

# Syllabus

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## Instructor

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## Description

Photography is a popular hobby that has exploded in recent years as digital cameras have become more affordable and easier to use. There are many courses that will teach students the artistic aspect of "how to become a better photographer" or "how to improve your eye", and this is not one of them. Instead, you will become a better photographer through an understanding of the technical aspects and terms of a digital camera, from the one-time-use to the professional. Learn why your photos look blurry at night, why color management is important, what the difference between "sports mode" and "portrait mode" on your camera's dial are, and how to manipulate the camera without the need of these modes in the first place. Topics include exposure and metering, flash, dynamic range, CMOS and CCD sensors, color filter arrays, RAW versus JPEG formats, color spaces and profiles, editing photos with Photoshop, and optical and computational artifacts. Through lectures and hands-on assignments, students will understand the jargon and compromises of digital photography that ultimately expose the workings of digital cameras. Students are not required to own a digital camera, but if you bring one, one with a "manual" mode and an option for "RAW" is recommended.

## Course Expectations

Students are expected to attend all lectures, complete 4 assignments and produce a final project.

## Cameras

You are not required to own a digital camera for this course; we have a limited number of digital cameras that you may use for hands-on assignments. Of course, if you wish, you may bring your own. Any camera will allow you to begin the course, but the following features are recommended if you wish to use the same camera for the duration of the course:

*Manual mode.* Having the ability to set exposure manually in the camera is important for this course. Exposure is addressed early in the course, so you may find that you will quickly outgrow cameras that do not have this feature.

*RAW image file format.* Although not used initially, RAW file format will be important for later assignments in the course. It is usually explicitly stated in a camera's specifications whether or not it supports this format.

Although not required, if you do decide to use this course as an excuse to purchase a new camera, be sure it has the above features. While we cannot recommend specific cameras due to the sheer number of available options and variables involved in the decision, our advice would be to purchase a camera with features that seem just beyond your capabilities. This way, you will have room to grow into it and you will have more flexibility with it in the long-term.

Below are a couple of websites you may try when considering purchasing a digital camera:

<http://www.dpreview.com> - Contains in-depth reviews of many cameras.

<http://imaging-resource.com> - "Find the Best Camera For You" may assist you in picking a camera.

## Website

The website for this course is located at:

<http://cse7.org/>

## Staff

Use the address below to email the entire staff:

[staff@cse7.org](mailto:staff@cse7.org)

## Textbooks

There are no required textbooks for this course. We do, however, recommend the following texts to supplement your learning:

*The Camera (Ansel Adams Photography, Book 1)*  
Ansel Adams, Robert Baker  
Bulfinch Press (1995)  
ISBN: 0821221841

*The Negative (Ansel Adams Photography, Book 2)*  
Ansel Adams, Robert Baker  
Bulfinch Press (1995)  
ISBN: 0821221868

*Exposure & Lighting For Digital Photographers Only*  
Michael Meadhra, Charlotte K. Lowrie  
Wiley Press (2006)  
ISBN: 9780470038697

*The Adobe Photoshop CS4 Book for Digital Photographers*  
Scott Kelby  
New Riders Press (2009)  
ISBN: 9780321580092

## Lectures

Lectures are held most Mondays from 5:30 PM to 7:30 PM in Harvard Hall room 201.

**August 31, 2009**

Lecture 1: Welcome!

**September 7, 2009:** *No Class (Labor Day)*

**September 14, 2009**

Lecture 2: Software Tools & Light

**September 21, 2009**

Lecture 3: Exposure

**September 28, 2009**

Lecture 4: Exposure (continued)

**October 5, 2009**

Lecture 5: Optics

**October 12, 2009:** *No Class (Columbus Day)*

**October 19, 2009**

Lecture 6: The Histogram

**October 26, 2009**

Lecture 7: Software Tools (continued)

**November 2, 2009**

Lecture 8: Assignment Slideshow & Movie Night!

**November 9, 2009**

Lecture 9: Digital Cameras

**November 16, 2009**

Lecture 10: Digital Cameras (continued)

**November 23, 2009**

Lecture 11: Color

**November 30, 2009**

Lecture 12: Artifacts

**December 7, 2009**

Lecture 13: Even More Software Tools

**December 14, 2009**

Lecture 14: Assignment Slideshow & Legalese

**December 21, 2009:** *No Class (Final Projects Due & Computer Science Fair)*

## Sections

Optional sections allow students to go over lecture material and ask questions on lecture topics and assignments with the teaching fellows. A schedule of sections can be found on the course's website.

## Grades

The final grade for credit students will be determined with the following weights.

**Assignments:** 60%

**Final Project:** 40%

If you elect to take this course not-for-credit, you are not expected to submit any of the above. However, we welcome you to submit your work for feedback as we believe your skill as a photographer will best increase with persistent practice.

## Assignments

Four assignments will be distributed throughout the semester. Each assignment will have at least two required parts for submission: a problem set with theory-based questions and a collection of images. A selection of submitted photographs will be compiled and shown in special lectures during the course.

The assignments will be due by 5:30 PM on the date listed and, unless otherwise noted, will be released three weeks prior to their due date.

<b>"Keep an I[SO] Out."</b>	Due September 28, 2009. Released August 31, 2009.
<b>"Great (Focal) Lengths."</b>	Due October 19, 2009.
<b>"Frames of Mind."</b>	Due November 9, 2009.
<b>"Raw Material."</b>	Due November 30, 2009.

## Final Project

A final project must be completed and will count for a significant portion of the final grade. The guidelines for the final project will be released during the semester, with student proposals for projects due shortly thereafter.

This semester will conclude with the "Computer Science Fair" on Monday, December 21 2009, from 5:30 PM until 7:30 PM. A course-wide exhibition of final projects held jointly with CSCI E-75: Building Dynamic Websites, the Fair will be an opportunity to mingle with classmates, see each other's work, and eat cake.

A schedule for guideline release and due dates is below, but is subject to change.

<b>Guidelines Released:</b>	12:00 PM (noon) on October 26, 2009.
<b>Proposals Due:</b>	12:00 PM (noon) on November 23, 2009.
<b>Final Project Due:</b>	12:00 PM (noon) on December 21, 2009.
<b>Computer Science Fair:</b>	5:30 PM – 7:30 PM on December 21, 2009. Held in Maxwell Dworkin room 119.

## Exams

There are no exams in this course.

## Late Policy

Extensions on any assignment or final project due date will not be granted except in cases of emergency. Technical difficulties do not constitute emergencies. Any assignment or final project submitted late will be accepted but will have a percentage of the grade subtracted based on its tardiness after the due time:

<b>Up to 12 hours:</b>	10%
<b>12 to 24 hours:</b>	25%
<b>24 to 48 hours:</b>	50%
<b>Over 48 hours:</b>	100%

Lateness will be determined down to the minute based on the completed submissions' timestamps on [nice.fas.harvard.edu](http://nice.fas.harvard.edu).

## Academic Honesty

All work that you do toward fulfillment of this course's expectations must be your own unless collaboration is explicitly allowed (*e.g.*, by some problem set or the final project). Viewing or copying another individual's work (even if left by a printer or stored in a public directory) or lifting material from a book, magazine, website, or other source—even in part—and presenting it as your own constitutes academic dishonesty, as does showing or giving your work, even in part, to another student.

Similarly is dual submission academic dishonesty: you may not submit the same or similar work to this class that you have submitted or will submit to another. Moreover, submission of any work that you intend to use outside of the course (*e.g.*, for a job) must be approved by the staff.

All forms of cheating will be dealt with harshly.

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You are welcome to discuss the course's material with others in order to better understand it. You may even discuss problem sets with classmates, but you may not collaborate by showing other students your work. If in doubt as to the appropriateness of some discussion, contact the staff.