

**CO 3403: Photographic Communication  
Camera & Film Definitions**

**Read Chapter 1: Camera, Chapter 2: Lens, & Chapter 3: Light and Exposure**

**Image – Film or Sensor (for Digital: page 4-5)**

Film	Film is used to permanently record the image formed by the lens. It consists of a light sensitive emulsion on an acetate or plastic base
Film speed / ISO	A measure for the light sensitivity of film. dSLR cameras approximate this setting
Digital Sensor	Converts the light coming from the lens into electrical signals that are sent to a memory card
Memory Card	Device that stores the digital 'exposure' prior to transferring it to a computer, other storage device, or printer
File Format	The type of file that a dSLR camera uses to store the digital exposure.  JPEG (or JPG) is a common format but uses a lossy compression algorithm and limits editing/printing options. RAW file formats (NEF, CR2, ORG, etc...) are generally specific to each camera but are not compressed and allow for a greater amount of correction. Each RAW file is stored at the maximum resolution of the camera

**Exposure (page 6-8, 16, 60-73)**

Exposure	An exposure describes the amount of light falling on the light sensitive film or digital sensor after the shutter is released. The exposure is controlled by a combination of aperture and shutter speed
Normal exposure	An exposure that produces a "negative" ideally suited for the desired print
Underexposure	An exposure that produces a thin (transparent) "negative", which prints too dark. On a dSLR, the image will be flat with no rich shadows or defined highlights.
Overexposure	An exposure that produces a dense (dark) "negative", which prints too light. On a dSLR, the image will be very bright with hard to discern details.
Light meter	An instrument, either built into the camera or used hand held, that measures the amount of light either falling on a subject or reflecting off a subject. It is used to calculate an exposure setting of shutter speed and aperture
TTL meter	Through-The-Lens exposure meter common in most 35mm SLR/dSLR cameras
Stop	The unit of light described by one step on the aperture ring, one step on the shutter speed dial, or a doubling/halving of the film speed. Apertures, shutter speeds and film speeds all involve either a halving or doubling of values between full steps. The amount of light either halved or doubled by moving up or down in full steps on any of these scales is a stop. Moving either the aperture ring or the shutter speed dial one step changes the exposure by one stop

**Camera – Lens (page 6-7, 14-17,22-25, Chapter 2 - All)**

Lens	A lens consists of one or more optical glass elements arranged to sharply focus the scene in front of the camera onto the film or digital sensor.
Focal length	The distance from a point in the lens to the focal (film) plane when the lens is focused on infinity. Longer focal length lenses bring you closer to the subject by increasing magnification

Zoom lens	A lens that can be adjusted to all focal lengths within its zoom range
Normal lens	A lens where the focal length matches the diagonal measurement of the negative format it is used with. Normal lenses closely resemble human vision in their view of the subject. (50mm for SLR, @ 35mm for dSLR)
Short lens	A lens with a shorter than normal focal length. Subjects seen through a short lens will appear smaller than normal, and the lens will include more of the subject than a normal or long lens
Long lens	A lens with a longer than normal focal length. Subjects seen through a long lens will appear larger than normal, and the lens will include less of the subject than a normal or short lens
Framing	The process of selecting elements of the scene to be included in or excluded in the resulting exposure
Perspective	The impression of scale and depth in an image
Focus	In focus refers to the point where rays of light converge on the film (or sensor ) to form a sharp image. To focus involves adjusting the lens to film (or sensor) distance by turning the lens barrel until the desired subject in the scene appears sharp -in focus.
Plane of focus	Only one point of a scene can be in critical focus. This is the plane of focus. Depth of field controls the appearance of sharpness in front of or behind this plane
Depth of field	The area from near to far that appears sharp in a photograph
Aperture	An adjustable opening within the lens used to control the intensity of the light falling on the film or sensor during exposure. The aperture, given by an f-number, refers to the size of this opening
f-stop	The relative size of an aperture opening is given by the f-stop. A common sequence of f-stops for an SLR/dSLR lens: f/2.8, f/4, f/5.6, f/8, f/11, f/16, and f/22. A lens might have larger (smaller f-number) or smaller (larger f-number) aperture openings.  The f-stop = The focal length of the lens divided by the diameter of the lens opening. The intensity of light given by one particular f-stop is the same for all lenses
Maximum aperture	The widest lens opening
Minimum aperture	The smallest lens opening

### Camera- Body (page 6-7,14—21, 24-25)

Shutter	The shutter mechanism opens and closes to control the length of time the film is exposed to light
Shutter speed	The actual time that the shutter remains open to expose the film
Motion	Every photograph is a still moment in time. A slow shutter speed can blur a moving subject and create an impression of motion in the photograph. A fast shutter speed can freeze the action in a split second.
Viewfinder	Shows the image that will be seen by the lens and captured by the camera sensor or film
Camera Dials / Buttons	Controls functions like setting the focus, aperture, shutter, film speed, film advance and rewind and other important adjustments. May vary in form and function from camera to camera.