



DIGITAL
CAMERAS

Introduction to Digital Photography

Gr. 11 Comm Tech @ Bluevale

Introduction to Digital Photography

- This presentation will cover some tips and tricks to help make you a better photographer.
- We will focus mainly on techniques involving digital cameras (which you will learn more about later), but many of these “rules” also apply to conventional film AND video cameras.

Introduction to Digital Photography

Know Your Camera

- As with any piece of electronic equipment, you want to take the time to learn how to operate your camera correctly.
- The first step is reading over the manual.
- This is important, since you want to ensure you are familiar with basic operations, charging instructions, how to load memory cards, transfer images to your computer, etc.
- For your first shots, limit the settings you change so that you can get started quickly.

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Know Your Camera (contd)

- On most digital cameras, you adjust settings using a menu that is displayed in the camera's LCD panel.
- The settings are within menus much like computer software.
- Your camera will also have a control on it - usually on the back or top - that functions like a four-sided computer mouse so you can select different settings.

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Basic Camera Features

- Most digital SLR cameras have similar basic features, including:
 - *White Balance Adjustment*
 - *Aperture/Exposure Control*
 - *Shutter Speed Control*
 - *Quality/Sharpness Settings*
 - *Red-Eye Reduction*
 - *“Macro” Mode and Preset Photo Modes*
 - *Video/Audio Recording Capability*

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White Balance

- White balance adjusts colors based on the light you are shooting (indoor vs. outdoor) – usually referred to as **COLOUR TEMPERATURE**.
- With proper white balancing, white objects in your photos appear as white instead of with an orange or blue cast.
- Some digital cameras have an auto-white balance feature, but be careful as it isn't always accurate.
- You can correct white-balance problems on the computer (with programs such as Photoshop).

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Incorrect White Balance (blue tint) – camera not adjusted for outdoor photos



Correct White Balance camera adjusted for outdoor photos – no unusual tinting

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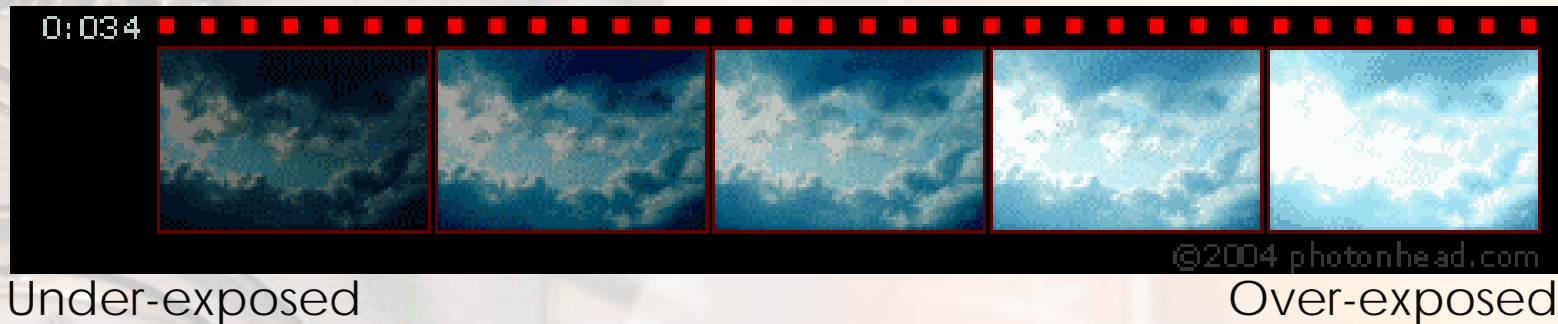
Aperture/Exposure Control

- As you've already learned from your video lessons, a camera's aperture is the opening that allows light into the lens (think of the iris in your eye).
- Setting the aperture correctly is important for ensuring properly exposed photos (meaning the correct amount of light).
- A large aperture setting lets in more light and is useful in more darkly lit situations.
- A small aperture setting is better suited for brightly lit scenes.
- Most digital cameras feature an auto-exposure setting that automatically adjusts the aperture as lighting conditions change.

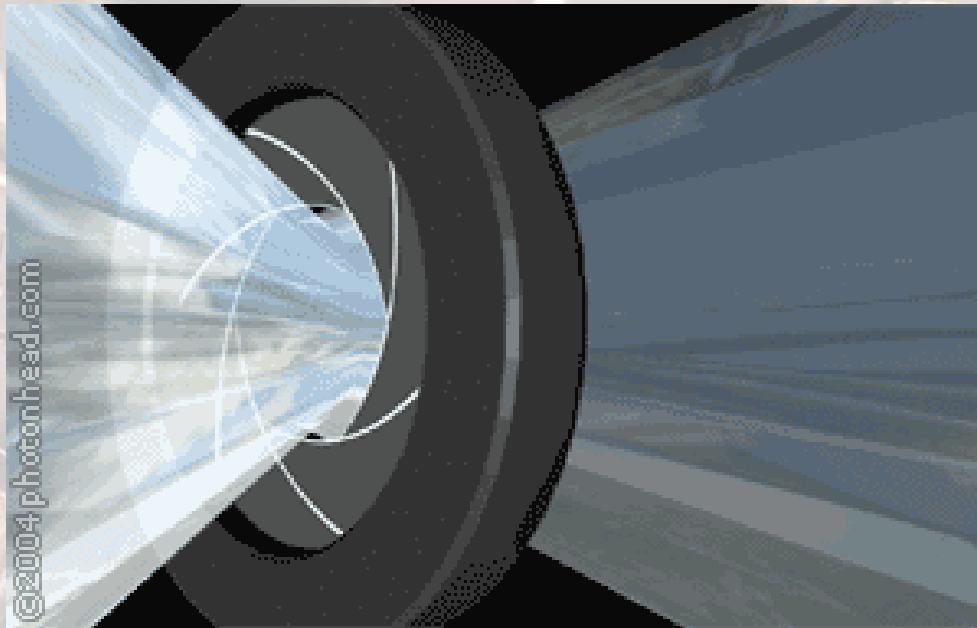
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Aperture/Exposure Control (contd)

- Professional photographers rarely use auto-exposure mode, preferring instead to control the aperture setting themselves.
- Different aperture settings are referred to as F-Stops.
- The smaller the F-Stop number, the larger the aperture opening (yes, this is a little confusing).
- Under-exposed = not enough light (appears too dark)
- Over-exposed = too much light (appears washed out)



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Brightness is reduced as light passes through the aperture of a camera lens.

Aperture Settings:

more light



f2.8



f4



f5.6



f8



f11



f16



f22

less light

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Shutter Speed

- A camera's shutter speed refers to the length of time the shutter stays open, allowing light to enter the camera.
- The faster the shutter speed, the less light that enters the camera and the quicker the image is captured.
- A good photographer knows how to make aperture settings and shutter speed work together!
- As with exposure settings, most digital cameras have auto-shutter modes.
- You should be aware of how different shutter speeds affect an image.

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Shutter Speeds:

more light

1

1/2

1/15

1/30

1/60

1/125

1/250

1/500

1/1000

less light

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The longer exposures (such as 1 second) give much more light to the film than a 1/1000 of a second exposure.

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Shutter Speed

- Shutter speed also needs to be adjusted depending on the type of subject being photographed.
- Fast moving objects require a fast shutter speed (such as 1/500 of a second) – sports or actions shots
- For shutter speeds lower than 1/125, you should use a tripod or the image will likely appear blurry

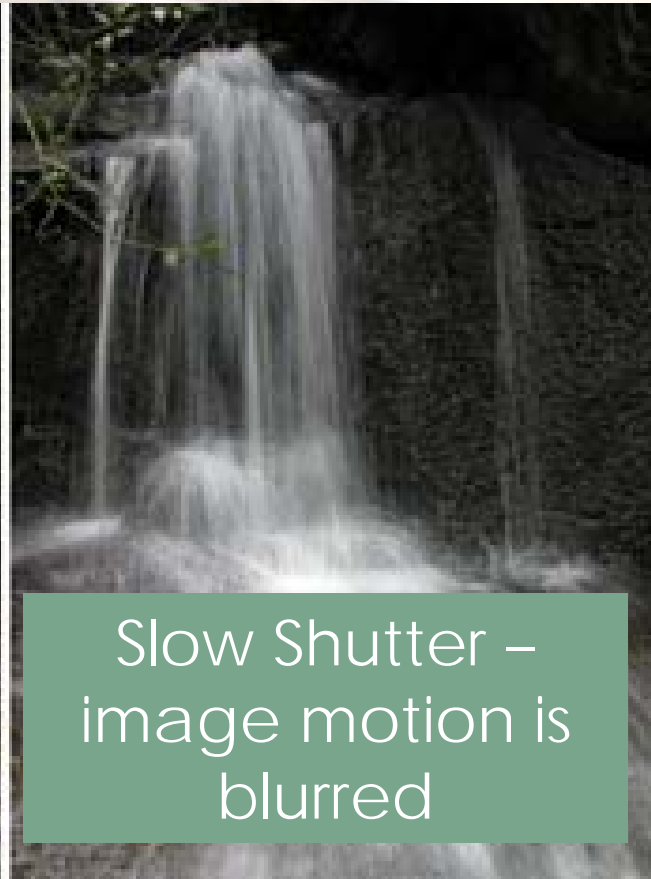


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Shutter Speed



Fast Shutter –
image motion is
“frozen” in time



Slow Shutter –
image motion is
blurred

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Shutter Speed



A slow shutter speed is used to blur the background as the camera pans along with the cyclist.

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Shutter Speed



A long shutter speed can be set at night to record car headlights as trails.

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Shutter Speed



Slow Shutter – note blurred motion



Fast Shutter

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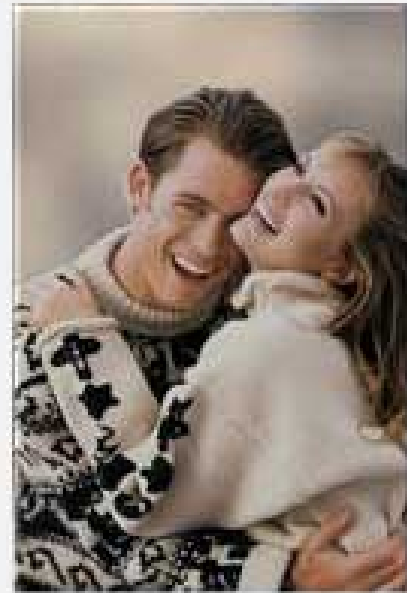
Depth of Field

- The camera's aperture setting also controls the depth of field of your photos.
- Depth of field is the range of distance from the camera lens that appears in sharp focus.
- The smaller the aperture opening (or higher F-Stop number), the greater the depth of field (or larger range of focus).
- The larger the aperture opening (or smaller F-Stop number), the shallower the depth of field (small range of focus).

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Depth of Field

f22 : 1/4 = f8 : 1/30 = f2.8 : 1/250



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Depth of Field



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Depth of Field



Deep DOF



Shallow DOF



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Composition Tips

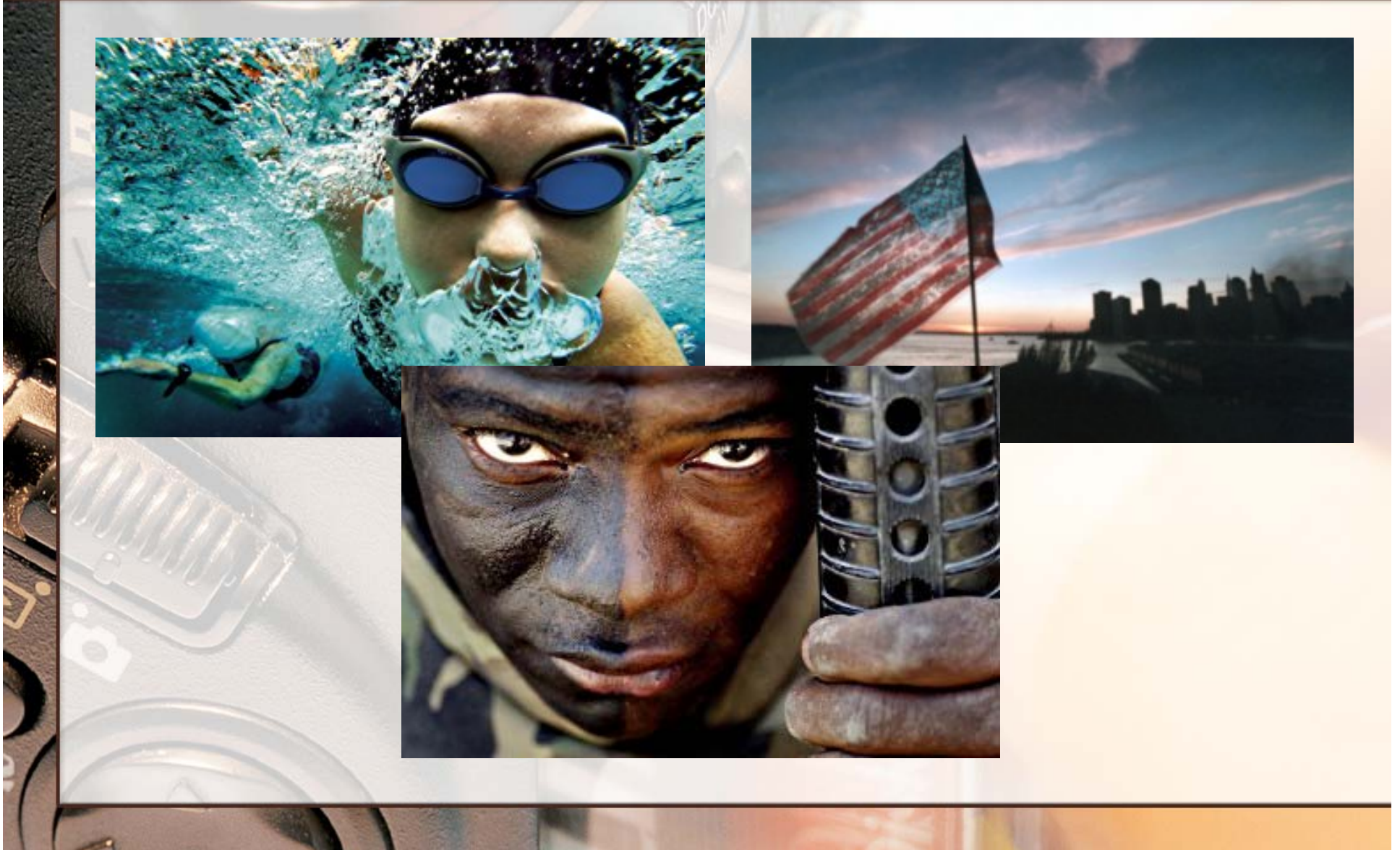
- Your initial impulse may be to use the camera's LCD monitor instead of the viewfinder to compose pictures.
- You can do this, but this technique can also result in "soft" focus images; holding a lightweight camera away from your body is an invitation for motion blur.
- Holding the viewfinder to your eye provides built-in stabilization that helps ensure sharp images.
- To stabilize the camera, hold it with one hand, and support it with the other.
- Keep your elbows close at your side. Stand with your feet shoulder-width apart to steady the camera.

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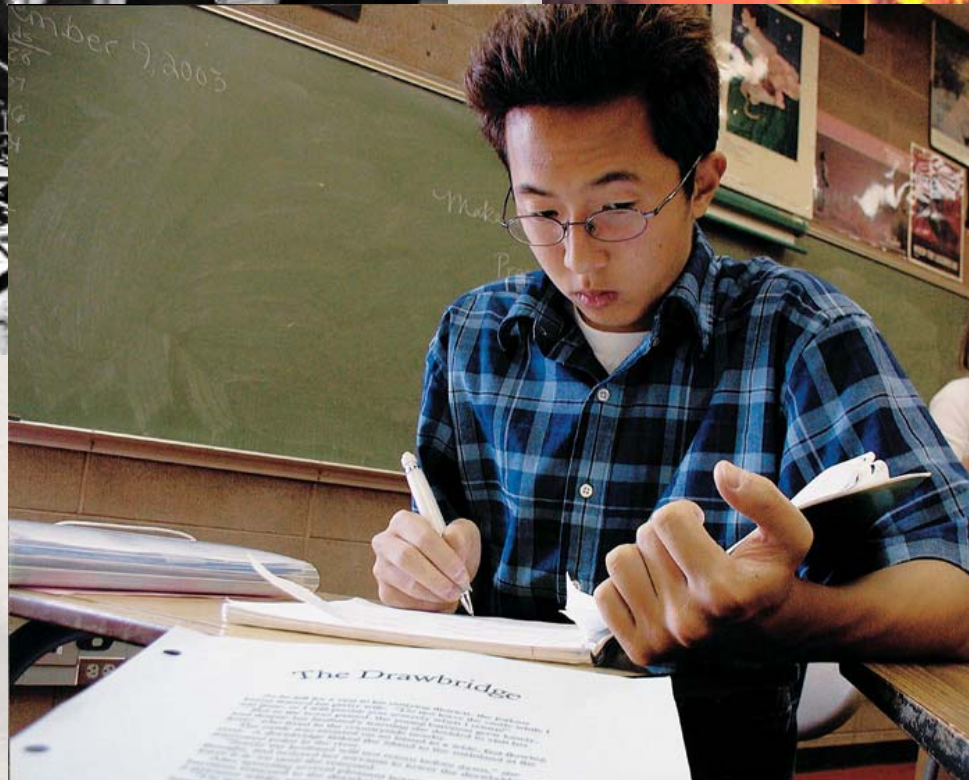
Composition Tips

- Get close to your subject when possible.
- This eliminates potentially distracting background details and focuses attention on your subject.
- Pay attention to the background!
- Use the **Rule of Thirds!** Avoid placing objects dead centre – this helps to create visual interest.
- Try to take shots from interesting angles. Force people to see things in unique ways.

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