

SHAW ACADEMY

Lesson 8 Course Notes

Diploma in Photography



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File Handling

Why learn about image size?

Like everything we have discussed so far, image quality also plays a crucial role in the entire process of photography. You shoot the most amazing images in terms of composition, lighting, subject etc but if our image quality is poor then it lets our photography down.

We must optimize the size of our images to the kind of medium on which you want to present. Be it for on screen viewing, or posting on a website, social network, or for print. Image size will determine the quality of the output.

In terms of the internet, large images can become slow to load and people trying to view them might lose interest and close the window before even the image loads.

For printing, if your image size is not big enough, it will look blurry or pixelated when you try to enlarge a small image on a large print. This is where you will want to optimize your image to the exact print size.

Pixels

Pixels are the building blocks of an image. These are tiny, single coloured squares that are arranged like mosaic tiles, in horizontal and vertical lines to form an image. If you open an image in Photoshop and continue to zoom into it beyond 100%, you will start seeing the pixels which the image is made of.

High Resolution image

So, if you zoom into an image really close you will start seeing the pixels that construct it. Some images are comprised of so many pixels that it becomes difficult to see the individual pixels. The more pixels you have and the smaller these pixels are harder it is to identify the individual building blocks by eye.

Low resolution image

Just the opposite of high resolution. You will not have to zoom in too much to see the individual pixels. Just a little bit of zooming and you will start to see pixilation in the image. If there is a very small amount of pixels you will be able to identify the building blocks of the image by eye, and it will not resolve to your well to your eye.

Checking the resolution

There are a lot of ways in which you can check the resolution of your images.

On the camera, you can set the desired resolution in which you want to capture your images

When viewing on the computer, you can check the resolution of an image through file properties or info.

If you have opened the image in any image editing software, you will definitely have an option to check your image resolution.



Calculating Resolution

So, by now you must have understood that resolution is basically the number of pixels that you have in an image. Since they are all tiny little squares arranged in the form of a grid. The total number of pixels in an image can be calculated by multiplying the length of the image with its width. For example, if the length of the image is of 5616 pixels and the width is of 3744 pixels, then the total resolution of the image will be $5616 \times 3744 = 21,026,304$ pixels. Also, you can say that the camera is a 21 mega pixel camera.

Print resolution: As a thumb rule, it is best to have the at least 300 pixels per inch in an image if you want to print it in high quality. That means, you should at least have 300 pixels in every inch of that particular image.

On screen resolution: Similarly, if you want to show your images on a computer, phone, tablet or post it anywhere on the internet; website, your social media accounts, etc.; the best resolution is 96 pixels per inch. Like discussed earlier, you do not want large images that will be slow to load at the viewers end.

Determining the print size

Depending on the resolution of the image that we have, we can determine the largest size to which you will be able to print an image. This is how it's done.

Let's say you have an image that is of resolution 2100 pixels in length and 1500 pixels in width. We need at least 300 pixels per inch in an image to get the highest quality. Therefore, to determine the largest size to which you can print this image you will need to divide the length and width by 300. So in this case, you will be able to print this image to a maximum of 7 X 5 inches.

Determining size for onscreen viewing

Like how we used 300 pixels per inch for high quality printing, we will use 96 pixels per inch for onscreen viewing. So, if we have an image that is of 672 X 480 in image resolution, dividing the length and width by 96 will give the maximum viewing size to be 7 X 5 inches.

File formats

Two widely used image formats in photography are JPEG and RAW.

JPEG: It's the standard file format for viewing images across various devices and platforms. It's a universally recognised format. JPEGs are pre-processed in the camera and are ready to use. Things like contrast, saturation, sharpness, etc., are already taken care of while the camera is recording the image. JPEGs are compressed file formats. The size that the file occupies on memory devices is very low. Because of this, the quality of the image is degraded. If the jpeg is edited further in any editing software, the quality tends to get further degraded.

RAW: Like the name suggests, a RAW image is raw information of light recorded in a file. The image is unedited, uncompressed and the data recorded in it is available for any kind of editing. Some important features of RAW files are

- Greater dynamic range
- Larger colour space



Better control in photo-editing without losing image quality

Uncompressed and unprocessed. The camera only records the information of light and does not process it in any way.

Since the data captured from the sensor is uncompressed, quality of the images is much higher than JPEGs.

It's a proprietary file format. That means each camera manufacturer has their own format in which they record RAW files. It can only be processed in specialized software and has to be later converted to JPEG to view it on any device other than the camera.

Since you work on RAW image data, you have full control over image editing. Even after having shot the image, you will be able to take control of various parameters like saturation, white balance, contrast, etc., to a large extent.

Probably, the only downside to RAW images is the very large file size. A single image can occupy a lot of storage space in your memory device.

A few pointers that you need to know when working with RAW files

RAW files do not seem as vibrant as JPEG files to begin with. This is because the camera does not process the image in any way.

Unless you convert the RAW file to a JPEG or any other readable format, you will not be able to view the image on other devices, or share or print.

Editing a RAW file is a non-destructive process. That means, the original RAW file remains untouched and you can reset any changes you made to the RAW file back to default at any point of time and start over.



Thank You



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