

Homework #2 - Due Monday May 27th before 8pm

Part 1: Camera Obscura

You will turn a room (or any other place you can control) into a camera obscura or pinhole camera by letting light pass into the room only through a small hole (ie. a pinhole). An image of the outside world will then be projected upside-down onto a wall in your room -- it should be dim (VERY dim), but visible to the naked eye, so it is essential that you can make this room very dark.

Build a Camera Obscura in a room. We suggest you use tinfoil to black out all light sources other than your pinhole. Remember the room has to be very dark and the hole (pinhole) very small. And the outside scene you are capturing should be very bright. [So don't wait until the due date, as that day is typically cloudy and overcast...]

Take a digital photograph of the scene outside the window (on the other side of the pinhole) that you are trying to capture (let's call it the "Scene").

Take a digital photograph of the image being projected onto your wall (let's call it the "Image") by using a very long exposure / nightsight / nightshot (for example, 15 seconds). Be sure to keep the digital camera still during the entire exposure time (use/borrow a tripod! or prop it on a table!). You are allowed to do some editing/enhancement to make this image viewable, but in that case specify what steps you took to make it better.

Borrowing a DSLR or other camera with configurable shutter speed may be necessary!

Take an image (or a series of images as appropriate) of the setup (room, etc), (call this the "Setup").

Part of your task is to experiment to get the best setup. It may involve attempting a variety of things in terms of how to control the light in the room. If your walls have dark paint, try holding up a white sheet of paper closer to the pinhole to reveal the image. If your room or digital camera absolutely won't work for this task, look for a different room and borrow a fancy digital camera from someone else.

What NOT TO DO!

A simplistic way to get a Pinhole Camera for those with a removable lens camera is to just make a small hole in a lens-cover and put that over the lens hole. This IS NOT ACCEPTABLE. We want you to physically be INSIDE your camera obscura so you can experience it for yourself!

Part 2: Assignment Deliverables

Upload to canvas a report in PDF format (named FirstName_LastName.pdf). The submitted PDF should have the "Scene" "Image" and "Setup" images with the answers to the questions listed below. As usual, please feel free to add more details.

1. What site did you choose for your camera obscura experiment?
2. Why was it (your site) appropriate? What did you have to do to make it appropriate?
3. Was the image visible to naked eye?
4. Who helped you with this assignment? In what way? (this will address the GT Honor code).

Note: This is an individual assignment, BUT if you share a room with another person in this course you may both use the same room. NOTE: You must EACH take your OWN scene/image/setup images and do your own writeup, but you may collaborate on blacking out the room / setting up a white screen and general prep of the setting, and you may share camera equipment as long as each of you individually captures your own images.

Grading Rubric

- Images
 - "Scene" – 10%
 - "Image" – 30% (Is the scene somewhat visible in the image?)
 - "Setup" – 20%
- Questions/Writeup
 - What site did you choose? – 10%
 - Why was it appropriate? What did you have to do to make it appropriate? – 30%