

Digital Photography: Going Off Automatic

at the Sanctuary for Independent Media with Olivia Robinson

Camera Modes:

Most digital cameras have very similar camera modes regardless of their brand.

Camera Control Modes:

Auto: everything is automatic, you may be able to turn off the flash

Manual: everything is manual

P: almost auto, but you can set the exposure, ISO, flash, white balance and focusing

Tv: same as P, but you can also set the shutter speed

Av: same as P, but you can also set the aperture value

C: Custom settings

Subject Oriented Modes:

Portrait: subject in focus, background blurred

Movie: to shoot movies

Stitch Assist: for when you are going to stitch photos later for a panoramic photo

SCN: special settings for different kinds of scenes, such as fireworks, snow, etc.

Landscape: for spacious scenes

Night Scene: uses a flash in an interesting way

Fast Shutter: for fast moving objects

Slow Shutter: to make fast moving objects appear blurred, such as a waterfall

Exposure:

Exposure is the amount of lightness or darkness of a photo. The exposure is controlled by three variables: ISO speed, shutter speed and f-stop (aperture). Many of the modes on a digital camera will allow you to modify the exposure by simply changing the Exposure setting. Some modes, such as Manual, do not have this setting, instead you modify the exposure by changing the ISO speed, shutter speed, and f-stop. The ISO speed, shutter speed and f-stop all work together to create the exposure, as well as the point of focus and crispness of a photo.

Many of the digital cameras have options for different ways of setting the exposure metering:

Evaluative - overall metering of the frame, Center Weighted - overall but weighted in the center of the frame, and Spot - only reads directly in the middle of the frame.

When your camera is giving you an exposure reading, it is trying to make your image become 18% gray, otherwise known as a medium gray. If you are taking a photo of a black cloth, the camera will want to make the cloth medium gray rather than black. The meter reading will reflect this. If you are taking a photo of a white cloth, the camera will also want to make the cloth medium gray rather than white. The meter will reflect this too. While in automatic mode, it will make adjustments to your exposure settings automatically to adjust your image to medium gray. In Manual Mode, it will simply give you a reading of + or - numbers for you to manually make corrections. Most of the time, we want white to look like white and not a medium gray. With this in mind, it is best to take an exposure reading on an 18% gray card, or something at a similar tone. This way the camera is not over or under compensating for light or dark tones. (To learn more about exposure and exposure readings, look up the "Zone System.")

ISO speed:

This function is a direct reference to film. Film is sold at different ISO speeds which reference how sensitive the film is to light. The lower the ISO number the less sensitive the film is to light, so the longer it must be exposed. The higher the ISO number, the more sensitive it is to light and the "faster" the film is. Also, the lower the number the finer the grain on the film. The same principal holds true for digital cameras. The lower the ISO number the more light is needed and the less digital noise (instead of grain) is captured in the photo. The higher the number the less light is needed, but there is also more "noise." Low ISO speeds are great for well lit photos where the subject is not moving; high ISO speeds are great for low lighting or a moving subject.

Shutter Speed:

This setting may not be available in all modes on your camera. The shutter speed is the speed at which the camera takes a picture. For bright light the shutter can be very fast, for low light the shutter

will need to be much slower, such as in night photography. As a rule of thumb, if you are not using a tripod, it is best to keep your shutter speed at 1/60 or higher. Below this number, the photo will most likely be blurry without a tripod. The faster your subject is moving, the faster the shutter will need to be if you want a crisp subject. For instance, at 1/60, taking a photo of a moving car would leave the background in sharp focus and the car a blur.

F-Stop:

The f-stop refers to the size of the aperture (hole) in your lens. This affects two things, the amount of light let into the camera and the depth of field. The depth of field is how much of your photo is in focus. At a low f-stop, such as 2.8, the aperture is wide open, allowing lots of light in and a very narrow depth of field. If you photographing a close up of a mouse at 2.8, perhaps its nose would be in focus but not its body nor the background. At a higher f-stop, such as 22, less light would be flowing in the camera and the entire mouse and much of the background would be in focus. The lower the number, the bigger the aperture, the shallower the depth of field. The higher the number, the smaller the aperture, the more crisp the entire picture will be.

White Balance:

For digital cameras the color of the photo depends on your white balance. This has to do with the temperature of the light, meaning cooler or warmer tones. There are many white balance modes in your camera, usual ones are: sunny, cloudy, auto white balance(AWB), indoors, tungsten, and manual white balance. Auto Mode will not let you set the white balance, but many other modes will. The best is to set your white balance manually for each lighting condition, or to try a number of the presets to find the one right for each environment.

Flash:

On many digital cameras, you have options with the flash. It may be on, off, in red eye mode, or even a partial flash. Flashes can be used in low lighting situations to illuminate the scene, or even in harsh daylight to lightly fill in shadows. If you are going to use the flash, try it out at a couple of different strengths to find out what is best for your situation.

File Formats:

Most cameras will give you the ability to choose a file format for your photo, as well as a quality. The file formats are usually JPEG, TIFF or RAW. RAW format is unprocessed data straight from the sensor, it creates the largest file and must be processed by a computer program (usually comes with your camera) before it can be seen by other programs such as iPhoto or Photoshop. The TIFF file is somewhat processed in your camera, a medium sized file and does not require a special process to be seen by other computer programs. JPEG is the most processed, the smallest, and the most universally read by computers of the three formats. If you are trying to take very high quality pictures to be printed, it is best to use RAW or TIFF. If you want to take a lot of images without downloading your card often, then use JPEG. For images only to be seen on the computer, JPEG is perfect.

I recommend taking the photos at the largest size (best quality, usually around 2000 x 1000 pixels in size) that your camera offers unless you know that they will be seen only on a computer or at a different specific size. It is easy to downsize the files later on the computer and impossible to make up for the loss of data if you ever wanted them bigger.

Basic Rules of Thumb for Compositions:

In the end, there are no right or wrong compositions, but here are some tips on generally accepted ideas of 2D composition.

1. **Rule of Thirds.** Rather than having your subject in the middle of the frame, think of your frame divided into three sections both vertically and horizontally. Try lining your subject on one of those lines.
2. **Limiting Focus.** Allow the placement objects in the photo and the point of focus to highlight what it is you are most interested in within the photo.
3. **Viewpoint.** Try a number of different viewpoints and how that changes the image of your subject.
4. **Cropping.** What you keep in and what you keep out of a photo helps tell its story.
5. **Contrast.** Contrast in lights and darks as well as in colors can help focus the viewer's attention on what you most want to communicate through your photo.