iSkills Workshop: Object Photography
October 12, 2017
4:30 - 6:30pm

Instructor: Zoë Jaremus

Workshop Overview:
1. Introduction to Object Photography
2. Brief orientation to the Canon Rebel
3. Automatic
4. Manual Mode
5. Setting up to Shoot
6. Opening files
7. File types & resolution
Section 1) Introduction – Object Photography

The digital SLR can be a great tool to help you create excellent documentation of objects for catalogues, exhibitions, and papers. In this workshop we will review some basic settings and techniques you can use to best photograph various. We will also go over set up and light source techniques and options to capture difficult subjects.

This workshop will focus on how to use of the Canon Rebel, which is available for loan at the Inforum. We will review both the automatic settings and manual settings and review which to use when.

Section 2) Orientation to the Canon Rebel

Setting picture size and quality

To change the quality of your photos, press the menu button in the upper left hand corner of the camera. Next, use the cross keys to navigate among the different menu options. Press left and right keys to move between the different menu tabs, and press the set button to make a selection.

To change the quality, select the first menu, scroll to the Quality setting and push the set button.

The settings for resolution/megapixels, which concern the file size of a photo, are presented as large (L), medium (M), small (S1-3) and RAW (the largest setting). The Canon T3i is an 18 megapixel camera. At the largest setting, images will be shot at 5184x3456 pixel dimensions, which equates to a 11x17 inch photograph printed at 300 dpi.
**Autofocus and image stabilizer**

Most Canon lenses come with an autofocus switch, and sometimes a switch for the image stabilizer. It’s important to make sure the autofocus switch is set to AF to enable autofocus. Conversely, if you want to manually focus a shot then set this switch to MF and use the front ring on the lens to bring a shot into focus.

The image stabilizer switch will enable a mechanism in the lens that helps to stabilize the image. This is especially useful when zoomed in on subjects far away while hand-holding the camera. The image stabilizer is not useful in situations when the camera is on a tripod, or you are taking mostly wide-angle pictures in well-lit conditions. The image stabilizer will use additional battery power to operate, so turning this option off may help to increase the shooting time.

**Shutter button**

The shutter button on the camera is actually two buttons in one.

You can press the button **halfway down** in order to prepare the camera for taking a picture. Holding the shutter button halfway down will activate the autofocus, charge the flash (if needed), set the exposure and prepare the camera for taking a picture.

Pressing the shutter button down completely will take a picture. If you press the shutter button down all the way without holding it at the halfway point first, it may cause a slight delay before the camera will take a picture.

**Adjusting the main mode dial**

To turn on the camera, flip the switch at the top of the camera to "ON." Make sure the camera has both a memory card and battery inserted.

The main mode selection dial of the camera has a number of options to choose from. It’s best to think of the green rectangle as the middle option; everything below the green rectangle is an form of automatic called **basic zone**, and everything above the green rectangle are more advanced features for experienced photographers called **creative zone**.
Section 3) Shooting Automatic

**Close-up Mode:** Close-up mode (sometimes called macro mode), is used for taking close-up pictures of subjects. This mode will adjust various attributes of the camera to prepare it for bringing out the detail in close-up pictures. It also tones down the flash so it doesn't blow out the subject matter, as what typically happens in situations when the camera is too close to the subjects. Note that all lenses have a minimum focusing distance. This is the minimum distance the lens can physically be to the subject before the lens can no longer show the subject in focus. For some zoom lenses, this can be a long distance. In these cases, it's best to zoom in as much as possible while keeping the subject in focus.

Section 4) Shooting Manual

**Manual (M):** In the M mode, you have to pick both the shutter and aperture settings. The camera does not provide any type of auto exposure adjustment. They camera will display a meter showing whether the current setting is over or under exposed, and by how much. You can change the shutter speed by clicking the wheel next to the shutter button. To change the aperture, hold down the "Av" button on the back of the camera, and click the wheel next to the shutter button.

**What is ISO, Aperture and Shutter Speed**

**ISO** – this is the speed of the camera, the lower the light the higher the ISO should be. When using the tripod you can use a lower film ISO, as the tripod allows you to make longer exposures.

**Aperture** – defines how open or closed the lens is. s the unit of measurement that defines the size of the opening in the lens that can be adjusted to control the amount of light reaching the film or digital sensor. The size of the aperture is measured in Shutter Speed in F-stop.

**Shutter Speed** – Measured in fractions of a second, and is the amount of the shutter is open for the amount of time you take a picture. The larger the number the faster the shutter speed.


**Setting up Manual Shooting**

In general manual shooting will allow you poor lighting situations, and shooting reflective objects with a tripod for longer exposures.

Step 1) Turn the camera ON
Step 2) Using the mode dial at the top of the camera turn the dial to “M” for Manual

Step 3) Next change the aperture using the button at the back of the camera “Av” for Aperture Value. Hold down that button as, your holding it down, turn the main dial on the top of the camera, this will change the aperture

Step 4) Shutter Speed
using the same dial change the shutter speed. You will notice on the display screen a scale with a zero value in the middle and plus and minus on either side of it. This will tell you whether your image is under or over exposed. You want aim for the zero value in the middle.

Section 4) Setting up to Shoot:

Try to use a white back ground
(it might be helpful to have some large white paper or white foam core to create a mini studio set up)

- Use natural light where possible
- Avoid spaces with multiple light sources
- Remember to set the white balance on the appropriate light source (this will be done automatically unless shooting manually)
Reflective Objects

- shot manually
- if possible shot object in bright room with a window to avoid reflections from over head lights and lamps
- use a 90 degree angle to avoid catching a lot of glare and reflections on the glass
- Is possible have a friend hold a piece of white foam at another angle core to eliminate any other reflections (demo in workshop)

Large Objects

- Try to find a clean space to shoot
- Do smaller close to show multiple components and detail of object
- Try to use a clean back ground where possible

Section 6) Opening Files:

- RAW Files will automatically open in Photoshop
- they open an image adjustment screen specific to the rebel
- While you can use this to edit the image it is best to use Photoshop
- When you are ready click “Open Image” at the bottom image editing screen
Saving Files
Once you image is open in Photoshop you can save it by clicking “File” and then “Save As”, here you can title your image and chose the type of format you’d like to save it by using the drop down menu

Section 7) File Types

**PSD** – The Photoshop PSD preserves your layers. Best to always save as PSD first, then save a desired format.

**TIFF** – Great for high quality photographs/images for print. File sizes are very large and not suitable for web. This is a lossless format – all information is retained (can be saved with or without layers).

**JPEG (JPG)** – you can choose the quality of a JPG, so it can be suitable for print and web, if your resolution is set accordingly. Layers are flattened, and the files are compressed, so bit of information is lost every time you open and re-save.

**GIF** – Very small files sizes so they load quickly online. Better suited to graphics (logos, banners, etc) than to photographs.

**PNG** – A fairly recent alternative to GIFs. Good for graphics and retains transparency. Fine for web use.

Resolution:
Is measured in pixels per inch or *ppi*. The higher the ppi, the larger the file.

72ppi – Web resolution

300 ppi – Minimum print resolution
(if you don’t know what the image will be used for start high, you can also resize and save a lower resolution later)