

Digital Photography – Level 3

Camera Exposure Settings

The basics of Photography

We are now going into photographic shoot modes that are common to most cameras. Some cameras may have more modes and some cameras may have less modes, the presence or absence of these modes does not make a camera take better or worse pictures, the operator is usually responsible for that. Let's get into these modes and see what they are all about.

Shooting Modes

Most cameras come with a few different types of shooting modes, from full automatic to full manual. We're going to take a look at the most common and discuss when you should use them. You may not be familiar with terms like shutter speed, aperture, and ISO but don't worry—we'll be going over those in detail in the next lesson.



Automatic takes care of everything for you. There's not much to explain here.



Program automatic sets your aperture and shutter speed automatically, but gives you control over other settings like ISO (the rating that affects how sensitive your camera's sensor is to light as we learned in Level 2).



Scene modes generally have icons to represent their purpose, such as a mountain for landscapes or a fast-moving person for sports. Scene modes can be useful if you want the camera to assist you in photographing the types of photos each mode is designed for, but hopefully after you're done with these lessons you won't need or want to use them anymore.



Shutter priority allows you to set the shutter speed and ISO but allows the camera to set the aperture automatically. This mode is useful if the shutter speed is the most important consideration when taking a photo. This is often the case when you want to make sure you take a photo fast enough to capture motion but do not care about the aperture. This is useful for photography sports, dance, or anything with a lot of movement.



Aperture priority allows you to set the aperture and ISO but lets the camera set the shutter speed automatically. This is useful when the aperture is the most important consideration in your photograph. The aperture can have some of the greatest visual impact on your photographs because it is one of the largest contributing factors to depth of field. A wide aperture (represented by a low f-stop like f/1.8) will produce a photo where your subject is in sharp focus but the background is very much out of focus. This is useful for portraits, or focusing on a single object in an otherwise busy frame. A narrow aperture (represented by a higher f-stop, like f/8) will produce a photo where most everything appears to be in focus. This is useful for landscapes, or any other situation where keeping everything in focus is desirable. Wider apertures also let in more light, so they're useful when you don't have much and want to avoid using a flash. Aperture priority is one of the best shooting modes your camera has because you can still control your ISO settings (light sensitivity) and the shutter speed is often something that's best left for the camera to decide unless you have a reason to choose it yourself. Don't worry if you don't fully understand this yet. We'll be discussing aperture, shutter speed, and ISO in much more detail in the next lesson.



Manual mode lets you set everything. It's worth noting, however, that this mode does not imply manual focus with DSLR cameras. Switching between manual and automatic focus is generally a dedicate hardware toggle switch on your lens and not on the camera. If you want to focus manually on a DSLR, you can use any shooting mode you want if the switch is set to manual on the lens.

Flash Modes

Your camera has a couple of different flash modes, and most of them you'll never need. Here's what they're called and what they do.



Automatic flash will only fire the flash when needed, which the camera determines by reading the available light on the subject. This generally happens when there isn't enough light anywhere in the frame or if the subject is backlit and appears dark to the camera as a result.



Automatic flash with red eye reduction works the same as the regular automatic flash mode but attempts to reduce the red eye effect that flashes often produce. If you're going to use an automatic flash mode, you might as well use this one.



Forced/Fill-in flash means the flash fires with every exposure regardless of whether or not the camera believes it's necessary. This is the mode you choose when you know you're always going to need the flash, or just think it's funny to cause temporary blindness to a bunch of people in rapid succession.



Slow shutter flash (with red-eye reduction) is what you want to use in a very low light situation, as the shutter speed will be reduced and the flash needs to offer a repeated bursts of light to compensate. If you're using an automatic mode, the camera will determine when this is necessary and do it automatically. If you know you're going to need a slow shutter flash, however, you can force it with this mode.



No flash is pretty obvious. It turns the flash off so it won't be used under any circumstances.

Fancier flashes will have additional modes and settings on the flash units themselves, so if you have a nice external flash be sure to experiment with everything it can do.

Image Enhancement Settings

Not all cameras have image enhancement settings, but it's become more common in DSLRs and nicer compact cameras in recent years. The ones you want to pay the most attention to are lighting correction and noise reduction. Lighting correction, which is referred to as D-lighting on Nikon cameras and Auto Lighting Optimizer and Highlight Tone Priority (the modes are split into two) on Canon, will try to retain more detail from under- and over-exposed parts of your photographs while improving color as well. Noise reduction does what you'd expect—it reduces noise. It also reduces detail. Lighting correction tends to increase noise. Basically, these modes are nice but they have their drawbacks. Often times you can set how aggressively they alter your photos. Low settings are recommended.

Video Mode

We're dealing with photography, so we're not going to talk much about video mode. It's also handled very differently by different cameras as there isn't currently much of a standard. Additionally, video mode varies significantly between the different types of cameras. Point-and-shoots can often automatically focus very quickly in video mode and act a lot like a dedicated video camera. Compact mirror-less cameras with interchangeable lenses tend to provide a higher quality video but automatically focus a bit slower and are not terribly easy to focus manually. DSLR cameras generally produce the highest quality video, automatically focus extremely poorly (if they do at all), but provide excellent control over manual focus. If you're recording video with a DSLR, you'll want to become comfortable with manually focusing your lenses.

When you record video on any camera, it's generally saved in the same folder as your photos on your flash card, but some cameras have a dedicated folder for video. If the file was saved as an AVI, MOV, or MP4, you should be able to just copy it off your camera and play it back. All of these formats also work fine for uploading to video sharing sites like YouTube. Other formats may be video streams which generally require conversion to be useful, so consult your camera's manual if you don't recognize the file type.

Digital Photography Level 3 Requirements

- 1 – What are the common 6 camera priority modes?
- 2 – What are 4 of the flash modes?
- 3 – Why is shutter speed important?