

# PHOTOGRAPHY FINAL EXAM STUDY GUIDE\*

## THE EVOLUTION OF IMAGE MAKING

### •lecture slides –1st semester •middle column line 36

1. What important discovery did four teenagers make at Lascaux, France in 1940?
2. Who wrote The Book of Optics, helped develop the scientific method and experimented with the camera obscura?
3. Which artist is usually identified as one of the inventors of photography?  
In 1900 George Eastman introduced a popular Kodak camera, which cost only a dollar and revolutionized photography by making it available to the masses. What was the name of that camera, which he marketed with the slogan “you press the button, we do the rest?”
4. The iPhone camera can be credited with bringing about the second revolution in photography, similar to the impact of George Eastman’s camera in 1900. What is the primary advantage of the iPhone camera, over more “traditional” digital cameras, that has resulted in this recent explosion of photography?

## THE CAMERA & EXPOSURE BASICS

### •lecture slides –1st semester •middle column line 7

There are a variety of camera types available to the photographer, such as the view camera, the single lens reflex, the twin lens reflex, rangefinder and mirrorless.

1. We are using DSLR cameras. Why are they called DSLR cameras, and what are their characteristics?
2. What are the three factors that determine the exposure triangle?
3. Why is the ISO setting on your camera used? (What does it do?)
4. Should you use a high or low ISO setting for bright light?
5. What type of light meter is in your camera?
6. What tonality does your meter give you an exposure readout for?
7. What type of scene/light is an overall meter reading good for?
8. What types of light/scenes are problematic for an overall meter reading?
9. What tonality does your meter expose for if you point it at a snowbank?
10. What tonality does your meter expose for if you point it at a black wall?
11. If you are in a tricky lighting situation, you can meter your \_\_\_\_\_ to get a correct light reading for your exposure.
12. What is the AV+/- button on the back of the digital camera called and what is it used for?

## CAMERA CONTROLS: EXPOSURE MODES

### •lecture slides –1st semester •middle column line 7 –start at slide #64

Be able to identify the icons and functions of the following exposure modes

1. “P” MODE -The camera picks both the \_\_\_\_\_ and \_\_\_\_\_
2. “A” MODE -You pick the \_\_\_\_\_ and the camera picks the \_\_\_\_\_
3. “TV” OR “S” MODE -You pick the \_\_\_\_\_ and the camera picks the \_\_\_\_\_
4. “M” MODE -You pick both the \_\_\_\_\_ and the \_\_\_\_\_
5. “PERSON” MODE = used for \_\_\_\_\_ & \_\_\_\_\_ depth of field
6. “MOUNTAIN” MODE = used for \_\_\_\_\_ & \_\_\_\_\_ depth of field
7. “FLOWER” MODE = used for \_\_\_\_\_ & \_\_\_\_\_ depth of field
8. “RUNNER” MODE = used for \_\_\_\_\_ shutter & \_\_\_\_\_ photos
8. “NIGHT” MODE = used for \_\_\_\_\_ shutter speed & \_\_\_\_\_
10. What is reciprocity when talking about exposure? (Hint: 1<sup>st</sup> semester, line13, shutter speed revisited videos)

## **CAMERA CONTROLS: THE SHUTTER**

### **•lecture slides –1st semester •middle column line 12**

1. What are the two camera controls that determine how much light strikes your film?
2. Which of those controls opens and closes like a curtain in the back of the camera and limits the length of time that light strikes your film?
3. What type of shutter is in your camera?
4. Does a fast shutter speed let more or less light hit your image sensor?
5. Does a slow shutter speed cause more or less blurring in your image?
6. What are the three types of shutter speed techniques used by photographers to convey a sense of motion in their images?
7. What are the characteristics of images shot using those three techniques? (How do you determine whether an image is shot with a “pan”, blur” or “freeze” shutter speed?)
8. To stop all motion in an image, do you use a fast or slow shutter speed?
9. What shutter technique uses a slow shutter speed while moving the camera at the same speed as a passing subject?
10. What shutter technique uses a slow shutter speed, but the background is focused, while the subject blurs through the image?
11. To avoid camera-shake when using a slow shutter speed, you should use a \_\_\_\_\_.
12. What are the four factors that determine how much blur is in your image?
13. To freeze all motion of a fast-moving subject, like a fast runner, what is the minimum shutter speed you should use?

## **CAMERA CONTROLS •THE LENS AND APERTURES & DEPTH OF FIELD**

### **•lecture slides –1st semester •middle column line 18**

1. What is the most obvious thing a camera lens does?
2. What are two terms that we use to describe the characteristics of a lens?  
What is the aperture?  
What is focal length?
3. What is the term used to describe the MEASUREMENT of the size of the hole in the lens?
4. There are numbers associated with whole f/stops on most camera lenses –be able to tell me which f/stop numbers represent a big opening and which represent a smaller opening...
5. Lenses range from \_\_\_\_\_ angle to \_\_\_\_\_
6. What is an advantage of a wide-angle lens?
7. What is a drawback of using a wide-angle lens?
8. What are the advantages/ disadvantages of using a telephoto lens?
9. What focal length is a “normal” lens on a 35mm full-frame camera?
10. What focal length is a “normal” lens on a “crop-sensor” DSLR camera?
11. What is the definition of “depth of field?”
12. What are the four factors that determine how much depth of field is in an image?
13. Which size opening in your lens gives you the most (deep-background in focus) depth of field?
14. Which size opening in your lens gives you the least (shallow-background out of focus) depth of field?
15. What happens to the depth of field when you get closer to the subject?

## **USING YOUR CAMERA’S FLASH**

### **•lecture slides –2nd semester •middle column line 14**

1. There was an evolution of using artificial light with photography, starting with \_\_\_\_\_, then flash \_\_\_\_\_ and finally \_\_\_\_\_.
2. Flash powder had many advantages over available light photography, one is that the bright flash allowed photographers to speed up the image making process and to shoot in locations that had been too \_\_\_\_\_.
3. Flash bulbs, which were invented & popularized in the 1930's, provided \_\_\_\_\_ with new opportunities for low-light shooting.

4. Images shot with flash bulbs had a particular “look” characterized by... a brightly lit \_\_\_\_\_ with hard shadows and dramatic “fall-off” of light around the edges of the frame, making the edges very dark.
5. What is the name of the 1930’s crime scene photographer whose gruesome photos of came to symbolize the “look” of powerful on camera direct flash?
6. The modern “Strobe” or “Flash” provides enormous advantages, or benefits, over previous flash bulb technology. One of the advantages of a strobe is that the light is...
7. The Instantaneous output of a strobe allows you to \_\_\_\_\_ virtually any activity
8. The modern “strobe” or “flash” also has disadvantages. One of those drawbacks is that strobe's burst of light is so \_\_\_\_\_ that it is impossible to tell what the lighting looks like.
9. The strobes in our studio are equipped with a \_\_\_\_\_ light to help you see what your lighting will look like.
10. Direct on-camera flash can be really ugly looking, similar to the light created by flash bulbs. It is also characterized by hard \_\_\_\_\_ light and hard background \_\_\_\_\_.
11. The flash and shutter are "synchronized " via an electrical connection called the flash synchronization, or flash “sync” speed. When shooting with your flash you can use a shutter speed that equals your camera’s sync speed or \_\_\_\_\_.
12. Shooting \_\_\_\_\_ than your flash synch speed will result in a portion of the image becoming black.
13. You have a choice about when the flash fires during your exposure. Most cameras are set to fire the flash at the \_\_\_\_\_ of your exposure, this is known as \_\_\_\_\_ curtain sync.
14. Some cameras allow you to change that setting, so that your flash fires at the \_\_\_\_\_ of the exposure. This is called \_\_\_\_\_ curtain sync.
15. You can use your camera's pop up flash outside in a brightly lit area to lighten shadows on your subject. This technique is called \_\_\_\_\_

## **THEORIES OF SEEING**

### **•lecture slides –2nd semester •middle column line 21 (panorama lecture slides)**

1. How is it that we can recall some images and not others? Part of the answer is that the brain responds to four main attributes in everything we see. What are those four attributes mentioned in the “theories of seeing” presentation?
2. How do we ascribe meaning to things we see? Visual attributes are not the only factors that determine whether images have impact. Humans attach meaning to objects based on psychology to. A variety of theories have been used to describe the psychological factors involved in understanding what we see. Can you name the theories we discussed in class?
3. Gestalt Theory: developed by Max Wertheimer, and others, in Germany in 1920’s, gets its name from the word “Gestalt” –German, meaning “form or shape.” Answer the questions below based on the summary of this theory. The \_\_\_\_\_ merely takes in the visual stimuli, it’s the \_\_\_\_\_ that arranges the visual stimuli into a coherent image.
4. Wertheimer’s ideas about the way we interpret the world led to the famous observation: “The whole is different than the sum of its parts.”
5. Semiotics -the study of signs, is another theory of visual cognition. We briefly described the characteristic of three types of signs: iconic, indexical and symbolic signs. Which of those three signs is the easiest to interpret?
6. Which of these signs is learned, but the meaning we give them is greatly influenced by social and cultural factors?
  - a. Symbolic signs
  - b. Iconic signs
  - c. Indexical signs
7. Which of these signs is learned through life experiences, like footprints in the sand, and takes a little longer to interpret?
  - a. Symbolic signs
  - b. Iconic signs
  - c. Indexical signs
8. What is the cognitive theory of perception?

9. The “blind spot” is not a theory of perception, but a physiological factor that offers insight into the “reality” of our perception. “The blind spot in our vision is caused by the connection of the \_\_\_\_\_ to the \_\_\_\_\_ nerve.”

10. If blind spots overlap, or if you are looking through one eye, the blank spot that is missing in our vision gets filled in... so on some occasions, a portion of the “reality” we see is actually created by our...

### **LIGHT AND COLOR THEORY**

#### **•lecture slides –2nd semester •middle column line 10 (color lecture slides)**

1. The ancient Egyptians thought that light was the gaze of \_\_\_\_\_, the god of the sun, illuminating the earth with his sight.

2. Later, the ancient Greeks thought that the light that illuminated our sight was created by rays, or beams of light emitted by the \_\_\_\_\_.

3. Alhazen, an Arab physicist, (born in Basra, Iraq, lived 965-1,040) promoted the theory that light came from an \_\_\_\_\_ source, like the sun.

4. Our current understanding of light comes from physicist James Maxwell. In the 19th century, he discovered that the forces of light, electricity and magnetism were all the same. The spectrum of energy described by Maxwell ranges from short wavelength energy, (such as cosmic rays, gamma rays, x-rays, uv rays), to long wavelength energy (infrared rays microwave & radio waves) and are all manifestations of the... \_\_\_\_\_.

5. Our eyes are sensitive to a small portion of the spectrum of energy described above. This small portion of energy includes all colors of the rainbow and is known as the \_\_\_\_\_.

6. Sir Isaac Newton studied the nature of color and light when he was 23 years old (the year 1666). Experimenting with prisms, he bent sunlight & transformed it into 7 colors: red, orange, yellow, green, blue, indigo and violet. During these experiments, he discovered that white light is the \_\_\_\_\_ of all colors of light.

7. During Newton’s experiments with light, he also discovered that black is the \_\_\_\_\_ of light.

8. One factor that determines the color is the type of light striking your subject. The color of light can range from “warm” to “cool” to “other” and is known in scientific terms as “\_\_\_\_\_”

9. A second factor that determines the color of an object is.

10. If an object reflects all colors of the spectrum equally, then the object appears \_\_\_\_\_.

11. If an object absorbs all the colors of the spectrum, and reflects none, the object will appear \_\_\_\_\_.

12. If an object absorbs some colors of the spectrum, and reflects a particular color, the object will appear \_\_\_\_\_.

13. Mixing the three primary colors of PIGMENT (cyan, yellow & magenta) to create black is known as \_\_\_\_\_.

14. Evenly mixing the three primary colors of LIGHT, (red, green & blue) to produce white light is known as \_\_\_\_\_.

15. To summarize, the TWO factors that determine the color of an object are \_\_\_\_\_ and \_\_\_\_\_.

### **VISUAL LITERACY**

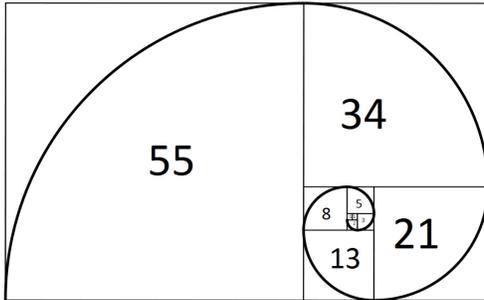
#### **•lecture slides –1st semester •middle column line 2 –visual literacy lecture**

1. Photographers often describe about the “quality” of light. This does not refer to “good” or “bad” light, but refers to the amount of diffusion affecting the light. With that in mind, does a cloudy day produce hard or soft light?

2. When shooting with UNDIFFUSED direct light, like the sun on a bright day are the shadows hard or soft?

3. Photographers' compositions are sometimes based on the techniques used by painters of the 19th century. This compositional theory, which divides the image into horizontal and vertical thirds with the important subject areas placed at the intersections of these thirds is known as the \_\_\_\_\_ of \_\_\_\_\_.

4. True or False: According to the “Rule of Thirds” video we watched, one of the goals in photography and cinematography is about identifying the subject of your image and using composition to draw attention to that subject.
5. According to the “Composition” reading, lectures and critiques, when trying to compose an image that is not static, where should you place the horizon line when composing your photo?
6. What are the four components of composition mentioned in the “Basics of Composition” videos (Beginning Photo 1<sup>st</sup> Semester Assignments Page, Line 34)
7. What is the term for a ratio, or sequence, named after a 13<sup>th</sup> century Italian mathematician, that appears throughout the natural world, architecture, art and design that is esthetically pleasing to the eye and is the basis for rule of thirds compositions?



8. Throughout the year you have been developing techniques for making compelling images. But perhaps more important is the energy or feeling your subject brings to the image. This elusive component is commonly referred to as a...

9. (Multiple questions) To evaluate the progress of your “visual literacy,” images will be embedded into the test, and I will ask you to identify the lighting, shutter speed, depth of field and compositional techniques used by the visual storyteller.

Identifications will include:

- Images photographed using various types of shutter speeds.
- Images photographed using various types of depth of field.
- The various types of lighting angles we’ve discussed in class and their characteristics. (Be able to identify the characteristics of front, side, back, 3/4, bottom & top light).
- I will ask you to identify the design/composition principles used in images to create more compelling compositions? (such as use of line, repetition of shape, unusual perspective, spot of color, use of negative space, sub framing...)