WEEK 3: EXPOSURE

DIGITAL MEDIA E-10

EXPOSING DIGITAL PHOTOGRAPHY

DAN ARMENDARIZ

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Problem set 1: due tonight (11:59PM)
Project 1: due next Thursday, September 24
Problem set 2: released today
Wednesdays 8:30 PM ET by Shelley on Skype
Saturdays 1:00 PM ET by Henry on Skype
Wednesdays 5:30 PM ET by Rob in Sever Hall 212
Thursdays 7:40PM ET by Jordan in Northwest B101
SHUTTER SPEED

EXPOSURE

2015: 30s, ISO 250
EXPOSURE

STOPS & EXPOSURE VALUE (EV)

-2 EV

-1 EV

+0 EV
SHUTTER SPEED

2011: 1/5s, f/10, ISO 100, +1EV.
2012: 4s, f/6.3, ISO 100.

2007: 10s, f/8, ISO 100

2013: 1s, f/4.5, ISO 200, +0.7EV
STOPPING MOTION

SHUTTER SPEED

2004: 1/1250s, f/2.8, ISO 200
SHUTTER SPEED

STOPPING MOTION
MIXING MOTION WITH STILL

SHUTTER SPEED

2011: 1s, f/8, ISO 100
ISO "SENSITIVITY"

**COMPACT VS DIGITAL SLR CAMERAS**

ISO 100 | ISO 1600
---|---
**COMPACT CAMERA**
ISO 100 | ISO 1600
**DIGITAL SLR**

Images from dpreview.com
COMPARISON TO FILM (POSSIBLY UNFAIR)

ISO "SENSITIVITY"

ISO 1,600 (film negative)  ISO 25,600 (Nikon D3)

Images from en.wikipedia.org and dpreview.com
COMBINED WITH SHUTTER SPEED

ISO "SENSITIVITY"

2007: 846s, f/8, ISO 400
Combined with Shutter Speed

ISO "Sensitivity"

2007: 846s, f/8, ISO 400

2007: 336s, f/8, ISO 800
EXPOSURE

APERTURE
F-number = \( f/D \)

where

\( f = \) focal length

\( D = \) aperture’s effective diameter
F-Number = F/D

Aperture

$\phi$

$D$

$f$
MAKING EVERYTHING SHARP

APERTURE

2013: 1/15s, f/4.5, ISO 200, +0.7EV
EXPOSURE: THE BIG FOUR

- Amount of available light
- Shutter speed
- ISO
- Aperture

2014: 1/3200s, f/2.8, ISO 200
EXPOSURE:
SUNNY 16 RULE

- For a bright sunny day:
  - 1/100s
  - ISO 100
  - f/16

2014: 1/1600s, f/5.6, ISO 200
MOON LANDINGS

EXPOSURE

Underexposed

Overexposed

Both

ugh 😩
The power of good light
EXPOSURE

INTENTIONAL OVER- AND UNDER-EXPOSURE (HIGH, LOW KEY)

2005: 8s, f/16, ISO 100

2005: 15s, f/16, ISO 100
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