

Introduction To Photography

DIGITAL

Student Learning Guide



Introduction To Photography

STUDENT LEARNING GUIDE 6-2810-2

COURSE COM: 1005, 1205, 1215, 2205 (Visual Composition, Photography-Intro, Photography-Exposure, Photography-Composition)

1. INTRODUCTION:

This course consists of three CTS Communication Technology courses. This is an introductory course, so no experience is necessary. You will learn the difference between a snap shot and a photograph. We will cover basic Black and White photography including care and handling of a digital camera, cleaning, composition, exposure, and basic image manipulation. You will spend the first 3-4 weeks in theory and practice, after which time you will have the opportunity to take photographs and work on the computers. You will be expected to create a portfolio containing 20-28 photographs/assignments. You should have access to a good quality digital camera. *Be prepared to spend some time at home taking photographs in addition to some time during noon hour or after working on the computers (this is in place of homework).* You will be required to keep a record of each photograph--as you take it--on your Photo Log Sheet (not an option). You will also be required to submit photographs for a weekly critique.

2. ENTRY-LEVEL COMPETENCIES: What you need to know and be able to do to be successful in this course.

No prerequisites are required. You must be able to work independently and be responsible for your time and your actions. You should be willing to spend time at home taking photographs and some time at noon working on the computer. You will be expected to respect other students in the class as well as the facilities and equipment.

3. EXIT-LEVEL COMPETENCIES: To earn 3 credits in this course you must:

- Develop a portfolio consisting of the following;
 - 20-28 photographs from the assignment sheet (All 28 assignments is recommended.)
 - The photographs must be mounted with a title, the name of the assignment, information from your log sheet, etc. Use the elements of Design when designing your portfolio.
- Present your photographs for critiquing

4. ASSESSMENT/EVALUATION:

Your mark for this course will be calculated from the assignments as indicated on your Marking Criteria Sheet, from your critiquing sessions, and from tests and quizzes. Each photo handed in on time will receive a bonus mark on your Marking Criteria Sheet. You cannot "catch-up" on bonus marks by handing in more photos. Photos may be re-submitted and re-critiqued by the group but will not receive additional bonus marks.

5. ASSIGNMENTS:

You will be required to take and submit a minimum of 20-28 photographs/assignments from the Assignment Handout for this course (it is recommended that you submit all 28 assignments.) These photos must be mounted in your portfolio as described on your Marking Criteria Sheet and Portfolio Requirement Sheet. See accompanying Assignment Sheet and Marking Criteria Sheet.

COURSE OUTLINE

(Visual Composition, Photography-Intro, Photography-Exposure) COURSE COM: 1005, 1205, and 1215

1. INTRODUCTION (2)

- a) Overview of cluster/course
- b) Rules and policies/discipline
- c) Responsibilities and requirement
- d) Fees
- e) Grades/assignments
- f) History of photography
- g) Careers
- h) Identification of parts intro

2. CAMERA THEORY (1)

- a) Identification of parts con't
- b) SLR vs. Rangefinder
- c) Focusing
 - ◆ split image
 - ◆ ground glass
 - ◆ microprism
 - ◆ coincidence
- d) Holding

3. EXPOSURE CONTROLS (3)

- a) Shutter speed
 - ◆ action shots
 - ◆ freeze-blurred-panned
- b) Aperture
 - ◆ f/stop (Av)
 - ◆ depth of field
- c) Bracketing

4. COMPOSITION/DESIGN (3)

- a) Snapshot vs. photograph
- b) Elements of composition
 - ◆ line
 - 5 purposes
 - 4 types
 - ◆ texture
 - definition
 - purpose
 - lighting
 - ◆ shape
 - definition
 - purpose
 - harmony
 - ◆ negative space (white space)
 - visual harmony
 - visual tension
 - color

- ◆ position
 - effect
 - weighting
 - top
 - centre
 - bottom
 - side
 - placement (9 zone grid)
 - golden triangles

- ◆ emphasis
 - one theme
 - get in close
 - eliminate distractions

- ◆ dynamics
 - definition
 - lines
 - geometric shapes
 - subject's vision

- ◆ balance
 - formal
 - informal

- ◆ point of view
 - definition
 - swallow and wallow

- c) Landscapes
 - ◆ horizon
 - ◆ 1/3 2/3 rule

5. IMAGE BASICS (1)

- a) ISO Speeds
- b) Care/cleaning of your camera
- c) Manipulating images, etc

6. ASSIGNMENTS (1)

- a) Rules for taking photographs
- b) Logsheets
- c) Assignment description and requirements

7. BASIC IMAGE MANIPULATION (2)

- a) manipulating images on the computer
- b) preparing images for critique

8. ADVANCED (When needed)

- a) spot burning
- b) dodging
- c) quick mask
- d) Vignetting

HISTORY HANDOUT AND ASSIGNMENT

The history of photography is long and often vague. Due to the complexity of the development of photography, its invention and success cannot be attributed to one specific individual. Certain aspects of photography have been around for about 1500 years. However, one thing is for certain, long before there was ever a "photograph" made with film and photographic paper, pictures were being made with cameras. These pictures were not like the pictures or photographs that we have today, but rather, were images that were traced onto paper after being inverted. The camera used was called a camera obscura.

This rudimentary camera was described by Leonardo da Vinci in the 15th century and later by Girolamo Cardano in 1550 who added a convex lens to improve the image. The camera obscura was simply a box or a room that was fitted with a lens. The subject would be placed outside the box or room. The subject's image would then be projected through the lens to the back of the box or the back wall of the room. The inverted, projected image—although not very clear-- could then be traced by artists and later painted or colored to produce a picture.

The beginning of the photograph as we know it began in the seventeen hundreds when Scheele—a Swedish chemist—repeated some previous experiments of Johann Scholze who discovered that silver chloride reacted with light. Both Johann Schulze and Carl Scheele didn't realize the importance of their discoveries and, consequently, never utilized them.

However, sometime between 1800 and 1802 Thomas Wedgwood was able to obtain an image using the same ideas as Schulze and Scheele. His glory was short lived when he was unable to fix the image and make it permanent, thus losing out to Frenchman Joseph Niepce in 1826.

Niepce used a form of asphalt and oil that was hardened by exposure to light. This process was slow (8 hour exposure time), and produced a blurred image of Niepce's barnyard. Nevertheless, it was a permanent image, and although fuzzy, Niepce had produced the world's first photograph. Niepce's glory was also short lived when another

Frenchman—Louse Daguerre—made what was known as a Daguerreotype.

Daguerre had worked with Niepce until Niepce's death in 1833. Daguerre worked with the earlier discoveries using silver and its compounds to produce an image. In 1835 the Daguerreotype was developed. The Daguerreotype had an exposure time of 15-30 minutes, which was later reduced to only 30 seconds with the improvement of the lens. The new lens allowed for more light to enter the camera. This print was a reversed image, which had to be viewed in a reflected light. The metal plate was actually a negative, but if held so that the unexposed portion of the photo reflected a dark color, the image would appear positive.

Daguerre had developed the first practical photograph. Practical—and yet not practical. The problem with the Daguerreotype was that the image could not be reproduced. The daguerreotype was a reverse image on a polished metal plate. If a duplicate was desired, another photograph had to be taken.

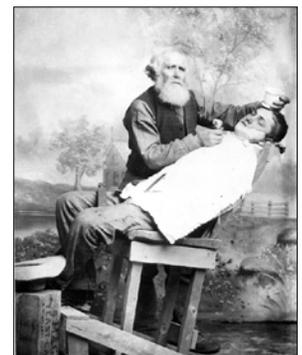


PORTRAIT OF LIBBIE WHITELOCK
BY GEORGE ED ANDERSON

William Fox Talbot, an Englishman, developed the process of making a photograph or a duplicate of that photograph from a negative around 1835. Talbot's process produced a paper negative from which numerous prints called Calotypes could be made. However, the advantage of multiple copies was outweighed by the fact that the Calotype photographs were not as clear as a Daguerreotype due to the paper negative.

When the Collodian process (referred to earlier as an Ambrotype or Daguerreotype on glass) was introduced in the early 1850's by Robert Bingham—an Englishman—the Calotype photograph lost out.

The Calotype lost out because the new Collodian process produced clear images like the Daguerreotype, and could produce multiple copies due to the glass



PORTRAIT BY GEORGE ED ANDERSON

negative. The Collodian Process needed only a 5-second exposure and produced a glass negative that could be reused to produce numerous positive photographs.

During the next 50 years numerous individuals attempted to modify and improve the Collodian process. Many met with failure, some with success. In 1878 Charles Bennett discovered that by heating the emulsion on the negative the sensitivity to light was increased, reducing the time needed for an exposure, thus making hand-held exposures possible for the first time.

The progress continued when in 1887 flexible film was introduced by Hannibal Goodwin--an American. Since 1887 the improvements to film have continued. In 1954 the first high speed black and white film, Tri-X was introduced. In 1987 T-Max as well as other new high quality films were also introduced to the market. Research and Development departments of all major film producers are continually attempting to improve film and to make it faster, finer grained, and higher contrast. In conjunction with the introduction and development of flexible film the introduction and development of today's 35mm camera began.

The development of the modern camera began in the 1890's when George Eastman introduced the Kodak camera. This camera was simply a box with a lens and enough film to take 100 photographs. When the film was exposed the camera was returned to the manufacturer who would develop and print the photographs, re-load the camera and return it to the owner.

In 1924 35mm photography was born when Dr. Leitz introduced the Leica camera, the first 35mm camera. Since the introduction of the Leica, 35mm cameras have continued to gain popularity up to the present day. The 35mm format is the most popular choice for both amateur and professional photographers alike. Since the introduction of the Leica, basic camera designs or looks haven't changed significantly, but, technology and electronic features continue to simplify and refine the 35mm format. The first Leica camera didn't have a Rangefinder, but this feature was soon added to succeeding models. As competition for sales of 35mm camera grew, so did the features on the cameras. The most significant change to the 35mm Camera during the 15 years following the introduction of the Leica was the development of the S.L.R. or Single Lens Reflex camera in the late 1930's.

The SLR feature allowed the photographer to look directly through the lens. The SLR feature was first found on the Exakta camera. The Exakta camera was the only camera that used this new feature for many years because most thought that the SLR design was just a passing fad that would never replace the rangefinder design. However, during the 1950's and the 1960's SLR cameras began to gain popularity and soon became the standard in the industry. Over the next 20 years the design of 35mm cameras remained virtually unchanged with the exception of more electronic features, outer designs, and the introduction of computer technology.

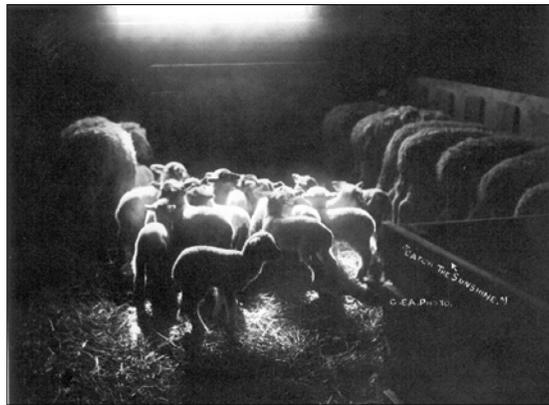
In the late 1980's and early 1990's the digital camera was introduced to the mass market.

The digital camera makes digital images of a photograph rather than storing the images on film. This allowed the images to be down loaded into a computer and manipulated with various software packages. At this stage there are basically 2 levels of

digital cameras. The first or consumer level takes relatively good quality photographs for the price of the equipment (\$400 - \$1,500). The upper end cameras, however, are able to reproduce excellent images and are used by larger companies and newspapers. These cameras and their accessories can cost over \$20,000 and are thus out of range for the average photographer. Over the next few years as technology continues to improve, the quality of the lower end digital camera will no doubtably improve. The only other major change to 35mm photography came in 1995/96 when most major photographic companies combined their resources and came up with the new Advanced Photo System (APS).

APS utilizes a new camera, film format and canister. This system allows the photographer to take regular or elongated photos from the same camera and film. When the film is developed it is stored in the original container--thus eliminating scratches, etc. on the negatives--and the consumer is given a proof sheet of all the photos on the roll of film. The two major disadvantages of this format are that the film is slightly smaller than that of a regular 35mm SLR camera. Thus the negatives are smaller resulting in poorer enlargements. The other disadvantage is that the film can only be processed in a specialized facility impacting those amateur photographers or hobbyists that currently use their own darkrooms for regular 35mm photography.

See page 7 for your assignment.



"CATCH THE SUNSHINE" BY GEORGE ED ANDERSON

After reading the History of Photography Handout, complete the following time-line using **one or two sentences** describing or listing important dates, names, information and developments.

TIME-LINE

1. NIEPCE

2. DAGUERREOTYPE

3. CALOTYPE

4. COLLODIAN

5. FLEXIBLE FILM

6. TRI-X

7. KODAK

8. LEICA

9. EXAKTA

10. DIGITAL

11. APS

BASIC CAMERA IDENTIFICATION

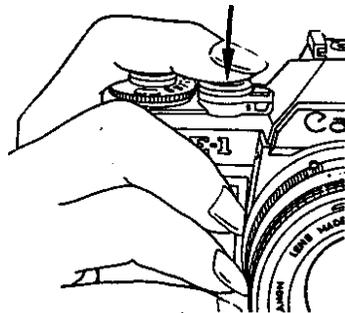
Whether you're using a digital rangefinder or you need to know and understand what the basic individual components and features of a camera are. While reading the following information you need to look at your camera and identify the location of each feature on your camera. Virtually all high-end digital cameras will have most of the following features. They may be knobs, buttons, etc., or they may be electronic, shown only by a display when the menu button is depressed. Features unique to an individual camera cannot be shown here. Consequently, you should take the time, look at your owner's manual from your camera, and learn the features and functions specific to it.

1. VIEWFINDER

The viewfinder is basically the opening or window that you look through to view the subject or subjects of your photo. In simple terms, what you see is what you get! Although most viewfinders tend to show less than what you'll actually get, a good rule to remember is that if it's not visible through the viewfinder, chances are it won't show up on the photo. Viewfinders on S.L.R. cameras also include some type of focusing aid and generally have scales on the side or bottom displaying information such as the aperture setting of the lens or the camera's shutter speed.

2. SHUTTER RELEASE BUTTON

The shutter release button is found on the top right hand side of the camera and is the mechanism that—when depressed—actuates the shutter. The shutter release button should always be depressed gently and slowly to avoid camera shake. Never jab or poke the shutter button. Today's electronic cameras, including digital cameras, have a two-step Shutter Release button. Press it halfway to turn on the camera's meter and to get a meter reading in the viewfinder, and to focus the camera if it has an automatic focus. After the camera has made its

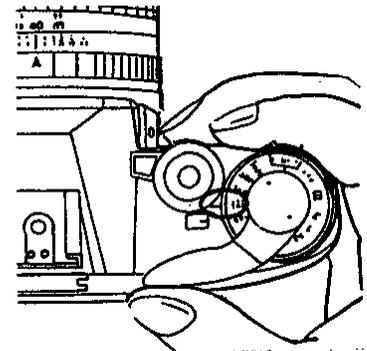


adjustments continue to depress the shutter release button until the photograph is taken. If the shutter is not actuated when the shutter release button is depressed, do not force it or jab it. You have probably run out of storage room on your memory card (or the camera is turned off). Digital cameras will typically turn off after 30 seconds if they are not being used. This is to prevent battery drain.

3. SHUTTER SPEED

The shutter speed is one of two parts of exposure. The shutter speed determines how long the shutter will remain open. The shutter speed dial or control could be located anywhere

on a digital camera. (Low-end digital cameras won't have a shutter speed control).



The numbers on the shutter speed indicate the speed at which the shutter will open and close. The higher the number, the faster the shutter speed. For instance, a setting of "60" means that the shutter will remain open for 1/60 of a second. Consequently a setting of "4000" will allow the shutter to remain open for only 1/4000 of a second. When trying to locate your shutter speed scale look for numbers in the following range: 1...60...250...1000...4000. In addition, there may be the letter "B." "B" stands for bulb and simply means that the shutter will remain open as long as the Shutter Release Button is depressed/activated.

4. APERTURE VALUE/SCALE

Just as most upper end digital cameras have some control over the Shutter speed, most will also have control over the aperture value. Aperture refers to the size of the lens opening. The Aperture Value (Av) numbers are referred to as f/stops. Cameras/lens could have an aperture range from around 1.8 as a low to a high of 32 to 64. The higher the Aperture Value or f/stop (I.e. 22) the smaller the lens opening (aperture).

5. **ISO SCALE**

If your first thought were that this feature isn't found on digital cameras because they don't have film, you'd be wrong. Most digital cameras have this feature allowing you to shoot photos in a variety of lighting conditions, etc. So what is ISO? ISO is an abbreviation for International Standards Organization. ISO refers to the sensor's sensitivity to light. The higher the ISO speed, the less light it needs for exposure. An ISO setting of 400 can easily be used indoors in a well-lit room. However, an ISO setting of 100 would produce under-exposed photographs unless assisted by a flash. Setting the ISO is critical for getting the correct exposure. Generally speaking, on lower-end cameras use a lower ISO with a large format image. This will be discussed later; however, the purpose of this rule is to reduce the noise in your image.

6. **FOCUSING RING AND DISTANCE SCALE (SLR)**

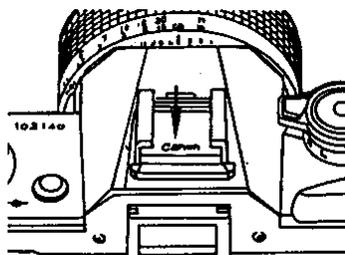
The distance scale is marked near the focusing ring. Consequently, as you rotate the focusing ring the distance scale also rotates. The distance scale has distances marked on it in feet (ft) and meters (m) and indicates how far the focal point is from the camera. You may never use the distance scale since the majority of all your focusing will be done by adjusting the focusing ring until the image is in focus. However, there may be the odd time when you cannot look through the view finder or the object in your photograph is moving too fast and you'll have to estimate the distance and set the focusing ring by using the numbers on the distance scale.

7. **FRAME INDICATOR /SHOTS REMAINING**

Digital cameras will display the number of images you can store with the available memory. This number changes as you change the image size or resolution of the images. If you want to store more images than you currently can, it is as simple as purchasing a larger memory card.

8. **HOT SHOE**

The Hot Shoe is a slot at the top of the camera, which allows a flash to be mounted onto the camera for night shots or flash assisted shots.



The hot shoe establishes a connection between the camera and the flash, which enables the two to work as one. When using a dedicated flash, that is, a flash that is made for a specific brand of camera, the hot shoe enables the flash to set the camera at the proper aperture setting to get the best possible picture in the existing light conditions. Be sure when using the hot shoe that the flash is tightened securely to the camera to prevent the flash from falling.

9. **SELF-TIMER**

The self-timer has two basic purposes. The first purpose of the self-timer is to allow the individual taking the picture to be in the picture. If you were taking the photograph you would set the camera on a tripod, make all the necessary adjustment and then actuate the self-timer. Most cameras give you about 10 seconds to position yourself in front of the camera before the shutter is released and the photo taken. The secondary purpose of the self-timer is to allow you to reduce the possibility of camera movement by setting the camera on a tripod, table, rock, etc., and then actuating the self-timer. This is especially important when you don't have a remote and you're taking a time exposure photograph or using a large telephoto lens.

10. **MENU**

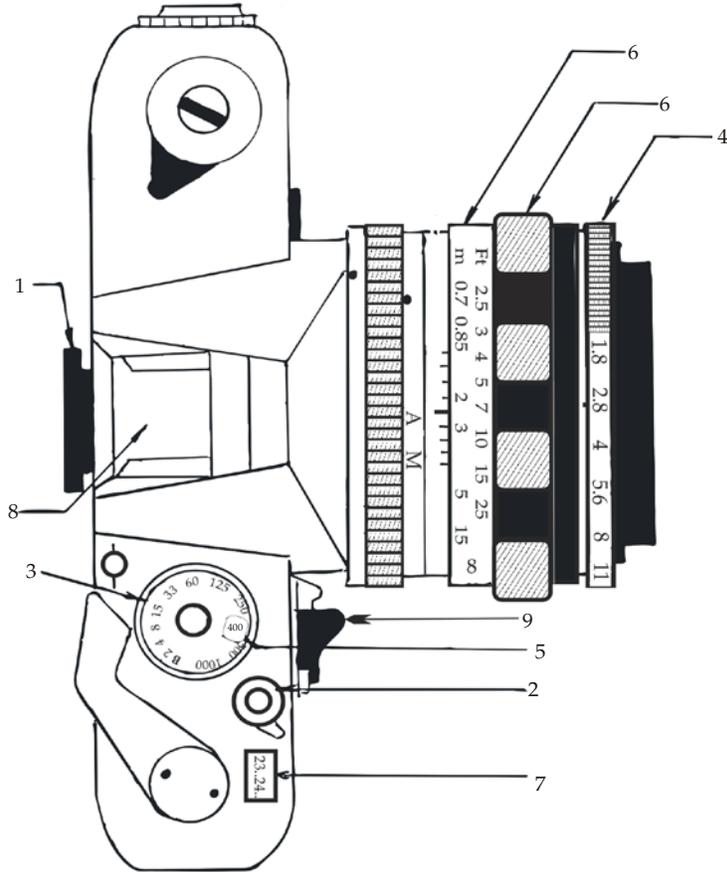
The menu button on your digital camera is where a large portion of the previous features may be located. A good digital camera will have a menu that is easy to understand and simple to use. There shouldn't be a myriad of layers and sub-menus. When looking at the menu you will typically have a minimum of three sub-menus: the Shooting menu, the Playback menu, and the Tools menu. The shooting menu is used when taking photographs and is typically represented by a small camera. This menu allows you to change your resolution and format, turn off your digital zoom, etc. The Playback menu is usually represented by a small "play sign" or triangle. This menu will contain settings for review time, etc. The third and usually final menu is the Tools menu. This menu is most often represented by miniature tools and contains the general features of your camera such as the language, date, LCD brightness, file numbering, sensor cleaning, etc.

IDENTIFY THE CAMERA PARTS FROM THE PREVIOUS NOTES

YOU SHOULD STUDY THE PREVIOUS INFORMATION REGARDING CAMERA IDENTIFICATION, LOCATE THE FEATURES ON YOUR OWN CAMERA AND THEN FILL OUT THE DIAGRAM BELOW.

THERE WILL BE A QUIZ ON CAMERA ID.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.



HOLDING A CAMERA AND FOCUSING

HOLDING A CAMERA

The truth of the matter is; there's not ONE right way to hold a camera. However, there are ways that are better than other ways. Consequently, you should try the following. To begin with, if you are using a shutter speed of less than 1/60th of a second without an image stabilizer it is strongly recommended that you use a tripod. Hand held photographs taken with a shutter speed of less than 1/60th of a second would tend to be blurred. To avoid this, use a tripod and a remote whenever you are taking shots with a shutter speed less than 60. If a tripod is not available, you can rest the camera on a solid object such as a rock, table, etc. (Do not rest the camera on an idling vehicle.) If a remote is not available, then use the self-timer on the camera. When taking a photograph you should stand with your feet shoulder width apart, and with one foot

slightly ahead of the other. Hold the camera in your left hand supporting both the camera body and the lens. The camera should rest in the palm of your hand with your thumb and forefinger holding the lens and your elbows in. This enables you to focus and then depress the shutter release button with your right hand. Elbows should be in with the camera resting against the cheek or forehead. Before taking the photograph relax and hold the camera steady. Experiment looking through the viewfinder with each of your eyes while keeping the other eye open until you find the best way for you. Typically you'll find that if you can look through the viewfinder with your dominant eye, you'll be able to keep the other eye open instead of squinting it shut. This will reduce fatigue and shaking.

PRACTICE HOLDING THE CAMERA AND FOCUSING IT.

FOCUSING

There are basically four different types of focusing. Cameras are typically of three types: an auto focus camera; a camera that uses coincidence either by itself or with ground glass; or a camera that uses a split image in the centre of the viewfinder, often

surrounded by a ring of microprisms and then surrounded by a field of ground glass. The latter is found on most upper end SLR cameras. Fill in the chart below using the information given from your teacher.

TYPE	IN FOCUS	OUT OF FOCUS	USES
SPLIT IMAGE			
MICROPRISM			
GROUND GLASS			
COINCIDENCE (OLD FILM CAMERAS)			

EXPOSURE CONTROLS (SHUTTER SPEED AND APERTURE)

The exposure of a photograph can be controlled and manipulated using two different functions on your camera—the Shutter Speed and the Aperture. The camera has a shutter, which controls the length of the exposure (light contacting the film or the digital storage device). The basic function of the shutter speed is—in conjunction with the aperture—to get the correct exposure, but the shutter can also be used to control the expression of your subject's motion. To avoid blurred photographs from camera movement, do not use a shutter speed (Tv) slower than $1/60^{\text{th}}$ of a second for handheld shots ($1/30^{\text{th}}$ second absolute minimum). The following are three ways in which the subjects' motion is controlled using the shutter.

1. **FREEZE**—Usually a certain shutter speed is chosen to freeze the motion of a subject. The speed required to do this depends mostly on fast your subject is moving. You can freeze the motion of a pedestrian at $1/60$ second, but would need $1/1000^{\text{th}}$ second to freeze a passing car. The motion of this bird was frozen at $1/1000^{\text{th}}$ second.



PHOTOS BY CANON

2. **BLURRING**—Blurring part of the picture intentionally can give a convincing sense of action. To blur the subject, set the shutter speed to a speed slightly slower than what you would set it at to freeze the action of the subject. This photo was taken with a shutter speed of $1/125^{\text{th}}$ second.



3. **PANNING**—To blur the background of the photograph, choose a slow shutter speed such as $1/30^{\text{th}}$ second, and shift the upper part of your body to follow the subjects motion during the exposure. This is called panning and is very effective at relaying the motion of the subject.



Just as the Shutter Speed is used to control the subject's motion, the Aperture is used to control the area of the photograph that is in focus—the Depth of Field. The lens on your camera has diaphragm blades. They open and close to form a specific-sized hole, or aperture. The aperture scale can be found on the lens, in the viewfinder, or on a digital display. The numbers on the scale are called Aperture Values (Av) or f/stops. The aperture influences the depth of field, which in turn, affects the way a photograph will look. When your subject is in focus, there is a certain area in-front-of and behind the subject which is also in focus. This area of sharpness is called the Depth of Field. The following are two types of Depth of Field as controlled by the aperture.

1. **MAXIMUM OR LONG DEPTH OF FIELD**—The smaller the actual aperture, the wider the range of sharpness; this is illustrated by the following photo which was taken with an f/stop (Av) of 16. This extended depth of field is good for such subjects as landscapes, large groups of people, etc.



2. **SHALLOW DEPTH OF FIELD**—The larger the actual aperture opening, the narrower or smaller the Depth of Field. An f/stop of 1.4 can isolate your subject from its surroundings. This can be used to bring emphasis to a portion of your photograph, to remove distracting backgrounds and/or foreground, or just for dramatic impact. The depth of field is not adjusted by changing the focal point of your photo. Simply by adjusting the Av in conjunction with the shutter speed.



ELEMENTS OF COMPOSITION (ETC.)

Composition is the arrangement of subject matter or visual elements within a photograph. There are various individual and separate elements of composition such as line, shape, position, balance and perspective. However, when used together in the composition of a photograph each of these elements should be virtually unnoticeable individually. The best composition is the one that's not noticed but is the most appealing and "works".

LINE

Lines are important in photography. Lines define and separate an object. Lines can be thick or thin, black or white, straight or curved, horizontal or vertical, or oblique. Lines lead an eye, they can lead an eye out of a picture or they can lead an eye into the main emphasis of a picture. Consequently, when selecting a point of view, select one that allows for any natural lines to lead your eyes toward the main centre of interest or emphasis. Lines help to establish perspective or depth and they tie other elements of the picture together. Hills, roads, fences, trees, furniture, and cars all form lines.

In addition to tying elements of a photograph together, lines contribute to—and often determine—the mood and action of the photo. Horizontal lines seem the most natural and are therefore usually the most pleasing visually. Horizontal lines tend to make an object look shorter and wider. They give the feeling of stability and peacefulness. Vertical lines also give the feeling of stability as well as strength, but they tend to make an object look taller. Oblique lines are typically referred to as action lines. Curved or s-shaped lines are soothing, softer, and inviting while straight lines are considered cold and harsh. When using horizontal or vertical lines be sure to keep vertical lines vertical and horizontal lines horizontal.

The interaction of horizontal, vertical, oblique and s-shaped lines form patterns that can give the photo interest and character.

TEXTURE

Texture refers to the feel or visual "touch" of the surface of an object. Texture—whether smooth or rough—gives the viewer something to look at after the pattern and composition becomes "old". Texture can change as lighting changes. Side light, direct light, back light, harsh light and soft light all affect texture and can either enhance or eliminate it.

Texture provides interest, contrast, depth, and realism to a photograph.

SHAPE

Shape, simply put, is the combination or joining of lines. Through shapes alone we can recognize objects. Shapes may bring back memories—good or bad—or they may create a feeling of mystery if the shape is unrecognizable. When we look at something it is its shape that tells us what it is.

Shape—even though only two dimensional—quickly identifies numerous objects. The combining and mixing of shapes is important. The combined shapes or objects should be in harmony with each other. The interaction of shapes helps to convey the mood of the photograph. If there is no interaction or if the interaction is in conflict, the photograph will reflect it. However, if carefully composed and thought through, objects that are not normally seen together—or objects that are in conflict—can be combined with very interesting and pleasing results. Consequently, you as the photographer must decide which objects are to be included in the photograph and which are not, how close they should be to each other, and if one should be closer to the camera than the other.

So far we've covered the basic object itself or its shape. But what about the area around the object; that area between the object and the border of the photograph... the negative space? Negative space is equally important as the positive space (the object itself). Negative space can add visual harmony or visual tension; it can be black, white or gray, round, square or irregular. Visual harmony is created when the negative space closely resembles some part of the main object. Visual tension is strongest when an object almost touches another object or when it comes near the border of the photograph. Whatever the negative space is, it is important that you as the photographer are aware of it.

WEIGHTING/PLACEMENT

The weighting and placement of an object in a photograph can influence and alter the impression or feel of the photo. Weighting refers to where the main object or subject is positioned. The basic positions for weighting are top, bottom, centre, right side or left side, or any combination of these. Although weighting an object towards the top can be effective, it tends to make the photograph appear

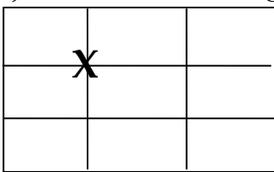
top heavy and unstable. Consequently, top weighting should be limited in use.

Positioning the subject in the centre of the photograph is probably the most “boring” or uninteresting place in the composition. When an object is positioned in the centre the photograph tends to look methodical and static. However, when taking formal portraits centre weighting is acceptable.

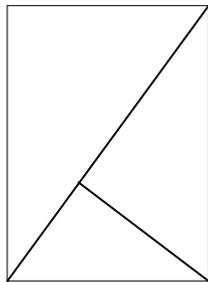
Unlike a photograph that is weighted toward the top, a bottom-weighted photograph appears very stable and is pleasing to the eye.

Weighting a photograph on either side will tend to suggest movement; either into the picture or out of the picture and can give the impression that something else is going to enter the photograph. As you begin to compose your photographs, you will most likely want to position your main subject slightly off centre according to the 9-zone grid.

The 9-zone grid occurs when you divide the available space of your photo into 9 equal parts. As a general rule, place the main object or subject in your composition on one of the intersection points. When dealing with more than one subject it is best to place each subject or group of objects in separate zones. Odd number of objects—when you have the choice—are more visually pleasing than an even number of objects. The golden Triangle is great for photographs with diagonal lines. Simply place three subjects within the triangles.



9-ZONE GRID



GOLDEN TRIANGLE

EMPHASIS

The photographs you compose must contain one main idea. In the previous paragraphs the placement of the main object and the weighting of the photo were discussed. The main object should be the dominant object. Anything that does not contribute to the “theme” of this dominant object should not be included. Too often, beginning photographers will include too much in the pictures they compose. If an additional object tells another story, doesn't add to the theme, or just isn't necessary, eliminate it. Keep it simple and get in close to your subject. Keep an eye on the negative space and remember that as a rule, the negative space should be a small portion of the photograph. Again, get in close and take note of the increased detail.

An emphasis can also be created by combining different shapes of objects or by putting a black object on a white background and visa

versa. It doesn't matter how you achieve emphasis, just make sure that there is a main emphasis.

DYNAMICS

What happens to your eyes as you look at a photograph? Do they scan the photo looking for the main subject, do they follow some line leading out of the photograph or do they remain within the photograph? This movement of the viewer's eye is called dynamics. A person looking at one of your photographs shouldn't have to scan the photo searching for the main subject. Their eyes should be directed to it almost immediately. How is this achieved? There are many ways; the good use of lines—as mentioned earlier, the placement of a subject, the composition or arrangement of the subjects, and where the subject is looking are just a few of the techniques used.

BALANCE

Think of the last time you played on a teeter-totter. If you only weighed half of what your friend did you either spent a lot of time up in the air or you were always asking to be let down. If you and another friend got on the same side to counter-balance the first friend you could go up or down or even make the “big guy” stay in the air.

These principles of balance work for photographs as well. We refer to them as either formal (symmetrical) or informal (asymmetrical). For the most part, informal balance will give a more pleasing natural look to your photograph. Informal balance is achieved by having an odd number of subjects or main objects, or by including objects with a variety of shapes or sizes.

Formal balance, on the other hand, is when you have two similar subjects or objects of the same size, shape, etc. and everything is “perfectly” balanced with the centre of the photograph being the fulcrum or pivot point. The main problem with formal balance is that it looks too posed or set-up.

Use of formal or symmetrical balance should be kept to a minimum.

POINT OF VIEW

The point of view refers to where you as the photographer are taking the photograph from. Try different points of view when taking your photos. Don't settle for your first. Get down low, get up high. Walk around. Anyone can take a picture just standing there.

1/3 2/3 RULE... RULE OF THIRDS

This rule is especially important when taking photographs of landscapes. Generally speaking the horizon should never be positioned in the exact centre of the photograph. It should be positioned so that 1/3 of the photograph is sky and 2/3 land or 2/3 sky and 1/3 land. Doing this will create an emphasis whereas if it is a 50/50 split there is no obvious emphasis.

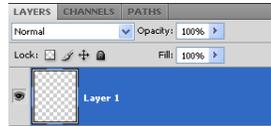
PHOTOSHOP BASICS

(INFORMATION SHEET PHOTOSHOP CS4 EXTENDED)

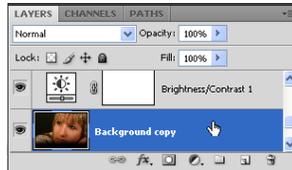
Before you begin to manipulate your image, read the following information.

1. Learn about Layers, etc. This is a good time to explore and discover other features explained in the help menu. Help>Photoshop Help. Watch Videos.

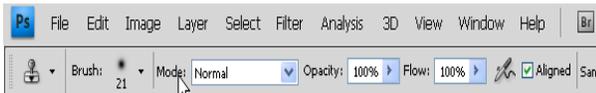
2. A gray-and-white checkered background means that the layer is empty.



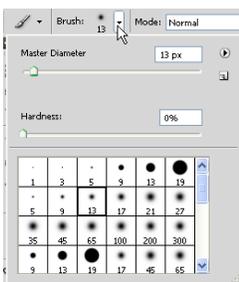
3. When working with layers, the layer that is active has a paint brush in the images window and the layer is highlighted or darkened as shown to the right.



4. You can hide a layer by clicking on the eye icon for that layer. This will hide that layer until you click on the column again.
5. You can arrange the order of layers by clicking and dragging the layers.
6. The OPTION Palette is found at the top as shown. The Options palette changes whenever you select a different tool from the Tool Bar. Be aware of the Opacity window and play with this feature. The opacity allows a tool to be any degree of opaque, translucent, or transparent.



7. The Navigator Pallet allows you to zoom in or out quickly and to navigate around your image.
8. You can select the size of your brush just by clicking on the size shown, or by right clicking and making your own sized brush. The brush size applies to most tools such as the Airbrush, Paint Brush, Eraser, Dodging wand, Rubber stamp/Clone Tool, etc. You can adjust the edge of the brush so it is hard or soft.



9. The HISTORY Palette is a record or history of the actions or tools that you've used to manipulate your image.



10. The TOOL Box contains all the tools you will use to manipulate your images. Within most of the boxes there is a small black triangle.



When you place the pointer on the black triangle and click and hold the mouse, a set of sub-tools will appear as shown. The Tool Box can be a double column or a single column by clicking on the arrows as shown to the right.

11. The Status bar shows up on the bottom of your monitor. Check it for file size, etc.



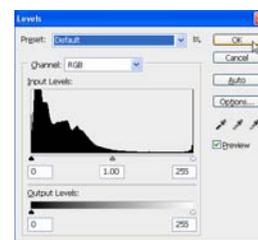
STEPS/TOOLS FOR MANIPULATING AN IMAGE IN PHOTOSHOP

1. DUPLICATE LAYER

Always do this step first. For ALL Photographs right click on the background layer and make a duplicate layer. This is called non-destructive editing. Do not “touch” the original background layer. Hide this layer by clicking the eye icon off.

2. ADJUST LEVELS

Do this step second. Virtually ALL Photographs will need to have the brightness and contrast adjusted. Adjust the Levels on the duplicate layer only. Do this by



going to Image>Adjust>Level. The solid black triangle below the histogram represents the blacks in your image; the white triangle on the right represents the highlights, while the gray triangle in the middle represents the midtones. Play with all three until you are pleased with the contrast and brightness of your image. This can also be done on its own layer so it is non-destructive. Try the Brightness/Contrast adjustment or the Vibrance adjustment as well.

3. CLONE STAMP TOOL

The Clone tool copies an area anywhere you want. Use the clone tool to remove blemishes, add trees, remove power lines, etc. To mark where you are going to copy from, hold down the Alt key and left click the mouse. Move the brush to the area you want to copy onto then click and drag. If you want to copy onto a different layer, click on the new layer to activate it. Remember to check your brush size, hardness, opacity, and “aligned.”

4. MAGIC WAND TOOL

Use the magic wand to select objects that are the same basic color. I.e. A Blue sky. Simply click on the area you want to select. To add more to this area, hold down the shift key and click on the new area. In the illustration to the right, the sky has been selected. If you



wanted to then select the balloons, all you would have to do is go to the Select Menu and select the Inverse (Ctrl+Shft+I). If you selected the balloons you could then copy them and paste them into a different image. For example; The images below are of the balloons, and a photo of sky. Select the balloons as described above, copy them, and then paste them into the image of the clouds. For additional options try the Quick Selection Tool.



BALLOON AND SKY PHOTOS: ADOBE PHOTO SHOP



5. SPOT BURN TOOL

Spot burning an image on the computer is the same as spot burning an image in the darkroom. It simply darkens an area that appears too white, light, or bright. Select the Spot Burning Tool and then—as always—click on the Options Palette. Experiment with the exposure and range (midtones, shadows, highlights.) You cannot spot burn an area that is totally white.

6. DODGING TOOL

Just as spot burning an image on the computer is the same as spot burning an image in the darkroom, so is dodging. Dodging is used to lighten up a dark area such as a shadow. Click on the Tool and then—as always—click on the

Options Palette. Experiment with the exposure and range (shadows, midtones and highlights.)

7. HEALING BRUSH TOOL

The Healing Brush Tool is similar to the Clone Stamp except it does a lot of the work for you especially when trying to touch-up an area where the base is not a uniform color. The Healing Brush Tool will blend the pixels so the touch-up is less noticeable. Use Alt and left click just like the Clone Stamp. Experiment with the Patch Tool as well.

8. PAINT BRUSH TOOL

When you want to smooth out an area or smooth out some skin, the Paint Brush works great, and is—for some—easier to use than the Airbrush. First select the color you want to paint by either going to the Swatches Palette or by selecting the Eye Dropper and clicking on an area of your image. Go back to the Paint Brush Option Palette and change the Opacity to whatever works for your image. When using the Paint Brush click and drag. Every time you click and drag, you paint another layer on top of the previous one. **HINT:** When coloring faces, skin, etc., use an opaqueness of less than 20. **ALWAYS** paint onto a new layer. This will allow you to erase any mistakes later.

9. LASSO/MAGNETIC LASSO

Use these tools to select a specific area by clicking and dragging.



The Magnetic lasso is great for tracing around an object when it has a distinct edge or is a different color than the background. If you make a mistake when tracing around an object you can undo the last handle by clicking delete, or by using the Quick Mask Feature.

10. QUICK MASK

After making your selection with the Lasso or Magnetic Lasso, click on the Quick Mask icon.

The area around your selection will then turn red. Use the Paint Brush and the Brush Size you want to add to—or take away—from the selected area. After you have



cleaned up your selection, click on the “other” icon (Standard Mode). You will then have your selection cleaned up, and can

now Copy it and paste it into a new layer. The best way to do this is to use the Paste Into Command (Ctrl+Shft+V) after copying it (Ctrl+C).

11. PASTE INTO (Ctrl+Shft+V)

This command allows the selection that you've just cleaned up and copied (Ctrl+C) to be pasted in the exact same position on a new layer. This is especially helpful if—for example—you want to blur the image of a woman, while keeping the eyes in focus.



PHOTOGRAPH BY ALICIA HILL

12. CROPPING TOOL/IMAGE SIZING

When  using the Cropping Tool you should typically use



the fixed target size for most images. The "standard" sizes for photos are 4"x6", 5"x7", 8"x10", and 11"x17." The resolution should be set at a minimum of 300 for color photos and 270 for Black and White photos. Image sizing can also be done by using the Image menu>Image Size. This does not crop the image, but rather, resizes it. If you check the Resample box the computer will increase the resolution by "filling-in" what it calculates as correct colors, shades, etc. based on the surrounding pixels. Be careful the image can appear jagged and distorted if over-done when resampling-up. **NOTE: CROP JUST BEFORE PRINTING AND DO NOT SAVE...CROPPING CAN INCREASE THE FILE SIZE SIGNIFICANTLY.**

13. OTHER TOOLS

There are numerous tools that you can experiment with. Some of the tools can blur an area while others will sharpen the image in an area. The airbrush can paint over a large area or if you select a small brush it can be used to create a very fine line. The Eraser Tool does just that—it erases. Of course by selecting the Options Palette you increase your choices.

14. FILTERS

There are numerous filters. Some filters can sharpen a slightly out-of-focus image, others can blur an image that is too harsh, or make the image look like a water painting. Using the Render filters you can change where the sun is coming from or add a sun and lens flare. Try several.



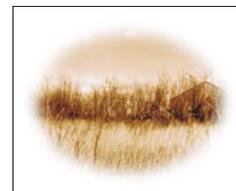
15. MERGE VISIBLE LAYERS (CTRL+SHFT+E)

If necessary, you can merge all the layers that are visible, without including the original or

background layer. This is sometimes helpful when applying filters etc. **BEFORE GETTING YOUR IMAGES GRADED, YOU SHOULD MERGE THE VISIBLE LAYERS—AGAIN, NOT INCLUDING THE BACKGROUND LAYER.**

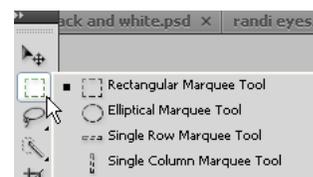
16. VIGNETTING

Vignetting is when you fade an image to black or white, etc. The image can be circular, oval, or rectangular in shape. The following steps will assist in vignetting an image.

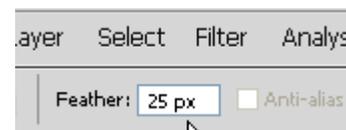


- Open the desired image that you want to vignette.
- Clean/manipulate this image as desired and necessary. Remember to remove all distractions, blemishes, etc.

- Select the shape of Marquee that you want—round/elliptical, or square/rectangular. The Marquees are found in the top left corner of the Tool Box as shown to the right.



- Under the Marquee Options menu set the Feather to the desired number of pixels that you want. This affects the transition between your image and the background. The higher the number the more gradual the transition; the lower the number the sharper the transition. A good starting point is 25 to 50 pixels. Set the feather **BEFORE** you draw the marquee around your image.



- Click and drag the marquee to the desired size and shape.
- Copy the image (Ctrl+C).
- Open a new document/canvas (Ctrl+N).
 - Set the background content to transparent or to the color you want or white.
- Paste the image into this new document (Ctrl+V).

Introduction To Photography

CLASSROOM/DARKROOM POLICIES (All Photography Courses)

CLASSROOM/COMPUTER LAB/DARKROOM/etc.

1. You will be marked late if you are not in your seat, quiet, and ready to work when the bell rings.
2. Do not leave the classroom/lab unless you have received permission to do so.
3. If it's not yours—leave it alone.
4. Stay out of the office, file cabinets, Teacher's desk/chair, etc.
5. Do not eat or drink near the computers.
6. Do not abuse the privilege of using the computers.
7. Do not abuse the privilege of leaving the school grounds to take photographs.
8. All school policies will be followed.

ABSENCES

1. If you are absent, it is your responsibility to find out what the assignments/tests were and to do them.
2. A missed assignment or test will be not be recorded until it is made up.
3. A make-up assignment or test will be accepted until the next reporting period.

GRADING

1. Grades will be determined by tests, assignments, and portfolio.
2. Talking during a test will result in the score not being recorded.

FEES

1. You are expected to pay for the ink and paper you use.
2. A minimum of 50% of the fee is required before you will be issued a digital storage device. The remainder must be paid before completion of the course.
3. No photographs may be taken home until they are paid for.

DISCIPLINE

1. Listen quietly to all discussions and demonstrations.
2. Discipline.

I have read and I agree to the above policies.

Student Signature

Date: _____

Print Name and class (block)

	O
BLOCK	ID #

Introduction To Photography

MARKING CRITERIA SHEET
 COURSE COM: 1005, 1205, 1215, 2205 (Visual Composition, Photography-Intro, Photography-Exposure, Photography-Composition)

DIRECTIONS: In your portfolio, arrange the prints to be graded in the **SAME ORDER** as they appear on this Marking Criteria sheet. Each photograph should have a brief explanation regarding the photo, spot burning or dodging information, and any other helpful information such as the Av (f/stop) and Tv (shutter speed), etc. The explanation must also include which assignment is being fulfilled, I.e. landscape, pattern, texture, etc. All text and graphics **MUST** be computer generated. See the Portfolio Requirements handout.

Each print will be graded on effort, creativity, cropping/framing, exposure, levels, focus and/or focal point, lack of noise and distractions, according to each individual pictures criterion, and according to the rules and elements of composition.

TOTAL NUMBER OF PHOTOGRAPHS SUBMITTED	O
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TOTAL NUMBER OF BONUS POINTS	O
------------------------------	---

Student
Teacher

ASSIGNMENT	ON TIME	POINTS	MARKING CRITERIA		
ACTION SHOTS -freeze -blurred -panned 2 Required		10	focused, effective, correct shutter speed, no camera shake		
		10	focused, effective, correct shutter speed, no camera shake		
ANIMAL(S)		10	elements of composition, effort, story		
ARCHITECTURE		10	story, composition, effort		
BICYCLE/MOTORBIKE		10	elements of composition, effort, framing		
BREAD/BREAD SLICES		10	lighting, composition, effort, lighting		
CHILDREN AND/OR PLAYGROUND		10	elements of composition, effort, appropriate, story		
CIRCLES/OVALS		10	elements of composition, effort		

*Student**Teacher*

ASSIGNMENT	ON TIME	POINTS	MARKING CRITERIA		
DETAIL PORTRAIT		10	image, composition, story		
ELDERLY PEOPLE		10	image, lighting, composition, story		
FEET		10	close, image, composition		
HANDS		10	close, image, composition		
LANDSCAPE/WATER		10	elements of composition, appropriate		
LITTER/TRASH		10	elements of composition, effort		
NATURE		10	elements of composition, horizon, effort		
NIGHT/SILHOUETTE		10	exposure, composition, ISO		
OBJECT & SHADOW		10	effective, composition		
OLD THING(S)		10	elements of composition		
PATTERN		10	lines, content/close shot		
PORTRAIT		10	lighting, cropping, composition		
PRODUCE/FOOD		10	elements of composition, cropping		
REFLECTION		10	clear, composition, effort		
SIGNS/SYMBOLS		10	elements of composition, effort		
STILL LIFE		10	lighting, composition, effort		
TEXTURE		10	visible texture, lighting		
VEHICLE BUMPER/etc.		10	elements of composition, cropping		
ISO (required)		10	appropriate subject, no camera shake composition, etc.		
BRACKETING (required)		10	appropriate subject, no camera shake composition, correct exposures, etc.		
STUDENT CHOICE		10	elements of composition, etc.		
PORTFOLIO		25	Presentation/effort/organization, no missing assignments, log sheet and exposure information complete, etc. Elements/principles of design, correct typography, etc.		