

# COLORADO MOUNTAIN COLLEGE

## Photography ONE

PDF Formatted Version



---

## Photo One • INFORMATION

---

Welcome to Advanced Photography. After a review of the basics from Photo I we're going to add on to these segments with advanced information and concepts.

The text: PHOTOGRAPHY by LONDON & UPTON.

This book is THE bible where photography is concerned.

It covers, in detail and beyond, stuff that is not detailed in this outline. Get it!

I start this course with a review of basic camera operation & darkroom methods.

- Load Film
- Clean Camera Equipment
- Hold a camera properly
- Understand what it's doing when you take a picture
- Understand the body & the lens & how the two work together to control exposure
- Understand the basics of composition and making a pleasing photograph
- Understand the basics of papers and chemicals
- Develop film
- Make a contact print
- Make a test strip
- Make a print
- Explore and experiment

And just so you don't get tired of listening to me and my pictures, (if time allows) we'll have one guest photographer presenting his or her work and experience in photography.

NOTE ABOUT THIS TEXT: This text is in no way a complete outline of what we're going to cover in class. We'll start out with the basics and this is where you'll need the information in this text. After that we'll be hands on shooting, processing, printing and getting subjective. But figure this: If I take the time to write it down on the board, I'm doing it for a reason.

# Photo One • Great Expectations

WHAT'S  
EXPECTED  
OF YOU  
AND  
FROM YOU

...JUST SO  
WE'RE  
CLEAR!

**ATTENDANCE:** It ain't that you're here, it's what you're doing while your here.

**Class Time (Lectures):**

I expect you to attend every class time. Students missing a significant number of classes (especially lectures) can expect it to reflect upon their final grade.

**Darkroom time:**

Because so much of this class is learned from working one on one with me and with other students, you will get out of this class what you put into it. Commonly, you will learn new stuff based on a specific printing challenge you face. Often times, it's something that I want to share with the rest of the class. If you miss out then you miss out - your loss.

**Quiz time:**

If you know you're going to miss a quiz you can take it before or after the scheduled date. If you simply don't show up on a quiz night you still have to take it but it may reflect on your final grade.

**QUIZZES:**

I use quizzes to test your skills. I will review the quizzes to see if you're doing poorly in a particular area. I expect you to be honest with me. If you're having a problem in an area (exposure, composition, etc.) just tell me. I'll work one-on-one with you **if you ask** for the help.

I don't grade your quizzes.

HOWEVER - if you ain't getting it I'll know it when I see your work.

**CAMERA:**

By the end of the semester I expect you to:

- hold it & handle it properly (i.e. - change lens without breaking!)
- load and unload it properly
- know f-stops and shutter speeds and their effects (THIS IS A BIGGIE!)
- expose film properly
- **CONSTANTLY BE SHOOTING NEW IMAGES**

**DARKROOM:**

Although my judgement of your photography is subjective, I still have expectations of your work which will affect your final grade.

By the end of the semester I expect you to:

- load and develop perfect film
- become self-sufficient  
(i.e. NOT ask me how long to develop for, temps, etc...)
- know the chemicals, times, dilution, mix, etc. for working in the dark
- print clean, dustfree prints
- exhibit knowledge of printing techniques  
(i.e. - high quality whether I like the image or not!)

# Photo One • STUDENT PROFILE

But first, if I might have a word or two from you: Your E-mail: \_\_\_\_\_

Name: \_\_\_\_\_ date: \_\_\_\_\_ course name & number: \_\_\_\_\_

What is your definition of photography?  
(not the dictionary's -- yours...)

What photographic subject do you think would motivate you the most? Why?

What is your greatest strength as a photographer?

What is your greatest weakness as a photographer?

Where would you like to be as a photographer?

What's keeping you from getting there?

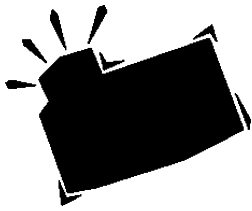
Complete the following sentence until you run out of things to say:

"If I could make a set of photographs, they would..."

Leave page blank

# COLORADO MOUNTAIN COLLEGE

## Photography One



instructor: Matthew Lit  
970.262.2006

### Photo One • CLASS SCHEDULE

- CLASS 1 t Introductions, expectations and images.
- CLASS 2 t Camera & Lens, Creative Controls, Camera Handling (CH. 1, 2, 3, 4 & 5)
- CLASS 3 t Exposure> Fstops, Shutter Speeds and those other numbers
- CLASS 4 t Exposure> Metering, Gray Cards, Zone System
- CLASS 5 t Review of material , Composition (CH. 15)
- CLASS 6 t Quiz on covered materials, intro to darkroom layout
- CLASS 7 t Intro to Darkroom (chemicals, process steps, film rolling)
- CLASS 8 t Handling Negatives, storage, OPEN LAB - FILM DEVELOPING
- CLASS 9 t Into the Dark - Printing (photogram, contacts, test strips, work print)
- CLASS 10 t Into the Dark - OPEN LAB - PRINTING, DEVELOPING
- CLASS 11 t Into the Dark - filters, dodging & burning [ALSO SEE #1 #2 #3 - also 2/15](#)
- CLASS 12 t What's wrong, Pushing film, Film Construction & Processing it
- CLASS 12 t OPEN LAB
- CLASS 13 t OPEN LAB
- CLASS 14 t **CRITIQUE assignment 1, 2, 3**
- CLASS 15 t Darkroom Quiz & Open Lab
- CLASS 16 t **CRITIQUE OF CURRENT WORKS**
- CLASS 17 t OPEN LAB
- CLASS 18 t INSTRUCTOR CRITIQUES - OPEN LAB
- CLASS 19 t PORTFOLIOS DUE IN CLASS - NO LATER THAN START OF CLASS!  
(Incompletes are a huge hassle for everyone and most often lead to an "F" being automatically entered if you fail to meet the deadline set.)

# Photo One • PORTFOLIO & ASSIGNMENTS

## PORTFOLIO

A minimum of 10 images on 8 x 10 paper.

The following **must** be in your Portfolio AND within this group of awesome images you must illustrate:

- GREAT DEPTH OF FIELD
- SHALLOW DEPTH OF FIELD
- MOTION (BLUR)
- MOTION (FREEZE)
  
- PERSON
- SELF PORTRAIT
- ANIMAL
- LANDSCAPE/CITYSCAPE
- WATER, ROCK, TREE (pick one, combine...whatever...)
- MACHINERY
- FOUR OF YOUR FAVORITE SUBJECT

You may use images from your assignments below - HOWEVER - I want these images printed specifically for your portfolio.

**A NOTE ABOUT YOUR PORTFOLIO. YOU HAVE THE ENTIRE SEMESTER TO COMPLETE THESE PICTURES AND YOU SHOULD START SHOOTING PICTURES IMMEDIATELY!**

**ALSO:** DURING THE SEMESTER YOU MUST HAVE PRINTS FOR EVERY OPEN CRITIQUE. ***NOT HAVING NEW IMAGES FOR THESE CRITIQUES WILL AFFECT YOUR FINAL GRADE.***

### **ASSIGNMENT #1:**

Create your own photogram using materials which inspire you.

NOTES:

### **ASSIGNMENT #2:**

Print Series of same negative:

- First print with no filter (normal contrast)
- Second print with a #1 filter (soft or low contrast)
- Third print with a #4 filter (hard or high contrast)

NOTES:

### **ASSIGNMENT #3:**

Print Series of same negative:

- First print as working print with no burning or dodging
- Second print as final print with burning or dodging (as necessary)

NOTES:

## ASSIGNMENTS

# Photo One • CAMERAS & LENSES

## The Purpose:

By The End Of This Lesson You Will Be Able To:

- Name all parts of a camera
- Take a lens off and put it back on (without breaking the camera)
- Understand where all the controls are and what they do
- Understand how Shutter Speeds and f-stops control light and exposure
- Understand how to use S/S and f-stops to make creative choices in your photography
- Know how to load and unload film.

## THE CAMERA...

Chapters 1-5

Parts is  
parts...

Body &  
Control

## Types of cameras:

- View Camera
- Range Finders
- Twin Lens Reflex
- Single Lens Reflex (what we'll be learning)

All these cameras, while distinctly different and with distinctly different purposes have one thing in common:

- The function and method of recording light on film.

## The camera has two basic parts:

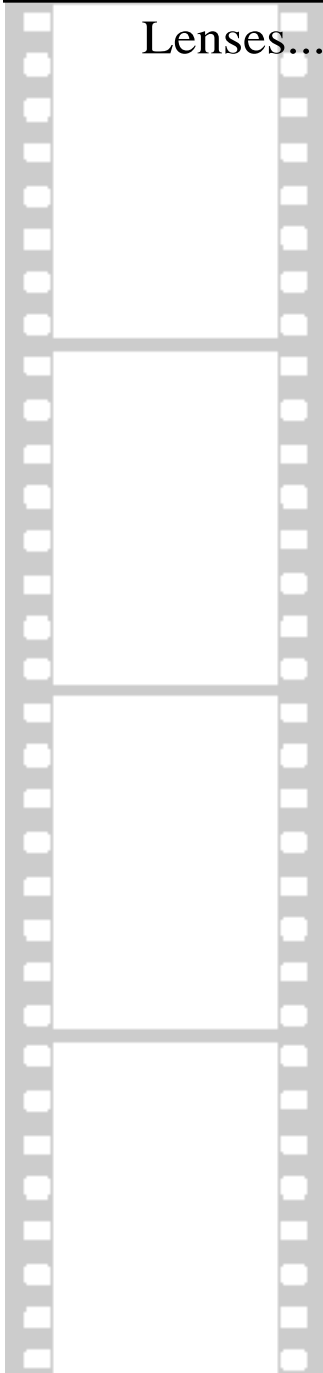
- 1) **Body**
- 2) **Lens**

## Camera Body

### Body Controls

- **Mirror/Viewing System** (Pentaprism)
  - mirrors
  - focusing screens
  - viewfinder
- **Film transport**
  - light tight box
  - film advance
  - pressure plate keeps film flat
  - film rewind button(s) (*Don't forget to press this!!*)
  - motor drive advance (attachment or built in)
- **Shutter Speed** (Dial or button adjustment)
  - exposure control
  - *creative control*
- **Shutter Release**
  - makes it all happen
- **ASA/ISO Dial, Exposure Compensation Dial, AE Lock**
  - light meter sensitivity
  - light meter adjustment
  - light meter lock
- **Other parts:** Depth of Field (DOF) preview, Multiple Exposure
  - button, self-timer, synch plug for strobe, lens release button)

# Photo One • EXPOSURE



Lenses...

## Lens

Lens Controls

- **Focus**
  - light gathering
- **Aperture**
  - exposure control
  - *creative control*
- **f-stop**
  - number applied to the aperture
  - relates to amount of light passed through
  - It's NOT the size of the opening, it's the light passing through
- **New lenses**
  - motors for auto-focus
  - computer stuff to aid in exposure and data transfer

The creative aspect of these numbers and functions:

Body.....

## Shutter Speed

Controller of motion, Conveyer of motion

- Blur
- Freeze

Lens.....

## Aperture/f-stop

• The f-stop of the lens determines “depth of field” (DOF), or how much is in focus from the foreground to infinity

## Focal Length

- Design of lens' elements determines the “focal length” of the lens.
- Design allows for lenses from wide angle to extreme telephoto

## Focal Length affects DOF/Perspective:

- wide angle lenses have inherently great depth of field
  - the wider the lens the greater inherent DOF
  - lenses curve light rays, creating a distortion towards edges.
- telephoto lenses have inherently shorter depth of field.
  - the longer the lens, the shallower the depth of field
  - telephoto lenses flatten or compress (makes background closer)

# Photo One • EXPOSURE

---

## Gear Handling

Here's a demo on:

- Loading & Unloading film
  - Sprockets
  - Rewind Buttons!
- Holding the camera properly
- Working with the camera (taking off lenses, etc...)
- Cleaning and supplies.
  - Lens (front & rear elements, filter, dust and water)
  - Body (inside, outside, mirrors, focusing screens, pressure plate)

# Photo One • EXPOSURE

F-stop  
Shutter Speed  
ISO/ASA

This is a chart of f-stops, Shutter speeds and ASA's. While they look different on the camera this is an easy chart to start to understand their relationship to eachother. Copy it, memorize it, repeat it backwards!

f-stop/shutter speed & ISO		
f-stop	S/S	ISO
32	8000	
	4000	
22	2000	6400
16	1000	3200
11	500	1600
8	250	800
5.6	125	400
	60	200
4	30	100
	15	50/64
2.8	8	25
2.0	4	12
	2	
1.4	1	

**Copy it,  
memorize it,  
repeat it  
backwards!**

Remember: When you're dealing with f-stops and shutter speeds think in terms of **MORE LIGHT & LESS LIGHT**. This is easier to remember than large lens opening, small lens opening, fast or slow shutter speed.

How the  
f-stops and  
shutter  
speeds work  
together to  
determine  
correct  
exposure  
for film

F-stops and shutter speeds work together to transmit the proper amount of light to the film to adequately expose it. **Huh?!**

By using an f-stop (*quantity of light*) with a shutter speed (*length of time light hits the film for*) the exposure of the film can be controlled.

The numbers all have similar properties in common:

- each *doubles* or *halves* the amount of exposure.
- each change constitutes *one stop* of exposure.

## SUNNY 16 RULE:

Take the ASA/ISO of your film & choose a shutter speed that comes closest to that number. On a bright, sunny day, your f-stop will be f-16. Adjust this as the light changes: shadows, clouds, etc.

### EXAMPLE:

ASA 100 FILM:

S/S = 1/125

APERTURE = F16

# Photo One • SENSITIVE FILM

OF ASA'S,  
ISO'S AND EI'S

IT'S ALL  
ABOUT BEING  
SENSITIVE...

ISO &  
FILM TYPE

FILM CHOICES

So now you've got the f-stops and shutter speeds memorized.

Great, that still doesn't tell you what the film needs. That's what the ASA is for. It's a number that some highly paid scientists in white coats developed to answer your third question about exposure:

**“How the heck do I know where to start with the shutter speed and f-stop??!”**

**ASA/ISO is the film's *sensitivity to light*.**

The ISO is the number applied to the film's sensitivity to light.

- How much light does the film need to be *properly* exposed.

**Different types of film:**

- Lower ISO needs **MORE** light
  - longer exposure
  - slower shutter speed **and/or** larger lens opening
  - finer grain/resolving power
- Higher ISO films need **LESS** light
  - shorter exposure
  - faster shutter speed and/or smaller lens opening
  - larger grain/ less resolving power

Back to the Chart:

- notice how the asa's double and halve like shutter speeds and f-stops

**ASA** = American Standards Association (old reference)

**ISO** = International Standards Organization (new reference)

**EI** = Exposure Index (How *YOU* choose to rate the film)

We'll be working with black and white films in this class. There are many types made for fine art, documentary, low-light, etc...

Black and white: of Trix and TMax and silver and t-grains, oh yeah, and Ilford and Agfa and all the rest...

- Construction of film
- Variations of ISO and sensitivity to light
- The affect of ISO on quality, style (low grain, high grain)

Your choice of film will depend on what you want to shoot, how you see things, and other creative/technical choices you'll be making.

# Photo One • LIGHT METERS

Light Meters

Determining  
how much  
light is  
enough

Chapters  
4, 5, 11

Meter  
Viewfinder  
Examples

## Light Meters

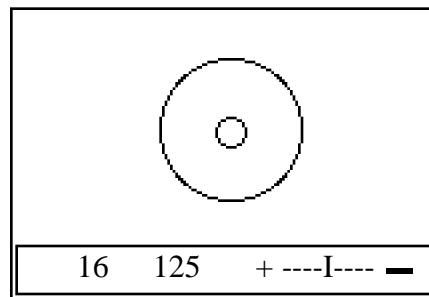
Light meters built into the bodies of cameras help us determine what to do with the f-stops (on the lens) and shutter speeds (on the body).

**ASA/ISO is the film's *sensitivity to light*.**

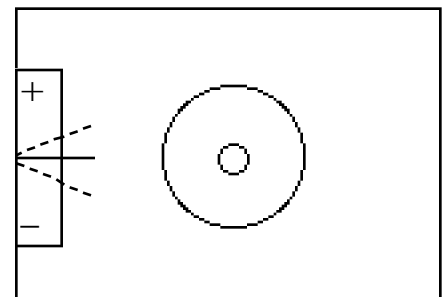
## Light Meter Types

- In camera (Reflective)
  - This is the meter built into your camera. These read the amount of light *reflected off* of your subject.
  - You can also by a hand-held meter which is “reflective.”
  - Tendency to be inaccurate unless you know how to fool them (You will learn the secret).
- Hand-Held (Incident, Reflective & Spot)
  - *Reflective* as above
  - *Spot meters*: measure very small area (1, 2, 3 degree area)
  - *Incident*: Way more accurate and way more expensive Measures light *falling on* the subject rather than light reflected from the subject.

DIGITAL TYPE METER



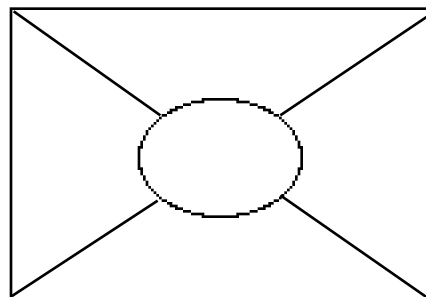
NEEDLE TYPE METER



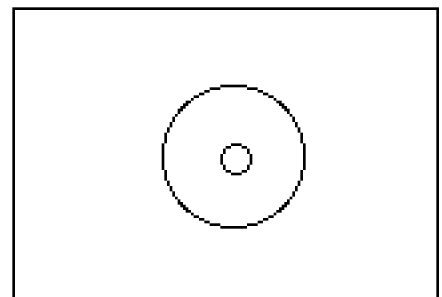
## Meter Sensitivity Patterns

- Meter patterns affect the way light is metered.
- Areas of the meter are made more sensitive to light than other areas.
- Allows you to point that area of the meter at a particular area to get a more accurate or detailed reading.

MATRIX METER PATTERN



CENTER OR SPOT PATTERN



# Photo One • STUPID METERS

WHY YOUR  
EXPENSIVE  
CAMERA'S  
METER IS  
DUMB...  
AND WHAT TO  
DO ABOUT  
IT...

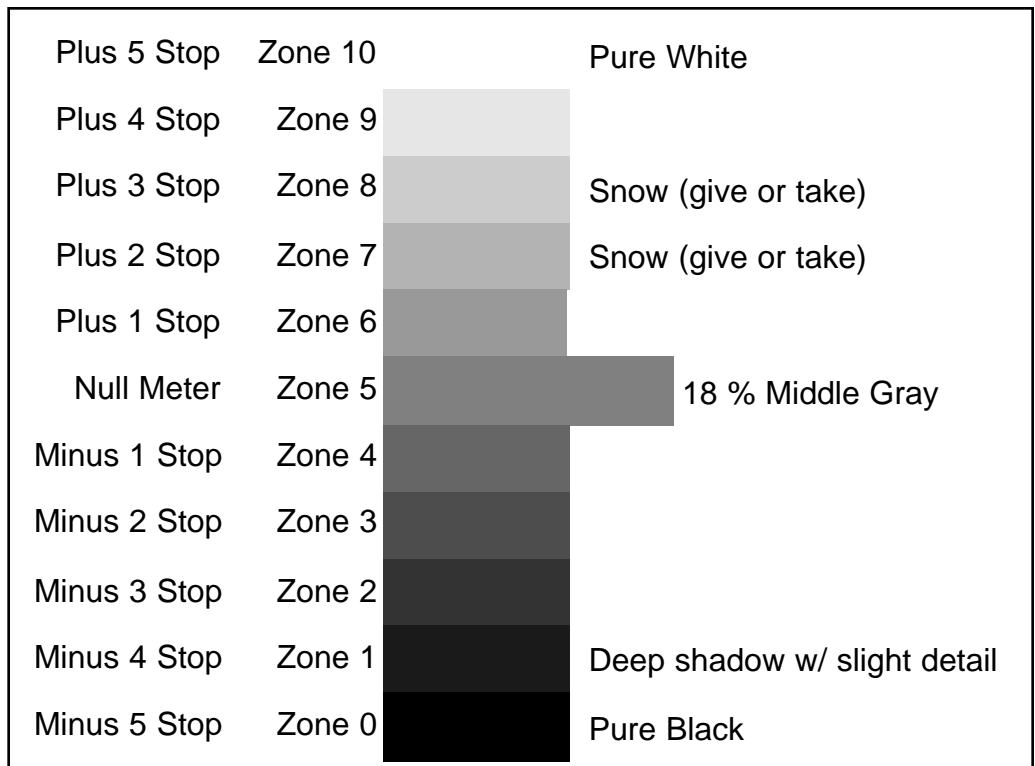
Chapters  
4, 5, 11

You got your black, you got your white, you got your shades of gray. But to your camera meter it's all 18 % gray. Black is gray & white is gray. All the world is gray. So what'dya want for \$600 bucks? Here's how to fool the meter:

## **Matt's Basic 35 mm Zone system:**

Overexpose for white  
Expose right on for 18% gray  
Underexpose for black  
Meter Skin and add 1 - 1.5 stops

## **Basic Zone System Scale:**



## **REMEMBER:**

This scale is an approximate only and will vary depending on film choices including whether you use negative or transparency.

# Photo One • COMPOSITION

## The Purpose:

By The End Of This Lesson You Will Be Able To:

- List The Six Guidelines Of Good Photographic Composition
- Identify the use of guidelines in photographs
- express reasons why certain pictures are aesthetically appealing.

You will use these Six Guidelines in your future pictures!

You will be tested on all aspects of today's lesson (maybe, maybe not...i should see growth in your work)

- On your next quiz
- On your next Major Test
- On your Final Exam

## COMPOSITION

### Definition of Composition:

The Pleasing Arrangement Of Elements Within The Picture...

### Where Do You Find Composition?

Composition is everywhere. It's in the way the clouds float in the sky, it's in the bodies of the people you pass by everyday. Composition equals Gesture and Gesture becomes Composition. The flow of an arm to its hand to its fingertips, the bend of a tree in nature, the sway of a freeway in L.A. just before it topples.

### Six Guidelines Of Good Photographic Composition

#### “S•R•F•B•L•M”

- S implicity
- R ule Of Thirds
- F raming
- B alance
- L ines
- M ergers

### Simplicity

You Achieve Simplicity By:

- Moving In Close
- Filling Up The Viewfinder
- Using Uncluttered Backgrounds
- Rule Of Thirds

# Photo One • COMPOSITION

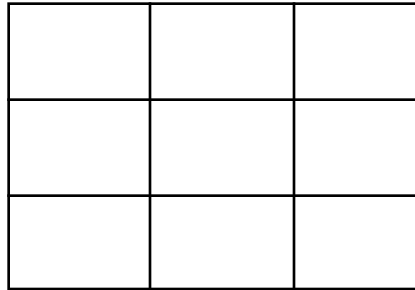
## COMPOSITION

### Rule of Thirds

- Breaks the viewfinder (your image) into segments that help you with framing. The basic rule (and, yes, all rules are meant to be broken) is to not place subjects and image elements (trees, horizons, etc.) in the center of the viewfinder.

### Rule of Thirds Function:

- Adds the illusion of 3-D to your picture
- Helps add motion and depth to the image



35 MM  
VIEWFINDER

### Framing

- Full Frame: Framed All Around
- Partial Frame: Framed On One Side

### Balance

Balance keeps a proper relationship between elements within the picture. Balance creates an eye-pleasing image. Sometimes we strive to disturb the balance in the image; as with all images, this imbalance would be done to elicit a particular emotional response from our viewer.

Examples of balance ideas:

- Small objects are placed closer than larger objects:

# Photo One • COMPOSITION

## COMPOSITION Lines

Lines help guide our viewer through the image and can create the desired emotional response. Here's some examples:

- **Horizontal** Lines Represent...
  - Peace & Tranquility
- **Vertical** Lines Represent...
  - Strength & Power
- **Diagonal** Lines Represent...
  - Motion & Action
  
- The "**S**" *Shaped Curve* Stands for...
  - Grace, beauty...fluid motion
  - Just about all fashion photos possess this quality
  
- **Leading** Lines
  - Guide our attention to the subject

\* When shooting people or animals these lines can be found in the direction of their gaze.

Careful though...Repetitive Lines & Patterns Should Be Broken Up

## Mergers

### Object Merger...

Objects that were there all the time, but were not seen by the photographer. i.e.-- tire in a stream, fountain coming out of someone's head, etc..

### Border Merger

Never (*again, break this rule as often as your creativity sees fit!*) crop picture at:

- wrists
- elbows
- knees
- ankles

### Color or Tonal Merger

When subject blends in with the background via matching colors or, in the case of black and white films, when the tonal ranges blend together (Two or more colors that translate into black and white and are almost equal in tonal range).

# Photo One • COMPOSITION

## COMPOSITION

### **Head-Horizon Merger**

When the horizon line goes through the subject's head

### **Elements of threes in art**

This is not to confused with the rule of thirds. This is an element of using numbers of things to help your viewer move through the image, or divide the image in an eye-pleasing manner. As these three elements are perceived by the eye they form a triangle to help your viewer navigate the image.

### **Think about what you're seeing**

There Are Some Pictures You Do NOT Want To Photograph!  
Do NOT expect miracles to happen in the camera after you take the picture. Be Selective...and learn to be aware of "what's going on in the viewfinder."

### **Seeing all the angles**

Choosing the right angle to shoot your photo from can be the difference between a boring shot and a dynamic, story-telling shot. Get in the habit of moving around when you shoot - be dynamic! Shoot the same subject from a number of different angles - straight on, high, low, etc.

When you're shooting subjects low to the ground keep their perspective in mind: kids, small animals and other low-to-the-ground subjects usually look much better if you get down to their level.

#### **A common visual mistake:**

You are so mentally and visually tuned into your subject that it appears larger in the viewfinder. Then you get your negs souped and say, "It seemed so much larger when I shot the picture." The classic example is that wildlife photo your friend shows you and the deer is this tiny, little speck. But when they shot the picture they were so "focused" on the deer it seemed to be the only thing in the viewfinder - even though it was a half a mile away!

# Photo One • FINDING IDEAS



Please don't ever come up to me and tell me that you can't find something good to shoot. Here's some suggestions on finding photographic subjects.

The first suggestion should be the most obvious:

- Move your head and look at the world around you, the people, the weather, the shapes, the colors, the light, the combinations of these and the patterns formed by them.

For something different or something specific:

- Pick up the local paper and start reading between the lines.
  - Look for news articles which would lend themselves to photography
  - Look for news briefs of local goings on
  - Look in the classifieds for interesting ads: help wanted, garage sales, meeting groups, etc.
  - Look to the calendar for special events coming up
- Pick up the CMC Class Guide.
  - Look for classes which might be visually appealing to you
- Check out local bulletin boards
  - There's always tons of stuff going on on a local bulletin board

**SELF ASSIGNMENT:**

Find a subject to photograph using one of the above ideas. Prepare 8 x 10 for "open critique" later in the semester.

BUT WON'T  
THAT GREEN  
COLORED  
GLASS MAKE  
MY PICTURES  
GREEN?

CH. 4  
PG. 84

FOR  
FILTER  
INFO  
CHART  
REFER  
TO PAGE 87

Remember - when you're working in black and white you are no longer working with colors, the colors are translated into tones of gray. Using filters changes the lightness or darkness of a particular color's tone translation.

## COLORED FILTERS:

The filter color you choose appears to lighten similar colors. A yellow filter will appear to lighten the tones of yellow leaves. A blue filter will appear to lighten blue sky tones. What's actually happening is the color of the filter absorbs its *COMPLEMENTARY COLOR*:

**YELLOW FILTERS** absorb blue  
**GREEN FILTERS** absorb red & blue  
**RED FILTERS** absorb green & blue

These filters also have an effect on:

- **Contrast**
  - to keep similar tones from merging  
(see ex. of red apple and green leaves, p.84)
- **Correction** (tonal)
  - colored filters can correct or alter the response of film to light  
(see ex. of blue sky being too light, p.84)  
(note: don't confuse these with color correction filters used in color photography)

## NEUTRAL-DENSITY FILTERS:

These filters absorb a set quantity of light from all the wavelengths (or colors) of light. Therefore - they don't change the *quality* of the light - only the *amount* of the light reaching the film. They allow you greater control of exposure manipulation.

**EXAMPLE 1:** You've got a bright scene of water flowing with a reading of f16 @ 1/60 sec. You want to keep the depth of field and also blur the water. Using a 2x N.D. filter would allow you to shoot at f16 @ 1/15 sec.

**EXAMPLE 2:** You want to blur a background by using a large aperture but you're reading is 1/1,000 @ f8. By using this 2x N.D. filter your new reading could be 1/1,000 @ f4.

## POLARIZING FILTERS:

These filters are used for: (**SEE PAGE 86 FOR DETAILS**)

- removing reflections from reflective surfaces
- to darken skies
- intensifying color (with color film) or intensifying tones (with B&W film)

## FILTER FACTORS:

Because filters block light entering the lens, exposure adjustment is necessary. Your in-camera meter accounts for this but it's helpful to understand the **FILTER FACTOR** (as in use of a hand-held meter). This number tells you how many stops to increase your exposure by. (**SEE CHART - PAGE 87**)

# Photo One • INTO THE DARK

## DARKROOM OVERVIEW...

This section of the outline covers just the basics. It's up to you to take notes on what I'm showing you and create your own chapter. Again - the Upton & Upton book covers all this in detail. If you miss something or have questions ASK ME or refer to the book.

Quickie Outline for getting into the dark:

- 1) Developing Equipment
  - a) Reels, tanks and what *not to do* while your rolling film.

- 1A) Developing Chemistry
  - a) Developing film
    - Developer (D-76, Microdol, T-Max)
    - Stop Bath
    - Fixer
    - Hypo Clearing Agent (HCA)
    - Photo Flo

- 2) Printing Equipment
  - a) The Darkroom in general
  - b) The Enlarger
    - types of heads: diffusion/condenser
    - bellows
    - lenses
    - controls

- 2A) Printing Chemistry
  - b) Printing pictures
    - Developer (Dektol, Selectol)
    - Stop Bath
    - Fixer
    - Hypo Clearing Agent (HCA) (For Fibre-based prints)

### A Note about Mixing the Stuff

Each of the chemistries has different mixing ratios depending on its intended use.

I'll review the mixes and dilutions once! Write it down and learn to find the answer on your own!

## DEVELOPING FILM...

- 1) Rolling film
- 2) Developing film
- 3) Handling it when it's "souped"
- 4) Cutting and Sleeving
- 5) Recording Exposure & Developing info
- 6) Editing your negs (A primer)

## PRINTING ENLARGEMENTS...

- 1) Into the negative carrier
- 2) Cleaning your negative
  - at the light table
  - at the enlarger(Canned air, film cleaner, white gloves)
- 3) Using the enlarger
- 4) Using the different timers

# Photo One • INTO THE DARK

## PRINTING PICTURES...

This is where the assignments will start (ARRGGGHHHH!). You will be responsible for completing these assignments as per the deadline set in class (it may change from the course outline dates listed).

### Quickie outline for printing:

- Paper (has construction and light sensitivity similar to film)
  - Resin Coated (RC) - or -
  - Fiber Base (type of paper base and coating)
  - Surface qualities (type of paper surface: glossy, matte, pearl, etc...)
- Exposure (do those f-stops on the lens look familiar?)
- Developing the print and getting it to the wash bath
- Contrast filters and how they affect the print times

## THE TECHNICALLY PERFECT PRINT...

A perfect print will have a variation of shades (zones) from the pure black of the paper to the pure white of the paper.

REFER TO UPTON AND UPTON FOR MORE DETAIL

## PHOTO-GRAMS

A basic and fun way to understand printing.

## THE CONTACT PRINT...

The “*contact print*” is a “print” of your negs. You can use this to review your pictures but it’s important to refer to your negatives to check sharpness. Use the contact print

to mark the negative frames you want to print.

## TEST STRIP...

The “*test strip*” is what you create to find the correct “*base exposure time*” for your print.

## TEST PRINT...

Print using the “*base exposure time*” you chose from the test strip.

## THE PRINT SERIES...

The print series begins with the “*base exposure work print*” and then variations in exposure, burning, dodging and filtration. This series will end with the final “*technically perfect*” print.

## CONTRAST FILTERS...

Contrast filters affect the contrast of a print. A softer contrast is obtained using a lower number contrast filter. A harder contrast is obtained using a higher number contrast filter. These filters affect the amount of time you will need to expose your print. Although there are equations to help you figure out these changes, I want you to make a new test strip for each contrast filter change and for that matter any new variable in your printing.

## BURNING & DODGING

By adding to or subtracting from the *Base Exposure Time* you can darken or lighten specific areas of your print.

- BET - time = dodging (lightening an area)
  - done during the BET
- BET + time = burning in/down (darkening an area)

# Photo One • INTO THE DARK

## COMMON PROBLEMS

These are some common problems you may experience with the film developing stage. You probably will not have noticed these until you've made your prints - one of many of Murphy's Laws in the darkroom.

- 1) Water spots
  - Can be caused by crappy water, etc...
  - SOLUTION: Photo Flo-ing correctly can help eliminate this.
- 2) Clear spots on film
  - Caused by an air bubble during development. No developer hit that spot - but then the fixer did.
  - SOLUTION: S.O.L.
- 3) Black spots on film
  - Cause by an air bubble during fixing. The film developed correctly, but then no fixer hit that spot - it's not fixed so when the light hits it it turns black.
  - SOLUTION: S.O.L.
- 4) Scratches
  - Can be caused in-camera, from dirt on the pressure plate to dirt in the film canister felt. (are they perfectly straight?)
  - Also caused by squeegeeing your film. (I don't care what the guides say...don't do it!)
  - SOLUTION: Basically S.O.L. - but you can use Edwal No-Scratch to minimize scratches when printing
- 5) Finger prints (on film or prints)
  - On prints or film it can be caused by oily fingers (chemistry doesn't pass through) or chemistry on hands.
  - SOLUTION: S.O.L.
- 6) Nothing, nada, nix on film
  - If there are numbers on the film it means the film never went through the camera.
  - If there are no numbers on the film it means you probably developed it in bad developer or fixer by accident.
  - SOLUTION: S.O.L.
- 7) Pinch marks on negs (like a small pinkie fingernail shape)
  - Caused by squeezing the film too hard while rolling onto reels.
  - SOLUTION: S.O.L.
  - DON'T SQUEEZE SO HARD NEXT TIME!
- 8) Purple and brown marks on negs
  - Caused by film touching on reel. No developer got to it.
  - SOLUTION: S.O.L.
- 9) Negatives too dark
  - Overexposed and/or Overdeveloped
  - SOLUTION: Use Farmer's Reducer; adjust exposure on future rolls
- 10) Negatives too light
  - Underexposed and/or Underdeveloped
  - SOLUTION: Use Chromium Intensifier; adjust exposure on future rolls

**Last, but as you'll hopefully NOT see...certainly not last...**

- 11) Uncleanable dust on negatives
  - Dust is actually embedded in the emulsion. This occurs from improper handling upon completion of developing.
  - SOLUTION: S.O.L.