

Digital Camera Tips (shooting with the Olympus Cameras in Studio Foundation)

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Before shooting

1. Choose the resolution and image quality

*On the Olympus 560/565: Set the mode dial to P. Push the **MENU** button, choose **Image Quality**, and select **JPEG**, **RAW**, or both. The advantage of JPEGs is that any computer can read them, while RAW files must be processed with software such as Photoshop. RAW files, however, offer increased flexibility to change exposure, white balance, and other settings on the computer. If asked to choose a resolution, choose the highest available. For **Compression**, choose **Normal**.*

*On the Olympus 600: Scroll using the click wheel to select the **P** mode. Then scroll down to the **Setup** menu, choose **Image Size** and select 12M. For **Compression**, choose **Normal**.*

For reference, the chart below illustrates roughly how large a clear print would be for given pixel dimensions at 72dpi (screen resolution), 150 dpi, and 300dpi.

Megapixels	Pixel Dimensions	Image Size at 300dpi (sharp when viewed with a magnifier)	Image Size at 150dpi (sharp when viewed up close)	Image Size at 72dpi (sharp when viewed at a distance)
1 MP	1216 x 912	3" x 4"	6" x 8"	17" x 12.5"
3.1 MP	2048 x 1563	5" x 6.5"	10" x 13"	28.5" x 21.5"
4 MP	2240 x 1680	5.5" x 7.5"	11" x 15"	31" x 23.5"
5 MP	2560 x 1920	6.5" x 8.5"	13" x 17"	35.5" x 26.5"
6 MP	3032 x 2008	7" x 10"	14" x 20"	42" x 28"
7 MP	3072 x 2304	7.5" x 10"	15" x 20"	42.5" x 32"
11.1 MP	4064 x 2704	9" x 13.5"	18" x 27"	56.5" x 37.5"
22 MP	5440 x 4080	13.5" x 18"	27" x 36"	75.5" x 56.5"

2. Choose the right drive setting

*On the Olympus 560/565: Push the **MENU** button, choose **Camera Menu**, then **Drive**.*

On the Olympus 600: Scroll using the click wheel down to the options.


For **single** pictures, select the drive option (recommended for most situations). With this drive setting, the camera shoots, and immediately passes the image to the memory card, taking only a couple of seconds before the camera is ready to shoot again. Some cameras have a slight delay from the time the button is pressed until the picture is taken. Usually this is because the camera needs time to figure out the exposure and focus, but if you hold the button half-way down before you shoot, you can “pre-focus” and prepare the camera for the exact moment you want to shoot the photo.


To shoot **multiple** rapid sequences of pictures, select the drive option and hold the shutter button (the “shoot” button) down, and a series of pictures will be shot continuously until the camera's internal memory buffer is filled. The camera will pass all of those pictures to the memory card after they've been shot, taking much longer to get the camera ready to shoot again.


Other drive options allow for even faster sequences of pictures at the expense of image quality.

3. Choose the light metering mode

On the Olympus 560/565: In the Camera Menu, choose Metering.

On the Olympus 600: Scroll using the click wheel down to the Setup menu, then to ESP / 

 **Spot Metering** reads light hitting the center of the frame.

 **Average Metering** reads light hitting all parts of the frame (recommended for 560/565).

ESP Metering reads similarly to Average Metering (recommended for 600).

You can also use the “pre-focus” technique to register the exposure before you shoot. This will lock the exposure settings for whatever was in the LCD screen at the time. Most point-and-shoot cameras work this way.

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4. Choose the focus mode

On the Olympus 560/565: In the Camera Menu, choose Focus Mode. Choose auto instead of manual focus unless you need to focus on a particular object that the autofocus can't pick up on. Most of the time, controls for manual focus measure a setting in feet or meters; you're allowed to select a distance.

On the Olympus 600: The 600 does not have a manual focus mode.

To choose the Autofocus mode, scroll using the click wheel down to the **Setup** menu, then to **AF MODE. Face Detect / iESP** focuses on the closest face it can detect in the image. **Area / AF Tracking** focus averages all objects in the frame and chooses the focus for you, focusing on moving objects if there are any. **Spot** focuses on the object in the center of the frame, allowing you more control. If you can't get the object you want in focus using one of the other modes, choose **Spot**.


5. Choose the white balance


On the Olympus 560/565: In the Camera Menu, choose WB.


On the Olympus 600: Scroll down using the click wheel to the white balance settings.


For rapidly changing lighting conditions, use the **WB Auto** feature. Auto is the easiest option, but can sometimes produce unpredictable colors.


When shooting in one kind of light, use a preset (recommended for most situations, but be sure to change the setting as the light changes).

 **Sunny**- For direct sunlight hitting your subject (5500°K)

 **Cloudy**- Overcast light outdoors or indirect window sunlight indoors (6000°K)

 **Tungsten/Incandescent**- Standard light-bulbs indoors with no daylight present (3200°K)

 **Fluorescent**- Fluorescent tubes, or compact fluorescent bulbs (4000°K)

 **Custom**- To measure, fill the frame with a white object reflecting light into the camera. A clean sheet of white paper usually works great for this, just be sure you are filling the entire view of the camera with reflected light and not blocking the light with the sheet of paper. Intentionally blurring the focus while doing this is not a bad idea.

White Balance is a setting that compensates for the “color temperature” of light (measured in degrees Kelvin). Lower temperatures such as 2000°K are usually warmish red, while higher temperatures such as 9000°K are very blue.

6. Choose the exposure

Set the ISO to adjust the sensitivity of your cameras sensor to incoming light. A typical range of ISOs: **50, 100, 200, 400, 800, 1600**, etc.

On the Olympus 560/565: In the Camera Menu, choose ISO.

On the Olympus 600: Scroll down using the click wheel to the ISO settings.


Using **Auto ISO** is not recommended for most situations since the camera will choose the ISO, sometimes producing noisy images.

In low light, or for fast-moving subjects, use high sensitivity ISOs such as **400** and above (this may produce images with noise).

In strong light, or for slow-moving subjects, use low sensitivity ISOs such as **50, 100, & 200** (recommended since they produce smoother images. If available light is not strong you might try using flash or a tripod).









While shooting

Setting the macro

Set the **Macro**  option for shooting very small or close-up subjects. Your camera will adjust itself for close-up focusing. Be sure to turn the macro option off if you don't need it.

Setting the Mode

Setting the mode will allow you to make choices that affect the exposure of your shots. These settings can greatly affect the aesthetic quality of your image. For the most part, what is being adjusted to find a proper exposure is the aperture and the shutter speed. Both settings must work in tandem since they both determine just how much light is allowed to hit the image sensor. The aperture is an adjustable opening in the lens that can vary the amount of incoming light hitting the sensor, measured in "f-stops". As you open by one f-stop, twice as much light is being let in as the previous f-stop. As you close by one f-stop, half as much light is being let in as the previous f-stop. Shutter speeds also work this way. Apertures also control depth-of-field, which is the distance in front of and beyond the subject that appears to be in focus. Smaller openings yield more depth of field and the opposite is true of large openings.

f/#	2.8	4	5.6	8	11	16	22	32
								
Smaller # equals larger opening & less depth of field				Larger # equals smaller opening & more depth of field				

seconds	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500
	Slow shutter speeds, use with a tripod						Fast shutter speeds, can be hand-held			

Shutter speed is the amount of time that the sensor is allowed to record light hitting it, usually measured in fractions of a second. As with f-stops, each stop on the shutter speed scale will either halve or double the amount of light hitting the sensor when the picture is taken. Digital cameras usually help you find the correct combination of f-stop/shutter speed with a needle-graphic or a numerical readout of how many stops you are off by. (i.e. -1 means that you are under-exposing by one stop.)

Modes on the 560/565:

AUTO - Full Auto, point-and-shoot mode. Image quality may suffer.

P – Program will auto expose, but allow for manual control of WB, ISO, focusing, etc. (recommended for most situations).

A – Aperture priority will allow you to select the aperture. The camera will choose the correct shutter speed to compensate. Use this option if you want to control how much or how little depth of field your picture will yield.

S – Shutter priority will allow you to select the shutter speed. The camera will choose the correct aperture to compensate. Use this option if you want to control how long the shutter will be open on the camera.

M – This option allows you to control the aperture and shutter speed independently of one another. You can intentionally under-expose or over-expose if you are in a tough lighting condition and are not getting good results from any of the auto settings.

SCN – Basically the same as **P** mode, except that the camera will have a bias toward an auto-exposure based on the chosen "scene". These are not recommended since they offer no specific control over the aperture or shutter speed.

Modes on the 600:

P – Program will auto expose, but allow for manual control of WB, ISO, focusing, etc. (recommended for most situations).

iAUTO – Full Auto, point-and-shoot mode. Image quality may suffer.


SCN – Basically the same as P mode, except that the camera will have a bias toward an auto-exposure based on the chosen “scene”. These are not recommended since they offer no specific control over the aperture or shutter speed.

MAGIC – Adds “expression” to your photos. All other settings are configurable. Not recommended.


PANORAMA – Used for taking panoramic pictures.

BEAUTY – The camera identifies a person’s face and gives the skin a smooth, translucent look for taking the picture. Not recommended.

Using the flash

Press the **flash button**  on the left side of the 560/565, or flip the flashbulb up on the 600, to enable the onboard flash. You should also see the flash icon somewhere on your digital readout. Using the flash is not only good in night conditions; if your subject has a lighter background and is silhouetted, using the flash will even the exposure so they don’t appear too dark. Until students get the hang of it, it’s often good to try taking a picture both ways to see what works. Some people prefer the look of a higher ISO to the look of a flash.

To **disable the flash**, flip the flashbulb back down.

If you are not using the flash, and your shutter speed is slower than 1/60th of a second, you should use a tripod or prop the camera on something still. When shooting, use the **self-timer**  function so that you don’t move the camera as the exposure is being made.


When there’s not enough available light to make a good exposure, try using a tripod. If you don’t have one, or it still isn’t enough, you can turn on the flash, but flash photos rarely look natural, they have an aesthetic of their own.

Experiment with placement

The best composition for an image is rarely straight-on with the subject in the center. Experiment with placing closer/further away, using the zoom, and putting the subject in different areas of the frame.

After shooting

After shooting a few pictures, it’s a good idea to review them to check the exposure, sharpness, etc.

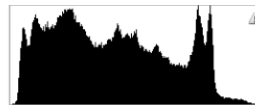
Put your camera into Playback  mode, then choose an image to review. The camera can’t shoot any pictures while in playback mode.

While in playback, press the **DISP** button on the 560/565, or press upward on the scroll wheel on the 600, until you see the histogram for that image. This can also be used while shooting. It’s useful because it can help you see if your picture is going to be over or under exposed before you shoot.

If the histogram doesn’t look right, then adjust your exposure and shoot again.



Too Dark:
Under-exposed –
Open the aperture
or longer shutter
speed to let in
more light.



Just Right:
When a full range
of tones is
captured, you’ll
see the “start” and
“end” of the info.



Too Light:
Over-exposed –
Close the aperture
or faster shutter
speed to reduce
incoming light.

The histogram is a graphical representation of all the pixels in the image. The left side represents the dark areas of an image, and the right side represents the highlights. If the histogram shows the information “falling-off” the right or left side, then your exposure may be off. A good histogram like the center one below shows the information tapering in from the left side and tapering out on the right.