

COM 1215 – Photography - Exposure

Assignment #1

Ask your teacher for the “Photography – Exposure” booklet. Using this booklet, answer the questions below to begin learning the basic parts and functions of a camera. This is a lengthy assignment, but it will give you the basic foundational knowledge you need to take great photos.

Total Marks: /120

Part A – Aperture

/15

- 1) The aperture is an _____ through which light travels.
- 2) As the size of the aperture changes, the _____ passing through the lens to the film or sensor is affected.
- 3) The aperture settings of your lens affect two things: _____ and _____.
- 4) Each aperture size is called an _____ in photography.
- 5) What is the lowest commonly used aperture size? _____
- 6) What is the highest commonly used aperture size? _____
- 7) At smaller _____ ie. F2 or f2.8, the opening is _____ which allows more light to pass through the lens to strike the film or sensor. At higher settings, ie. F16 or f22, the opening is _____ which allows _____ light to pass through.
- 8) Moving one full f-stop up from the current setting will _____ the light passing through the lens by _____.

- 9) Look at the 3 example pictures of hay bales and sky on the following pages. On each photo, the f-stop increases by one exposure value. What does this mean for the brightness of each photo?

- 10) Now that you have a basic understanding of how aperture settings control light, think about the following scenario. If you took a photo at f/22, and then took another photo at f/11 and changed no other settings, how much more light would you be allowing through the lens? *hint* See Example 2 in the booklet.

Part B – Depth of Field

/9

- 1) The depth of field is the portion or amount of the image that _____
_____.
- 2) The aperture is used to control the _____ of depth of field recorded to the film or sensor.
- 3) The smaller f-stops (eg, f2.8 or f4) offer the photographer the ability to show _____ depth of field or a _____ amount of focus before and after the subject.
- 4) The larger f-stops (eg. f11 or f16) offer the photographer the ability to show _____ depth of field or _____ amount of focus before and after the subject.
- 5) Look at the 3 depth of field example pictures of the book page. Which image has the most text in focus? Why is this?

Part C – The Relationship Between Aperture and Shutter /24

- 1) For every aperture choice you make there will need to be a corresponding shutter speed. These combinations are always changing due to a variety of reasons. List the three reasons identified in the booklet.
 - a.
 - b.
 - c.
- 2) While taking photos, it is very important to remember that you will have to _____ when you select a new aperture.
- 3) These components work together to determine the _____ in the image.
- 4) If the aperture is smaller, the shutter needs to remain open _____ to capture the same amount of light.
- 5) Identify the example in the booklet of when you would set your aperture first.

- 6) Identify the example in the booklet of when you would set your shutter speed first.

- 7) Aperture settings in a range of _____ to _____ will generally result in a shallow depth of field.
- 8) When would you choose to use a shallow depth of field?

- 9) Aperture settings in a range of _____ to _____ will generally result in a medium depth of field.

10) To obtain maximum sharpness throughout the image, choose apertures of _____ or higher.

11) Look at the examples of photos using a small f-stop. What do you notice about them? What part of the photo is in focus?

12) Look at the examples of photos using a medium f-stop. What is different about the focus of these photos compared to those taken with a small f-stop?

13) Finally, look at the examples of a large f-stop. What parts of the photo are in focus?

14) There is one more factor identified in the booklet that determines how aperture can affect the sharpness of an image. What is this factor?

15) List the proper aperture speed identified in the booklet for each of the following types of photo.

- a. Portraits –
- b. Sports –
- c. Individual subjects –
- d. Scenic –
- e. Larger group shots –

16) Aperture Priority setting allows you to select the _____ and the camera will automatically choose a corresponding shutter speed to give you the correct exposure.

Part D – The Shutter

/27

- 1) The shutter, like the aperture, is a part of the camera that controls the _____ passing through the lens.
- 2) The shutter settings on your camera affect two things: _____ and _____.
- 3) The shutter in your camera is a _____ that acts like a curtain – opening and closing to control when and for how long light is allowed to pass through the lens.
- 4) This, combined with the _____ in your lens, determines the exposure of your image.
- 5) Shutter speeds of _____ or _____ would be considered as faster shutter speeds. Speeds of _____ or _____ would be considered slower shutter speeds.
- 6) Slower shutter speeds mean that the shutter will _____ which allows _____ light to pass through the aperture to strike the film or sensor.
- 7) These shutter speeds can be changed, and moving one full shutter speed number to another allows either _____ or _____ the amount of light through.
- 8) Look at the three example pictures of wheat stalks. Each one was taken at the same f-stop with only the shutter speed changed. What happens when the shutter speed gets longer? Why does this happen?

- 9) Adjusting the shutter settings will affect the appearance of _____
within your image.
- 10) Photographers use shutter speed to control the _____
captured in an image.
- 11) The faster shutter speeds (ie. 1/500th or 1/1000th) offer the ability to _____
more subject motion/movement. The longer shutter speeds (ie. 1/30th or 1/2)
offer the photographer the ability to _____ more subject
motion/movement.
- 12) Look at the example photos of the fan on the following page. Why do the
slower shutter speeds look more out of focus than the higher shutter speeds?

- 13) Setting shutter speed first is often done at sporting events or when you want
to freeze motion. What does the booklet identify as one other situation
where you would choose to set your shutter speed first?

- 14) The shutter speed choices available to the photographer will usually become
the photographer's first technical _____ when shooting
_____ subjects and/or in _____ situations.
- 17) Shutter Priority setting allows you to select the _____
and the camera will automatically choose a corresponding aperture to
give you the correct exposure.
- 15) Please keep in mind that the ability to show or to stop motion is dependent
on the _____ as well as the motion of the subject as well as
your film/sensor _____.

- 1) ISO stands for “_____.”
- 2) The ISO setting indicates the film or digital sensor’s _____.
- 3) Smaller ISO settings (example 50 ISO, 100 ISO, 200 ISO), require a _____ amount of light to strike the film/sensor for correct exposure.
- 4) Since higher ISO settings (400, 800, 1600 ISO) require less light to obtain the same exposure, why wouldn’t the photographer always use higher ISO numbers? In order to make film more sensitive to light, the light sensitive granules on the film must be _____. These granules can be visible in your photograph and are called _____.
- 5) In order to make a digital sensor more sensitive to light, the signal received by the sensor needs to be _____. When this becomes visible in your photograph, this is called _____.
- 6) There is always a tradeoff between an ISO that will _____ grain or noise visible, allowing for better _____ in the image, and optimizing the _____ available for correct exposure.
- 7) _____ ISO is the “normal” film of choice. This film speed offers very good grain/noise structure and _____ light capturing capabilities for general shooting situations.
- 8) ISO settings work similar to aperture and shutter speed settings. A sensor or film ISO of 200 requires only _____ the amount of light that would be required if you were using 100 ISO to achieve the same exposure.

9) Each of the three main controls on a camera control a different compositional component:

- a. Aperture = _____
- b. Shutter = _____
- c. ISO = _____
- d. All three control the outcome of the _____.

10) Compare the example images of the leaf at ISO 100 and ISO 400. Why does the ISO 400 image look different?

Part F – Light Meters

/14

1) The light meter is used to show you if your image will be properly exposed.

By ensuring the needle or indicator is _____ between the + and – signs you will achieve correct exposure of your images.

2) Manual settings allow you to select the _____ and the _____ for compositional/exposure control appropriate to the situation.

3) When using manual exposure controls, no _____ functions are accessible. You are responsible for all of the decisions necessary to obtain a proper image. You must decide on a _____ and an _____ selection.

4) What does it mean if your in-camera light meter shows a negative number?

5) How does the in-camera light meter tell you when an image will be properly exposed?

6) Look at the example of an underexposed image on the next page. What makes it look worse than the correctly exposed image?

7) Now look at the overexposed image. What makes it look worse than the correctly exposed image?

8) When photographing in a semi-automatic mode (Aperture Priority or Shutter Priority) the camera will try to obtain _____ for you all the time.

9) However, there will be times when the camera will not record the scene the way you want or the camera will record the exposure incorrectly. If this occurs, most camera offer an _____ setting.

10) This will allow the photographer to override the meter's suggestion and either _____ or _____ the suggested exposure in order to get the desired result.

Part F – Portfolio and Image Critiquing

/13

1) In your portfolio, with each image you should discuss:

a. _____

b. _____

c. _____

2) Analyzing and critiquing yours and other photographer's images is a great way to _____ your photographic skill and vision.

3) List the 7 points of consideration identified in the booklet.

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

4) Come up with 2 additional points of consideration when critiquing a photo.

a. _____

b. _____