

## Quick Reference Guide to Shooting Artwork

### Equipment:

- DSLR camera (If you don't have one, they are available for rent from Marriott Library, local camera shops, and soon for checkout from the department)
- Tripod
- Clean background: paper backdrop, clean wall, pedestal, easel, etc.
- Lights (optional)
- Grayscale & color checker cards (optional)

### Camera Settings:

File Size: RAW, or the highest quality setting available if your camera doesn't have RAW

ISO: Set ISO for clear, crisp images. ISO refers to film speed, higher number = more sensitive to light and coarser image. Since we want a finer quality image, set a low ISO: 100-200

White Balance: Select the appropriate white balance for the light you are using (i.e. tungsten, fluorescent, daylight) or use Auto White Balance. Note: if shooting in RAW and have the wrong WB, you can adjust later in editing (only in RAW)

### Camera Mode:

- *Aperture Priority* allows user to select the aperture, and the appropriate shutter speed is automatically set by the camera. Changing the f-stop adjusts the size of the opening in lens allowing light to pass through to the sensor, a higher number = less light. This allows you control of depth of field in the image; a larger aperture ( $\sim f/2.8$ ) creates a smaller DoF, which could result in areas of the work being out of focus. A smaller aperture ( $\sim f/22$ ) will have a greater DoF, which could result in the backdrop being in focus instead of soft. (considerations for 3D work)  
Ideal f-stop for shooting 2D artwork is f/8 or f/11.
- *Shutter Priority* allows the user to select the shutter speed, and the appropriate aperture is automatically set by the camera.
- In *Manual Mode*, the user selects both the shutter and aperture.

Lens: Choose a good portrait lens ( $\sim 50\text{mm}$ ); shooting with a wide-angle lens could distort your work.

### Shooting:

2D artwork - level camera to painting or drawing, adjust lens lines to middle of artwork, fill most of the frame, can include grayscale and color guides for editing later.

3D artwork – Use a paper backdrop, or other clean background (pedestal and wall etc.), photograph several different views and details, fill most of the frame, can include grayscale and color guides for editing later.

Use a timer or live screen shot (delayed shutter) so you don't shake the camera during exposure

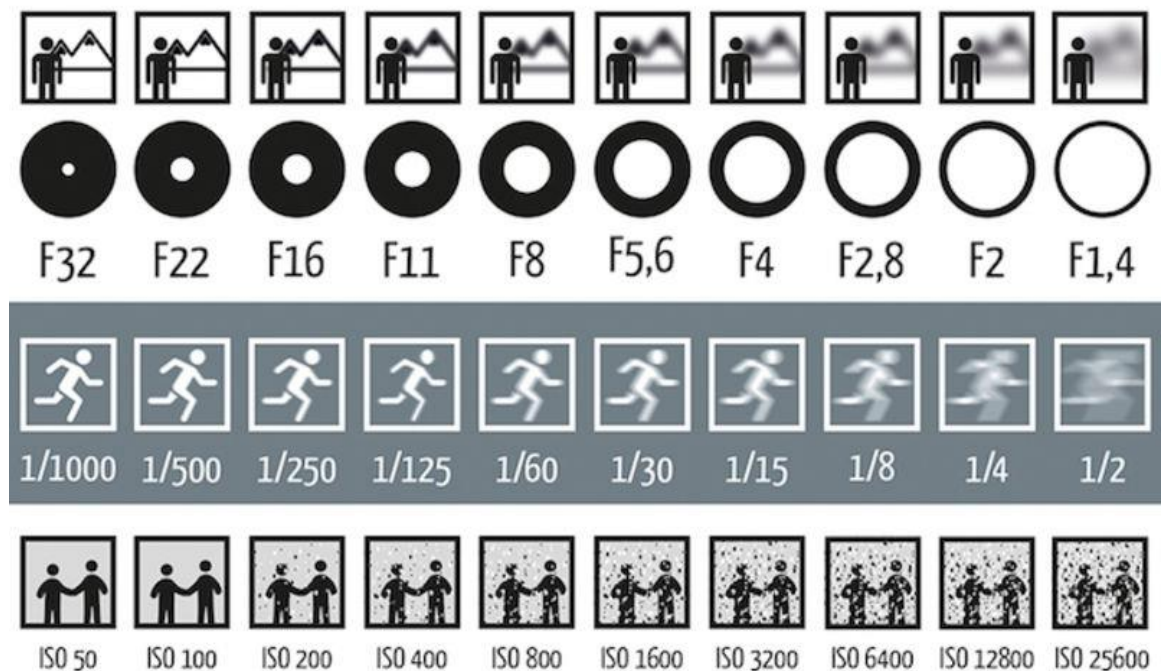
Bracket your exposure (1/2 stop over and under) so you have several to choose from when editing.

Lighting:

2D artwork - No direct sunlight, spotlights, or on-camera flash, look for even, diffuse light sources: Northern exposure from a window, cloudy day outdoors or by a window, even, well-lit room, fluorescent lights. If using studio lights, set each light at a 45° angle from the work, level with center of the work. For glossy surfaces, move the lights wider, or try a polarizing filter.

3D artwork – Diffuse, even lighting for documentation (see above), or use lights for more control or dramatic effects (stobes, LED, clamp lights, etc.). Whether you are using the set-up in the photo studio, ceramics/sculpture areas, or one you construct at home, try different lighting combinations (overhead, from the sides, and bouncing light off of white posterboard or foamcore to fill shadows). Pay attention to shadows and highlights (and the histogram on the camera) to make sure you are getting a result that you want.

{Diagram showing how f-stop effects depth of field, how shutter speed will stop action or capture motion, and how ISO settings will result in more or less digital noise:



## Image Scanning Procedure on the Epson Expression 10000XL Flatbed Scanner:

1. Turn on scanner and open Silverfast, select scanner, click Start
2. Check your settings:
  - Medium- Reflective
  - Material- Positive
  - Output color format and bit depth- 48 > 24 bit color
3. Place the material to be scanned face down on the glass scan surface and close the top. Apply slight pressure to lid to ensure that the page is lying flush against the glass. Click 'prescan' to start a preview of the image in the main scan window.
4. After the prescan appears, move the scan frame past the edges of the area you want to scan. If the image is tilted, leave some room around the image so it can be straightened in Photoshop later.
5. Image Adjustments: On the scan dimensions palette, name the file, select file format (tif), and select path for saving. Format should be set to custom, resolution to 300 dpi (or higher), and make sure the longest dimension in the 'output' window of is set to 3000 or more pixels (printable 8x10"). Make any midtone, contrast, or saturation adjustments below.

The icons surrounding the scan window are tools and filters that allow you to make adjustments to the image. The main tools for adjustment are the Histogram (highlight, midtone, and shadow adjustments), and Global CC (color correction). Make any necessary adjustments to levels, brightness/contrast, and color of the image. Remember to make the image slightly flatter than looks best for fine-tuning in Photoshop. The "bright white" values should be less than 255, and the shadow values should not fall below 20. This is important to preserve as much shadow detail as possible in the scan.







Filters -

- USM (Unsharp Mask): I recommend bypassing this filter and using sharpening filters in Photoshop instead
  - Descreen: Useful for books where the publication dots create unwanted patterns within the image, or to smooth out the publication dots when scanning very small images.
  - SRDx (Dust and scratch removal)
6. Double check your settings to make sure everything is correct, then click the "Scan" button.

## Retouching and Correcting Images in Photoshop

1. Open Photoshop (or other image editing application) and the image file(s) that will be worked on
2. Rotate (image > image rotation) and crop images as needed using the crop tool
3. Dust, scratches, and other imperfections can be removed using the healing brush or clone stamp tools (found on the tool bar on the left of the screen)
4. Set color profile to sRGB for web (edit > convert to profile)
5. Correction of highlights, shadows, and mid-tones can be made using level adjustments (image > adjustments > levels)
6. Correction of brightness and contrast can be made using brightness/contrast sliders (image > adjustments > brightness/contrast)
7. Color correction can be made using color balance (image > adjustments > color balance). For all of these corrections, use the original artwork to compare brightness, contrast and color values, or use the grayscale and color guides for correction, if you used them.
8. Embed Metadata: File > File Info > Description (and/or Copyright Notice) - include title, artist name, year of creation, medium, and dimensions
9. Once all corrections have been done, save the image as an uncompressed tiff file, then resize to a smaller jpg (image > image size - 72 dpi, 1024-2000 pixels at longest dimension. Always change resolution first, then the image dimensions.)
10. Sharpen using the unsharp mask (filter > sharpen > unsharp mask) – the usual setting for web sized jpgs are radius: .3 to .5 pixels, threshold level set to 1, and depending on the amount of sharpening needed, change the amount anywhere from about 30% to 90%. For larger images or images that need heavier sharpening, increase the pixel radius. Use the preview checkbox to compare and judge how much sharpening is needed.

## Quick Reference Guide for Image Editing

-  Crop Tool
-  Healing Brush
-  Clone Tool
-  Dodge tool (Lightens)
-  Burn tool (Darkens)
-  Sponge Tool (Saturation)

Adjustments: Levels; Brightness/Contrast; Color Balance; Curves

Color Profile: sRGB (web color space)

Image Sizes: 300 dpi, 3000 pixels at longest dimension (Master File/Printable 8x10)  
144 dpi, 1800 pixels at longest dimension (Projection)  
72 dpi, ~1500-1800 pixels at longest dimension (Web)

Embed Metadata: File > File Info > Description (and/or Copyright Notice) - include title, artist name, year of creation, medium, and dimensions

Sharpening: Unsharp Mask

Save As: Tiff (Master File)  
Jpg (Print/Web)