



Photography

ANSWER BOOK

compiled by Rebecca Plumley rebeccaplumley@gmail.com



Agenda TO LEARN

Tuesday, July 24

9:30-10:45

Beginning/Advanced

Go over schedule, expectations and assignments

Composition 101: What makes a good photograph?

Camera handling

Take a pre-quiz. Split into

beginning and advanced groups

10:50-11:50

Beginning/Advanced (split)

So . . . how does this thing work?

Exposure settings and white balance

Hands on practice

12:00-12:50

Lunch *Don't forget to take photos

1:00-2:30

Beginning

Working with motion, stopping, blurring and ghosting. Guided and individual practice

Advanced

Working with flash and natural light, stopping action. Photo shoot: Workshop photos using flash and natural light

2:30-3:15

Beginning/Advanced

How to tone and prepare photos for publication

3:15-3:30

Break

3:30-4:00

Beginning

Photo shoot: Workshop photos

Advanced

Photo shoot: Stop action

4:00-5:00

Beginning/Advanced

Personal time to shoot/

Photoshop/prepare workshop images

6:00-6:45

Dinner

* Homework: Don't forget your camera to photograph free time activities. Dinner, late night work sessions, artist sessions, hanging out, etc. Remember to avoid posed images and take candid, action oriented photographs

7:00-7:50

OPTIONAL: Photo critiques

8:00-8:45

OPTIONAL: One-on-one photo solutions

Wednesday, July 25

9:00-9:45

Beginning

Instruction. Working with aperture, zoom and subject/camera distance for depth of field effects

Group shoot: Portraits

Advanced

Environmental portraits vs mugshots. Photo shoot: Take an environmental portrait and a mug shot of your editor

9:45-10:45

Beginning/Advanced

Photo shoot. Workshop images and campus images

Toning time for workshop, campus and free time images

10:45-11:50

Beginning/Advanced

Photo shoot. Scavenger hunt

12:00-12:50

Lunch

1 :00-2:00

Beginning/Advanced

Scavenger hunt image prep.

Create a folder that is titled "Name-High school." Number images 1-20 based on the

scavenger hunt guidelines

*Commuters and those who will not be back for evening lab time,

turn in scavenger hunt images to instructor by 2 p.m.

3:00-5:00

Personal time to photograph/Photoshop/tone free time, workshop, campus, images

*ALL CAMP MEMBERS: Scavenger hunt photos must be turned in by 5 p.m.

*Commuters or those that won't return for optional open lab: All photo assignments (workshop, campus, free time) due at 5:00

6:00-6:45

Dinner

7:00-9:00

OPTIONAL: Open lab.

*ALL CAMP MEMBERS: If you didn't get all work in by 5 p.m., photo assignments (workshop, campus, free time) due by 9 p.m.

Thursday, July 26

9:00-10:00

Beginning/Advanced

Telling the whole story through photography. Finding ways to tell your school's story. Brainstorming what to photograph at your school this year

10:00-10:30

Beginning/Advanced

Caption writing

10:30-11:50

Beginning/Advanced

Advanced Photoshop techniques

12:00-12:50

Lunch

1:00-2:15

Beginning/Advanced

Sports photography- Pro at work camera/photography Q&A

2:30-3:00

Closing ceremony

ALL WORK IS DUE WEDNESDAY AT 5 P.M.

1. Top 10 workshop (academic/ working on publications) shots

Title: workshop

2. Top 10 free time activity shots (Students from workshop after hours)

Title: freetime

3. Top 5 People found on the TCU Campus (non-camp attendees)

Title: people

4. Top 5 Campus still life/ architecture images

Title: campus

TOTAL: 30 IMAGES

File name should be formatted:

title_photographer's name_
school's name_frame number.

Example: workshop_JohnSmith_
StonyPoint_1

Awards will be given for the best photo in each category for beginners and for advanced photographers

Types of DIGITAL CAMERAS

Point and Shoot



Good Uses

- Indoor- With good quality natural/ indoor lighting
 - Academics- Get in close and wait for reaction
 - Sports- Bench, reaction and crowd shots
- Portraits
- Outdoor- Sunlight, not at dusk or after dark
 - Activities and sports- Close up action
 - Activities- Reaction and crowd shots
 - Portraits

Point and Shoot Key Attributes

- Small
- Vast range of auto creative modes
- Quiet
- Live LCD display for framing
- Cost effective zooms

Point and Shoot Issues

- Smaller image sensor, so even if larger megapixel, not necessarily best image
- Sometimes doesn't have a viewfinder, causing image stabilization issues
- Requires a larger ISO which causes more grain
- Slower auto focus
- Shutter lag
- Photos often not of quality to blow up as dominant image
- Less powerful flashes requires only photographing things close up in low light

Single Lens Reflex (SLR)



SLR Key Attributes

- Lower noise at higher ISO
- Interchangeable lenses
- Access to more powerful flashes
- Larger image sensor allows for better photos in lower light situations
- Viewfinder not independent from lens

SLR Issues

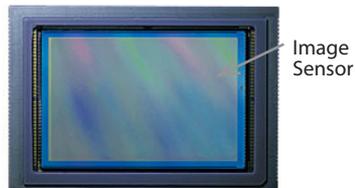
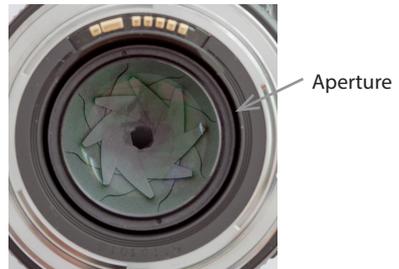
- Large
- Learning curve to use in manual mode
- Loud shutter
- Cost to add more lenses (zoom)

Good Uses

- Sports
- Portraits
- Academics
- Events

Basic PARTS

1. Body - Light tight box. Base to hold together optical and mechanical components of the camera
2. Lens- Gathers light and directs to an image plane
 - A. Zoom Control- Ring may be found on the lens or may be built into camera body using a toggle switch
 - B. Focus Control- May be built into shutter release button or may be controlled by ring on lens
3. Viewfinder or LCD Screen- Viewing device used to compose a picture
4. Shutter Release Button- Device pushed to take a photograph. Usually push half way to operate automatic focusing
5. Flash/ Hot Shoe/Accessory Jack- Depending on camera, some may have a built in flash, others may have a hot shoe/accessory jack to attach an external flash
6. Battery Compartment- Remember to keep an extra battery with you at all times
7. Memory Card Slot- Place memory card into camera in correct direction
8. Image Sensor- A device that converts an optical image into an electronic signal
9. Shutter- Metal planes (in front of the image sensor) that move to determine how long the sensor is exposed to light
10. Aperture - Metal blades in the lens that create an opening that determines the amount of light that reaches the image sensor



LENSES

1. Standard lens- Least expensive. For 35mm SLR is usually between 45 and 55 mm. This lens reproduces scene exactly as it appears
2. Telephoto- Longer than 55mm. Brings subject closer, but limits depth of field and catches camera shake
3. Wide angle lens- 40mm or less. Expands scope so photographer does not have to move back. Limited by edge distortion at 30mm or less
4. Zoom lens- Doesn't have a fixed focal length



Camera MODES

CREATIVE MODES



1. Automatic (SCENE/AUTO/A/Camera icon)- All controls are run automatically, limiting photographer's creativity



2. Program Mode (P) or Creative Automatic (CA)-Like automatic, but user can manually override some settings



3. Shutter Priority (S/SV/TV) - Manually adjust the shutter speed. Camera controls aperture and ISO



4. Aperture Priority (A/AV) - Manually adjust the aperture. Camera controls shutter speed and ISO



5. Manual Mode (M) - Camera operator adjusts aperture, shutter speed and ISO manually

BASIC MODES



6. Portrait Mode (Side profile of head icon)-Camera uses a large aperture to keep subject sharp focus and blur the background. Hints- 1. Not for moving objects. 2. Zoom in. 3. Get in closer to the subject



7. Landscape Mode (Mountain icon) -Camera sets smaller aperture to keep background objects in focus. Hints- 1. For non-moving objects. 2. Zoom out. 3. Get farther away from subject



8. Macro Mode (Flower or MACRO icon)-For extreme close-up shots. Hint- If camera has both a flower and a MACRO, use the MACRO for the most extreme close ups.



9. Sports / Action Mode (Running person icon)- Camera sets a fast shutter speed to stop motion. Hint- 1. Look for opportunities with defined movement



10. Night Scene Mode -(Star or moon icon) Camera uses a slow shutter speed but pairs it with a flash to illuminate subject

NOVELTY MODES



11. Movie Mode - Used to shoot movie clips



12. Depth of Field Mode (DEP/A-DEP) - Canon only. Measures the depth of the nearest and furthest objects when the shutter release is pressed half-way, providing no blurring of those objects in final image
13. Black and White or other Color Modes - Changes color of image to B&W, sepia or other specialty coloring
14. Panoramic/Stitch Mode - Take images to later join together as panoramic using photo software
15. Snow Mode - For bright light bouncing off of snow
16. Fireworks Mode - For shooting fireworks
17. Kids and Pets Mode -To catch kids in action. Uses faster shutter speed
18. Beach Mode - For bright beach scenes
19. Indoor Mode - To help with color balance and shutter speed inside buildings
20. Foliage Mode - Boosts saturation of colors
21. Smart Shutter-Takes the photo when people smile, wink or get into frame
22. Low Light--For dimly-lit situations
23. Super Vivid--Intensifies existing hues, saturating the scene with bright colors
24. Poster Effect- Turns subtle gradations of color into contrasts
25. Color Accent--Retains single color while other colors turn monochrome
26. Color Swap- Selects a color and replaces it with a color you specify
27. Fisheye Effect--Adds a fisheye photo distortion
28. Miniature Effect--Blurs the top and bottom of an image to emphasize perspective

White BALANCE

WHITE BALANCE

Because each type of light has a different temperature, camera manufactures have set up white balance presets to help photographers get correctly colored images. Before taking photos, either set the camera to the appropriate preset white balance option or do a quick custom white balance.

Degrees Kelvin	Type of Light Source	Indoor (3200K) Color Balance	Outdoor (5500K) Color Balance
1700-1800K	Match Flame		
1850-1930K	Candle Flame		
2000-3000K	Sun: At Sunrise or Sunset		
2500-2900K	Household Tungsten Bulbs		
3000K	Tungsten lamp 500W-1k		
3200-3500K	Quartz Lights		
3200-7500K	Fluorescent Lights		
3275K	Tungsten Lamp 2k		
3380K	Tungsten Lamp 5k, 10k		
5000-5400K	Sun: Direct at Noon		
5500-6500K	Daylight (Sun + Sky)		
5500-6500K	Sun: through clouds/haze		
6000-7500K	Sky: Overcast		
6500K	RGB Monitor (White Pt.)		
7000-8000K	Outdoor Shade Areas		
8000-10000K	Sky: Partly Cloudy		

Based on information from the book [digital] Lighting & Rendering
Chart and colors (c)2003 Jeremy Birn for www.3dRender.com

AWB	Auto White Balance
	Custom
	Kelvin
	Tungsten
	Fluorescent
	Daylight
	Flash
	Cloudy
	Shade

CUSTOM WHITE BALANCE STEPS WITH A CANON

1. Use a creative mode setting and take a properly exposed photo of a white or gray card (piece of unlined paper will

work). Hint- The photo must be taken under the same lighting you plan to take your other images (don't move from mixed indoor and window light to just indoor light)

2. Select the menu button, scroll to the camera settings menu, choose custom WB and press set.
3. Scroll to the image you took and press the shutter half way down to select.

Working with EXPOSURE

FOUR ELEMENTS OF EXPOSURE

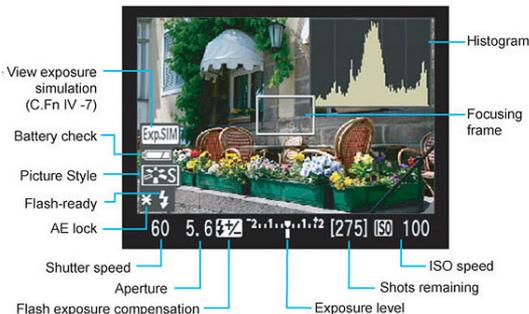
Four elements work together to help the camera/photographer produce a properly exposed photograph

1. Available light- Amount of light (natural and man-made) that is available at the location and cast on the subject
2. Aperture- Controls how much light is let into the camera

3. Shutter Speed- Controls how long light is allowed to hit the image sensor.
4. ISO- How sensitive the image sensor is to light. Sensitivity can be changed just like aperture (amount) and shutter speed (time)

HOW THEY WORK

The elements work in proportion to each other. For example, if the aperture goes down, the shutter speed goes up.



Visual VARIETY

CAMERA ORIENTATION

Provide page designers a variety of photo shapes to work on the pages

Horizontal

Rectangles- Gives the feel of motion.

Vertical

Rectangles- Gives the feel of stability and strength (Turn camera to its side)

Square Images

Most ordinary, gives a feel of calmness (compose allowing for cropping)



NUMBER OF SUBJECTS

Vary the number of people in a photo

One- Close cropped candid portraits or action shots bring the subject up close and personal

Some (2-5)- Show interaction and emotional exchanges

All- Creative angles that use a wide perspective show people in context to location.



TELL THE WHOLE STORY

To get the full story, be the first and last at an event

Beginning

Photograph commotion involved in set up and arrival

Middle

Photograph peak action and then the reaction and interaction of all involved

End- Photograph the clean up and the mess left afterwards, how people say goodbye, etc.



TIMING IS KEY

Shoot for action, reaction and interaction

Action- Peak moments and key plays-- what people came to see

Reaction- Emotional reaction to action. Can be seen from facial expression and body language

Interaction- Capture the physical/emotional connection that is obvious when two or more people interact



INTERESTING ANGLE/ PERSPECTIVE

- Do not just shoot at eye level; get lower or higher to get a different vantage point

-Bird's eye view

-Worm's eye view



Image COMPOSITION

ZOOM

PERSPECTIVE

Vary camera distance from subject

Overview- Wide view that shows many people and a lot of the setting

Midrange- Tighter than an overview and focuses on action/interaction of 2-5 people

Close up- Focuses on one subject. Usually cropped tightly

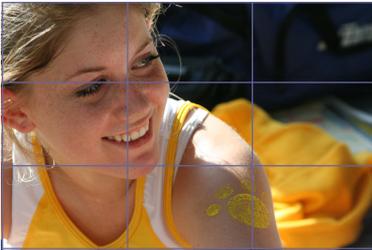
Detail- Close in view that shows texture and creates mood



RULE OF THIRDS-

The main person or elements in the photo are on the focal points

Focal points- The intersections of imaginary lines that divide the photo into three parts both vertically and horizontally



LEADING LINES-

Real or implied lines that lead the viewer's eyes through the photo



FRAMING - Use a secondary element to highlight or emphasize the subject



PATTERNS/ SHAPES - Look for a repetition of shapes for a different look



Using the FLASH

USING THE FLASH

Because of low lighting situations and equipment limitations photographers may have no choice but to add flash to a scene. Use flash sparingly and know if the event/location even allows flash photography before getting started.

AUTOMATIC ADJUSTMENTS FOR FLASH

In program, automatic and some of the basic presets, the camera will calculate the proper exposure for the flash. To do this, the camera sends out pre-flashes and uses the returning light to measure the distance to the subject.

MANUAL ADJUSTMENTS FOR FLASH

Shutter Speed- Cameras usually sync with shutter speeds from 1/60th to 1/200th. To use flash to fill in but not overtake the scenes light, use shutter speeds in the slower end of this range. To use the flash as the main light, go to your camera's max sync rate.

Aperture- To figure out the aperture, which will be the main exposure control, use the information given by the external flash in relation to the distance of the subject and the ISO.

Distance- Pop up flash will usually work for subjects from 3-15 feet from camera. See external flash to know its max distance. Hint- A. The bigger the ISO number the more distance will be gained from flash.

FRONT CURTAIN SYNC

The camera fires the flash when the shutter release is pushed. For the time remaining, the camera will capture the ambient light. Cons- The background often goes dark and on slow shutter speeds, any movement that is captured after the flash may end up covering up the motion that was stopped with the flash burst.

REAR CURTAIN SYNC

The camera fires the flash at the end of the exposure, right before the shutter closes. Until that point, the camera takes in ambient light. Pros- If used with a slow shutter speed, any motion that has been captured will be put in the background of the subject that was stopped with a flash burst.

HIGH SPEED SYNC

The photographer sets the camera to a shutter speed higher than the typical max sync rate. This is helpful when using a long lens but wanting to use the aperture to maintain a shallow depth of field (blurred background) which often requires a faster shutter speed

SLOW SYNC

The photographer sets the camera a shutter speed slower than 1/60th of a second. By using a slower shutter speed, more light is available and the background of the image may not go black. Yet, if there is motion, it will be blurred (front sync will burst flash at start of image and blur any action over burst. Rear sync will blur any motion up until end of time where flash will stop motion)

STRAIGHT FLASH

Use flash next to or attached to the camera.

Cons- Dark backgrounds, deep shadows cast on walls and tendency to get red eye
Hints- A. Move subject at least four-five feet away from wall. B. Have subject avoid looking directly into camera. C. Use a mirror or white card to bounce flash off ceiling (must adjust by changing flash compensation or exposure)

BOUNCED FLASH

Bounce light off of a ceiling or the wall to diffuse it.

Hint- A. To calculate aperture, calculate the whole distance the light is traveling (to surface then to subject) to get aperture, then open up one or two more stops) B. Pay attention to the angle of the flash to determine where the light will hit.

MUTED FLASH

Dim the flash by covering it with a white cotton cloth. Open up the aperture to compensate for the dimmed lighting.

FILL FLASH

Use the sun as the primary light and use the flash to help light up shadows. Determine aperture by calculating distance the light travels, then close down one stop to keep some shadow. Hint- A. Great for backlit subjects. B. Use flash on camera to avoid making new shadows. C. Subject should be no farther than 10 feet from the camera.

TIPPED FLASH

Setup the flash to bounce, but add a little more light to a subject by attaching a white card (sticking out just a little past the end of the flash). This will give a reflection in the subject's eyes.

FEATHERED FLASH

Hold the flash over head and point it at the farthest object/person that needs to be exposed properly. This way help keep subjects closer from camera from being too bright.

Writing CAPTIONS

CAPTION WRITING

Step 1- Create a creative lead for the caption that uses a play on words or action packed words to get people to read more. This acts like a mini-headline to the caption.

Step 2- Write a present tense sentence that answers who, what, where, when, how and why and doesn't restate the obvious. Identify every person in the photo (up to 5 people) by full names and titles.

Step 3- Write a past tense sentence that gives more information/details about the scene. This should be something you can't gain from looking at the photograph.

Step 4- Add a personal/emotional touch by getting a quote from someone in the photograph. Quote should flow naturally from the information already provided and should not repeat what has already been said.

EXAMPLE CAPTION *NOT MINE CHANGE

Record Rush - Breaking from the pack, junior runningback Jermain Jones carries the ball during the third quarter against Friendswood. Jones gained a district-high 245 yards rushing during that game and lead the district with 2,755 yards for the season. "I had a lot of yards against Friendswood, but I also fumbled three times. Coach was really mad at me until after we won the game," Jones said. Photo by Patricia Sanchez.

Knowledge PRE-QUIZ

DIRECTIONS

Answer each of the following questions.

1. What is the purpose of the camera's shutter?
2. What is the purpose of the camera's aperture?
3. What in-camera device lets you know if you have the right combination of shutter/aperture/iso/lighting to have a properly exposed photograph? How does it let you know that your exposure is correct?
4. If you are wanting to take a portrait where the background goes out of focus, but the subject stays in focus, how do you set your camera?
5. If you want to take a photo of a soccer player running down the field during an afternoon game, and you want the player's movement to be in focus, how do you set your camera?

6. Name three photographic composition rules and explain the purpose/use of each.

7. Why is a 2.8 lens needed for high school sports/academic/event photography? How is this lens better than a 5.6 lens?

8. How is metering and setting up your camera different when taking a photo with and without a flash?

9. What is ISO. Name a number ISO that will likely show grain.

10. What is white balance? How do you set white balance on your camera?

11. What are three things you would like to learn while at this workshop?

DIRECTIONS

Find subject matter that fits the following categories. You will receive a point for each shot if no one else took the same subject. Take WELL-COMPOSED shots – put a little thought into them.

RULES

DO NOT have people "pose" for shots – this includes class members.

You may not leave the workshop grounds.

CATEGORIES

1. Light
2. Numbers
3. Authority
4. Symmetry
5. Too Much

6. Layered
7. Three
8. Close Up
9. Shadows
10. Music
11. Pattern
12. Almost Empty
13. Upside Down
14. Out of Place
15. Small Spaces
16. Stairwell
17. Shoes
18. Ant's eye view
19. Tangled
20. Framed

Scavenger HUNT