

Pellissippi State Community College  
Master Syllabus

**ADVANCED DIGITAL IMAGING TECHNIQUES  
PHO 2060**

Class Hours: 3.0

Laboratory Hours: 0.0

Credit Hours: 3.0

Date Revised: Spring 2017

**Catalog Course Description**

Students explore advanced topics in digital photography. Emphasis is placed on gaining an understanding of the industry-standard tools available to manipulate a digital image and choosing the best methods and practices for creating an appropriate imaging workflow. Special attention is paid to technical details, including exposure theory, optical systems, dynamic range, resolution, color models, compression types and file formats.

**Prerequisites**

MDT 2100 or PHO 2010

**Corequisites**

none

**Textbook(s) and Other Course Materials**

Textbook:

- none

Equipment:

- DSLR camera with a short telephoto lens
- 2- USB flash drives (each 4 GB or greater) for handing in assignments
- Flash memory cards with 8GB total storage
- Tripod
- Epson Ultra Premium Luster Photo Paper (13"x19", 50 Sheets)

**Week/Unit/Topic Basis: (Subject to Change)**

1. Introductions and expectations / materials / tools / Review of classic photographic concepts
2. Review of review-Intro to Bits, bytes, pixels and file formats
3. Color spaces & calibration, Intro to Adobe Bridge
4. RAW formats. Dynamic range in 24-bit color, improving apparent dynamic range, Use of Adobe Cam. Raw
5. PS review: Nondestr. Editing, Image modes, image size, image adjustments, layers, masks, sharpening

6. Lenses; perspective, depth of field; remapping & projection geometry, nodal points.  
Correction of optical aberrations in Photoshop
7. Quiz #1, HDR images in Photoshop, tone mapping
8. Panoramic photography overview: panoramic equipment & techniques
9. Creating stitched images with Photoshop
10. Discussion of Advanced workflow tools: Aperture; Lightroom
11. Lightroom- Hands on, workflow development
12. Automation in Photoshop, advanced workflow techniques
13. Photoshop advanced techniques, smart objects
14. Quiz #2, Final project development general Q/A
15. Final projects due (Final Exam Period)

## Course Goals

Note: Roman numerals after course objectives reference goals of the MDT program

### *The course will*

Explain and demonstrate the tools used to manipulate light in the formation of a digital image. II. III.

Outline advanced digital photographic techniques, including geometric transforms, High Dynamic Range Imaging, panoramic, and stereo 3D imaging. III. III. IV.

Outline techniques in advanced image retouching and manipulation as they relate to improving image quality and communicating visually. I. II. III. IV.

Explore industry standard tools for developing and maintaining a personal, color-calibrated workflow, with consideration given to effective image capture, editing, correction, archiving & delivery requirements. I. II. IV.

## Expected Student Learning Outcomes

Note: Capital letters after Expected Student Learning Outcomes reference the course goals listed below.

### *The student will*

1. Calibrate a monitor for a consistent & accurate working environment. A, C, D
2. Manage digital images efficiently from capture to delivery and archiving. A, B, C, D
3. Develop an understanding of file formats, their underlying data structure and their effective use. A, D
4. Digitally correct common optical aberrations and geometric distortions. B, C
5. Produce an 8-bit image from a tone mapped HDR. A, B, D
6. Produce a properly stitched image for increased field of view. B, C, D
7. Demonstrate proficiency as an advanced user of Adobe Photoshop®. D, C, D
8. Produce suitable source images for digital manipulation techniques using a DSLR. A, B, D

## Evaluation

### **Testing Procedures: 30% of grade**

2 quizzes: 15% Each

### **Laboratory Expectations: 0% of grade.**

### **Field Work: 30% of grade:**

Assignments- Various photography and/or Photoshop assignments may require additional time in the studio, field and/or lab

### **Other Evaluation Methods: 40% of grade**

Final Project: 20%- A portfolio of images- each with a descriptive paragraph explaining how the techniques taught in class are utilized.

Class Participation: 20%- Students will participate in demonstrations, exercises, critiques, class discussions and maintain professional conduct throughout the class

### **Grading Scale: (for assignments)**

4.00-3.75	A
3.25-3.74	B+
2.75-3.24	B
2.25-2.74	C+
1.50-2.24	C
0.50-1.49	D
0.00-0.49	F

## **Policies**

### **Attendance Policy**

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of Academic Affairs.

### **Academic Dishonesty**

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.

- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

Please see the Pellissippi State Policies and Procedures Manual, Policy 04:02:00 Academic/Classroom Conduct and Disciplinary Sanctions for the complete policy.

### **Accommodations for Disabilities**

Students that need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Disability Services (DS) in order to receive accommodations in this course. [Disability Services](http://www.pstcc.edu/sswd/) (<http://www.pstcc.edu/sswd/>) may be contacted via [Disability Services email](#) or by visiting Alexander 130.