab Scheduled | 0 | 6 | Lab Scheduled | | 0 |
| | | | Contact DHR | 0 | | Contact DHR | | 0 |
| | | | Contact Total | 3.00 | | Contact Total | | 52.50 |
| | | | Non-contact DHR | 0 | | Non-contact DHR | | 0 |

Total Out of Class Hours: 105.00          Total Student Learning Hours: 157.50

Title 5 Category:  AA Degree Applicable
Grading:          Grade or P/NP
Repeatability:    00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:          CIS 73.24

**Catalog Description:**
Designed for the Photoshop-experienced user, this course focuses on the tools and techniques used to effectively scan images, restore photographs, correct image tone and color, and optimize the quality of onscreen and printed materials.

**Prerequisites/Corequisites:**
Course Completion of CS 70.11B

**Recommended Preparation:**


**Limits on Enrollment:**


**Schedule of Classes Information:**
Description: Designed for the Photoshop-experienced user, this course focuses on the tools and techniques used to effectively scan images, restore photographs, correct image tone and color, and optimize the quality of onscreen and printed materials. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion of CS 70.11B
Recommended:
Limits on Enrollment:

Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

# ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

**AS Degree:**    **Area**                                   Effective:        Inactive:
**CSU GE:**      **Transfer Area**                         Effective:        Inactive:

**IGETC:**      **Transfer Area**                         Effective:        Inactive:

**CSU Transfer:**               Effective:               Inactive:

**UC Transfer:**                Effective:               Inactive:

**CID:**

**Certificate/Major Applicable:**
Not Certificate/Major Applicable

# COURSE CONTENT

**Outcomes and Objectives:**
Upon completion of this course students will be able to:
1. Evaluate digital images to identify flaws, and establish a restoration plan.
2. Assess image problems to prioritize corrective steps needed.
3. Review scanning specifications and techniques.
4. Prepare camera images for high-quality color printing.
5. Create, manipulate, save, and use precise image selections with channels and masks.
6. Compare and contrast various tone and exposure adjustment commands.
7. Scan grayscale or color images.
8. Optimize and print grayscale images.
9. Prepare and print duotone images.
10. Retouch images with the clone stamp, healing brush, patch, toning, and sharpen/blur tools.
11. Colorize a grayscale image.
12. Use the histogram and levels to enhance grayscale image detail in at least two images.
13. Perform curve-based color corrections to remove color casts and enhance image detail and color balance for print.
14. Demonstrate three image blending techniques.
15. Build a composite image with realistic shadows.
16. Apply selective sharpening and blurring to enhance image quality in all printed work in class.
17. Evaluate repaired images to determine successes and failures of various restoration techniques.

**Topics and Scope:**

1. Digital image evaluation criteria
   a. Image key (high, average, or low)
   b. Loss of detail
   c. Exposure
   d. Aging

e. Color cast
   f. Damage
2. Prioritization of corrective steps
   a. Crop
   b. Accentuate overall image detail
   c. Correct overall problems with tone and color
   d. Repair damage
   e. Enhance image
3. Scanning specifications and techniques for both flatbed and slide scanner
   a. Resolution
   b. Image enlargement and reduction
   c. Modes: line art, grayscale, and color
4. Channel and mask selection
   a. Examining individual color channels for maximum contrast
   b. Demonstrating nondestructive techniques for identifying the area to select
   c. Using Color Range and other advanced selection commands
   d. Saving selections as channel masks
   e. Loading selections
   f. Creating and editing layer masks
5. Digital camera images
   a. Understanding the relationship between ppi (pixels per inch) and dpi (dots per inch)
   b. Resampling
   c. Configuring correct printing dpi (dots per inch)
6. Comparing and contrasting tone and exposure commands and techniques
   a. Auto Tone, Auto Contrast, Auto Color
   b. Adjustment layers
   c. Levels
   d. Curves
7. Grayscale optimization
   a. Histogram analysis
   b. Levels correction
   c. Sharpening
8. Duotone images
   a. Changing from grayscale to duotone mode
   b. Loading duotone, tritone, and quadtone presets
   c. Printing duotones
9. Curve-based color correction
   a. RGB (Red, Green, Blue) correction
   b. CMYK (Cyan, Magenta, Yellow, Black) conversion
   c. Sharpening
10. Image retouching
    a. Clone stamp
    b. Dodge, burn, and sponge tools
    c. Sharpen and blur tools and filters
    d. Dust and scratches filters
    e. Healing brush and patch tools
11. Image blending techniques
    a. Opacity, fill, and blending mode
    b. Advanced blending (blend if)

    c. Layer masks
12. Shadow construction
    a. Drop shadow
    b. Cast shadow
    c. Natural shadow
    d. Reconstructed shadow
13. On-screen optimization

**Assignment:**

1. Work in teams and individually to assess images.
2. Scan, correct, and print line art, grayscale, and color images.
3. Convert the dpi, adjust, and print at least two digital camera images.
4. Restore grayscale image, maintain a log of restoration steps taken, and prepare a written analysis of successes and failures.
5. Prepare and print a duotone image.
6. Blend images into a composite, with realistic shadows.
7. Optimize one grayscale and one color image for onscreen display.
8. Final exam and 0 - 2 quizzes.
9. Reading approximately 20 pages per week.

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

| Written analyses | Writing 5 - 10% |
|---|---|

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

| Diagnosis and repair of image problems | Problem solving 20 - 50% |
|---|---|

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

| Assignments | Skill Demonstrations 30 - 40% |
|---|---|

**Exams:** All forms of formal testing, other than skill performance exams.

| Multiple choice, True/false, Matching items, Completion | Exams 10 - 30% |
|---|---|

**Other:** Includes any assessment tools that do not logically fit into the above categories.

| None | Other Category 0 - 0% |
|---|---|

**Representative Textbooks and Materials:**
Digital Restoration from Start to Finish (2nd Edition) by Ctein.  Focal Press:  2010.