COURSE OUTLINE

COMPUTER SCIENCE/INFORMATION SYSTEMS 126
Digital Imaging

I. Catalog Statement

Computer Science/Information Systems 126 is an in-depth study course which introduces and teaches the concepts of Digital Imaging. Current imaging editing software, such as Photoshop, is used in the class. This course does not teach basic design concepts, but teaches the student techniques for the production of digital files which can be used for printing and display.

Units – 3.0
Lecture Hours – 3.0
Lab Hours – 2.0

Recommended preparation: Completion of CS/IS 101 or 105 and eligibility for English 120, BUSAD 106 or ESL 151

II. Course Entry Expectations

Skills Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 2.

III. Course Exit Standards

Upon successful completion of the required coursework, students will be able to:
1. use an image editing program to demonstrate essential input techniques;
2. understand basic color essentials and electronic color models;
3. analyze and apply tonal correction and color correction fundamentals;
4. demonstrate the use of sharpening, making paths, channels and masks;
5. use an image editing program to demonstrate essential output techniques.

IV. Course Content **Total Contact Hours = 48**

A. Overview 12 hours
   1. Hardware
   2. Photoshop tool menu
   3. Third-party software

B. Input techniques 12 hours
   1. Introduction to scanning
      a. Grayscale
      b. Color
   2. Bitmapped versus Object-Oriented graphics
   3. Resolution
   4. Resampling
   5. Bitmaps and file size

6. Importing files

C. Basic techniques 12 hours
1. Tools
2. Palettes
3. Preferences

D. Color essentials 14 hours
1. Primary color
2. The color wheel
3. Photoshop's internal color management system
4. Calibrating the system
5. Tonal and Color Correction

E. Paths, masks, and channels 14 hours
1. Masking-tape selections
2. Selection tools
3. Quick masks
4. Channels
5. Paths
6. Step-by-step silhouettes

F. Output methods 16 hours
1. Contone versus halftone
2. Halftones
3. Screening techniques
4. Color management
5. Output resolution
6. Graphic formats and exporting files

V. Methods of Presentation

The following instructional methodologies may be used in the course:
1.
2.
3.

VI. Assignments and Methods of Evaluaiton

Quizzes, projects, one mid-term examination, a final examination and a final project

VII. Textbook

Weinmann, Illustrator CS5 for Macintosh & Windows, Current Edition
PeachpitPress, 2011
11th Grade Reading Level. ISBN: 0-321-70661-7
Weinmann, Photoshop CS5 for Macintosh,
Peachpit Press, 2011
11th Grade Reading Level. ISBN: 0-321-70153-4

VIII. Student Learning Objectives

Upon successful completion, the student will be able to:

1. use binary theory to determine graphic grey levels;
2. calibrate and adjust equipment to ensure proper printer output;
3. to use graphic software.

IX. Special Features

Three projects are completed 1) halftones, 2) paths/masks/channels, and 3) color