

BASIC PHOTOGRAPHY II

DIVING INTO DIGITAL

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WEEK 1

CAMERA & CAPTURE

- **WORK IN MANUAL MODE** to learn how the camera works
- **MASTER** your camera's basic menus and settings
- **CAPTURE** perfect exposure and white balance

PHOTOGRAPHY PROCESS + ART

[fuh-tog-ruh-fee] -noun
the process or art of producing images of objects on sensitized surfaces by the chemical action of light

THE CREATIVE PHOTOGRAPHER COMBINES **PROCESS** (the controlled use of technology and techniques) WITH **ART** (the subjective interpretation and expression, according to aesthetic principles, of what is beautiful, appealing, or of more than ordinary significance) **TO CREATE IMAGES** IN A VARIETY OF VISUAL FORMS WHICH CAN BE VIEWED BY OTHERS.

A successful photographer must be in control of the technical aspects of his craft (**PROCESS**) in order to be able to create images that effectively COMMUNICATE his vision (**ART**).

Throughout the photographic workflow, if you separate the **PROCESS** steps from the **ART** steps you will achieve a more consistent and creative result, and you will have a lot more fun!!!

CAPTURE

ACCURATE PHOTOGRAPHIC CAPTURE IS ESSENTIAL TO CREATING AN IMAGE.

WHEN YOU “TAKE A PICTURE” YOU CAPTURE VISUAL INFORMATION THAT WILL ALLOW YOU TO RECREATE THE SCENE IN FRONT OF YOUR CAMERA.

ALL FORMS OF PHOTOGRAPHY - GLASS PLATE, FILM AND DIGITAL - USE THEIR RESPECTIVE MEDIA (EMULSION OR DIGITAL SENSOR) TO CAPTURE PICTURE INFORMATION.

ONLY PROPERLY CAPTURED PICTURE INFORMATION CAN YIELD A PROPERLY REPRESENTED SCENE - WHETHER ON A NEGATIVE, TRANSPARENCY, COMPUTER SCREEN OR IN A PRINT.

ALL FORMS OF IMAGE CAPTURE MUST BE PROPERLY PROCESSED IN ORDER TO BECOME VISIBLE.

DIGITAL CAPTURE

- WHITE BALANCE (AUTO WHITE BALANCE or PRE-SET)
- CAMERA MODE
- METER MODE
- ISO (SENSITIVITY TO LIGHT)
- FILE FORMAT (JPEG or RAW?)
- EXPOSURE
- FOCUS - CENTER FOCUS POINT IS THE MOST ACCURATE

WHITE BALANCE

USE CAMERA PRESET, COLOR TEMPERATURE OR CUSTOM WB

- **CAMERA PRESETS**

AWB

- **AUTO** (AWB) - CAMERA RESETS FOR EACH EXPOSURE



- **DAYLIGHT**



- **SHADE**



- **CLOUDY**



- **TUNGSTEN**



- **FLOURESCENT**



- **FLASH**



- **CUSTOM WHITE BALANCE** (USING GRAY CARD)

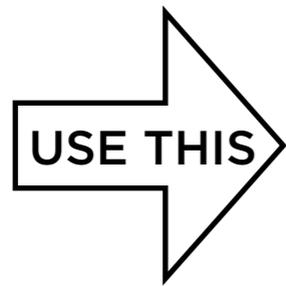


- **COLOR TEMPERATURE SETTING**



CAMERA MODES

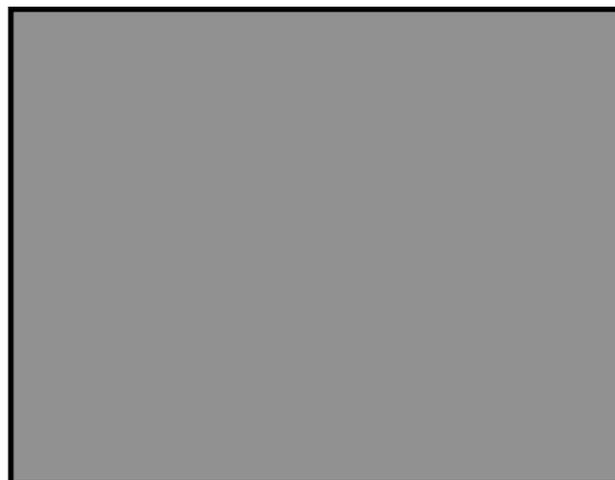
- PROGRAM - camera controls everything
- AUTO - you control ISO
- APERTURE PRIORITY - fixed aperture
- SHUTTER (TIME) PRIORITY - fixed shutter speed
- MANUAL
- FACE, MOUNTAINS, RUNNING MAN, FLOWER



HOW THE METER WORKS

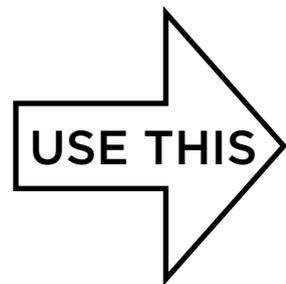
IT MEASURES THE LIGHT IT SEES
AND MAKES IT 18% GRAY

- **THE CAMERA** “SEES” ALL PARTS OF THE SCENE IN THE VIEWFINDER
- **THE METER** “SEES” ONLY THE PARTS OF THE SCENE THAT ARE WITHIN THE AREA OF THE SELECTED METERING MODE.
- THE METER **AVERAGES ALL** OF THE LIGHT IT SEES, AND CALCULATES AN EXPOSURE THAT WILL RENDER THAT AREA OF THE SCENE AT A DENSITY OF **18% GRAY**



THIS IS 18% GRAY

METER MODES



- EVALUATIVE (MATRIX)
- PARTIAL
- SPOT
- CENTER WEIGHTED AVERAGE

Selecting the Metering Mode [★]

Four metering modes are provided: Evaluative, partial, spot, and center-weighted average metering. In the (Full Auto) mode, evaluative metering is set automatically.



1 Press the button. (06)

2 Select the metering mode.

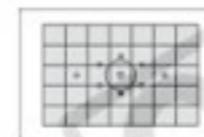
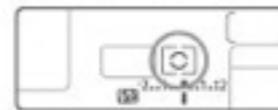
- While looking at the LCD panel, turn the dial.

 Evaluative Metering

 Partial Metering

 Spot Metering

 Center-weighted Average Metering



Evaluative Metering

This is the camera's standard metering mode suited for most subjects even under backlit conditions. After detecting the main subject's position, brightness, background, front and back lighting, etc., the camera sets the proper exposure.



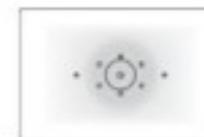
Partial Metering

Effective when the background is much brighter than the subject due to backlighting, etc. Partial metering covers about 8% of the viewfinder area at the center. The area covered by partial metering is shown on the left.



Spot Metering

This is for metering a specific part of the subject or scene. The metering is weighted at the center covering about 3.5% of the viewfinder area. The area covered by spot metering is shown on the left.



Center-weighted Average Metering

The metering is weighted at the center and then averaged for the entire scene.

TURN ON YOUR CAMERA'S FLASHING HIGHLIGHT ALERT



FLASHING INDICATES HIGHLIGHT OVEREXPOSURE - NO DETAIL

TURN ON FLASHING HIGHLIGHT ALERT FOR PLAYBACK IMAGES.

MAKE SURE THAT, IF YOU HAVE OVEREXPOSED (“CLIPPED”) HIGHLIGHTS, THAT THEY ARE NOT CRITICAL TO THE IMAGE - FOR INSTANCE, **NOT** ON THE SUBJECT’S FACE OR WEDDING GOWN.

CAPTURE FORMAT - RAW+JPEG

SET CAMERA TO RAW + HIGHEST RESOLUTION JPEG

- **RAW**

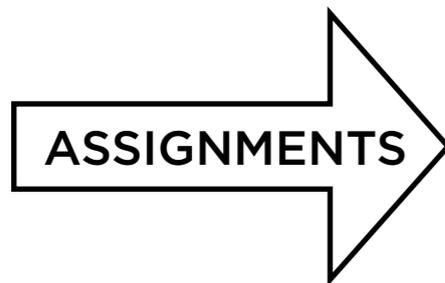
HIGHEST QUALITY IMAGE
MAXIMUM ENHANCEMENT POTENTIAL

NONE

- **JPEG**

SMALLER FILE SIZE (INFORMATION IS DISCARDED)
PROCESSED IN CAMERA (SMALLER COMPUTER)
CONTAINS JPEG "ARTIFACTS"
LIMITS IMAGE ENHANCEMENT
LIMITS PRINT SIZE

- **FOR CLASS ASSIGNMENTS, TURN IN UN-PROCESSED, IN-CAMERA JPEG FILES ONLY - NO PROCESSED FILES.**



CAPTURE STORAGE

CAMERA STORAGE CARDS

- **USE PROFESSIONAL CAMERA CARDS**
 - SANDISK OR LEXAR PRO-CLASS
 - PURCHASE AT PROFESSIONAL CAMERA STORES TO HELP AVOID COUNTERFEITS
- **LIMIT THE SIZE OF YOUR CARDS**
 - CARDS CAN MALFUNCTION
 - THE LARGER THE CAPACITY THE MORE YOU LOSE
 - 2 SMALLER CARDS ARE CHEAPER THAN 1 LARGE CARD
- **USE A CARD READER TO DOWNLOAD FILES**

WHAT IS EXPOSURE?

ISO + F/STOP + SHUTTER SPEED = EXPOSURE

1. ISO - CAMERA SETTING FOR SENSITIVITY OF CAMERA SENSOR

LOWER ISO NUMBER - LESS SENSITIVE - BEST FOR BRIGHT LIGHT,
LESS NOISE (GRAIN)

HIGHER ISO NUMBER - MORE SENSITIVE - BEST FOR LOWER LIGHT,
MORE NOISE (GRAIN)

2. F/STOP - LENS SETTING CONTROLS AMOUNT OF LIGHT ENTERING LENS

LOWER NUMBER (F2.8, F3.5) - LETS IN MORE LIGHT, SHALLOW DEPTH-OF-FIELD

HIGHER NUMBER (F8, F16) - LETS IN LESS LIGHT, GREATER DEPTH-OF-FIELD

3. SHUTTER SPEED - CAMERA SETTING CONTROLS HOW LONG SENSOR IS EXPOSED TO LIGHT

SHORTER EXPOSURE (1/2000sec) - LESS LIGHT HITS SENSOR, FREEZES MOTION

LONGER EXPOSURE (1/30sec) - MORE LIGHT HITS SENSOR, BLURS MOTION

WHAT IS *PROPER* EXPOSURE?

ISO + F/STOP + SHUTTER SPEED = EXPOSURE

THE CAMERA SENSOR HAS A LIMITED CAPACITY.

LIGHT VALUES EXCEEDING ITS CAPACITY (EITHER TOO BRIGHT OR TOO DARK) ARE “CLIPPED” AND APPEAR IN THE IMAGE AS PURE WHITE OR PURE BLACK WITHOUT ANY DETAIL.

YOUR EXPOSURE SETTING SELECTS THE LIGHT VALUES THAT WILL APPEAR IN THE PHOTOGRAPH WITH DETAIL.

PROPER EXPOSURE ACCOMPLISHES THREE THINGS:

1. CONTROLS THE AMOUNT OF LIGHT HITTING THE SENSOR SO THAT A PICTURE OF THE SUBJECT IS CAPTURED WITHOUT CLIPPING IMPORTANT PICTURE INFORMATION
2. ALLOWS THE PHOTOGRAPHER TO HOLD THE CAMERA STEADY DURING EXPOSURE TO PREVENT UNINTENTIONAL BLURRING AND/OR REDUCED SHARPNESS
3. USES THE F/STOP SETTING TO CONTROL DEPTH-OF-FIELD

SETTING PROPER EXPOSURE

3 STEPS TO PERFECT EXPOSURE

STEP 1 **USE CAMERA METER TO SET YOUR STARTING EXPOSURE**
ADJUST ISO, F/STOP, AND SHUTTER SPEED TO PLACE THE EXPOSURE INDICATOR IN YOUR VIEWFINDER IN THE CENTER POSITION (no + or -)

THIS SETTING IS THE **STARTING POINT** FOR DETERMINING THE PROPER EXPOSURE OF YOUR SUBJECT FOR THE PICTURE YOU WANT TO MAKE

TAKE ONE PICTURE USING THIS SETTING

STEP 2 **CHECK** THE HISTOGRAM, HIGHLIGHT ALERT AND THE PREVIEW ON THE BACK OF YOUR CAMERA. THE IMAGE CAN **ONLY** BE ONE OF 3 THINGS:

1. PERFECTLY EXPOSED (you may begin shooting now)
2. OVER-EXPOSED (too light) - go to STEP 3
3. UNDER-EXPOSED (too dark) - go to STEP 3

STEP 3 **ADJUST CAMERA SETTINGS** BY ONE F/STOP EQUIVALENT AND SHOOT AGAIN.

CHOOSE ONE - F/STOP, SHUTTER SPEED OR ISO - TO MAKE THE **SUBJECT** IN YOUR PICTURE LIGHTER OR DARKER WITHOUT CLIPPING CRITICAL INFORMATION. *On most cameras this is 3-clicks of an adjustment dial in the proper direction. 3-clicks = 1-f/stop equivalent.*

YOU SHOULD BE ABLE TO REACH A PROPER EXPOSURE FOR YOUR PICTURE MAKING NO MORE THAN **3 TEST EXPOSURES**.

**THE CAMERA DOES NOT MAKE PICTURES.
IT CAPTURES THE SCENE I SHOW IT.**

**THE METER DOES NOT MAKE PICTURES.
IT MEASURES THE LIGHT I SHOW IT.**

I AM A PHOTOGRAPHER.

**I MAKE PICTURES USING MY BRAIN...
AND MY EYE...**

**THEN I USE A CAMERA AND PHOTOGRAPHY
TO SHARE WHAT I SAW WITH OTHER PEOPLE.**