

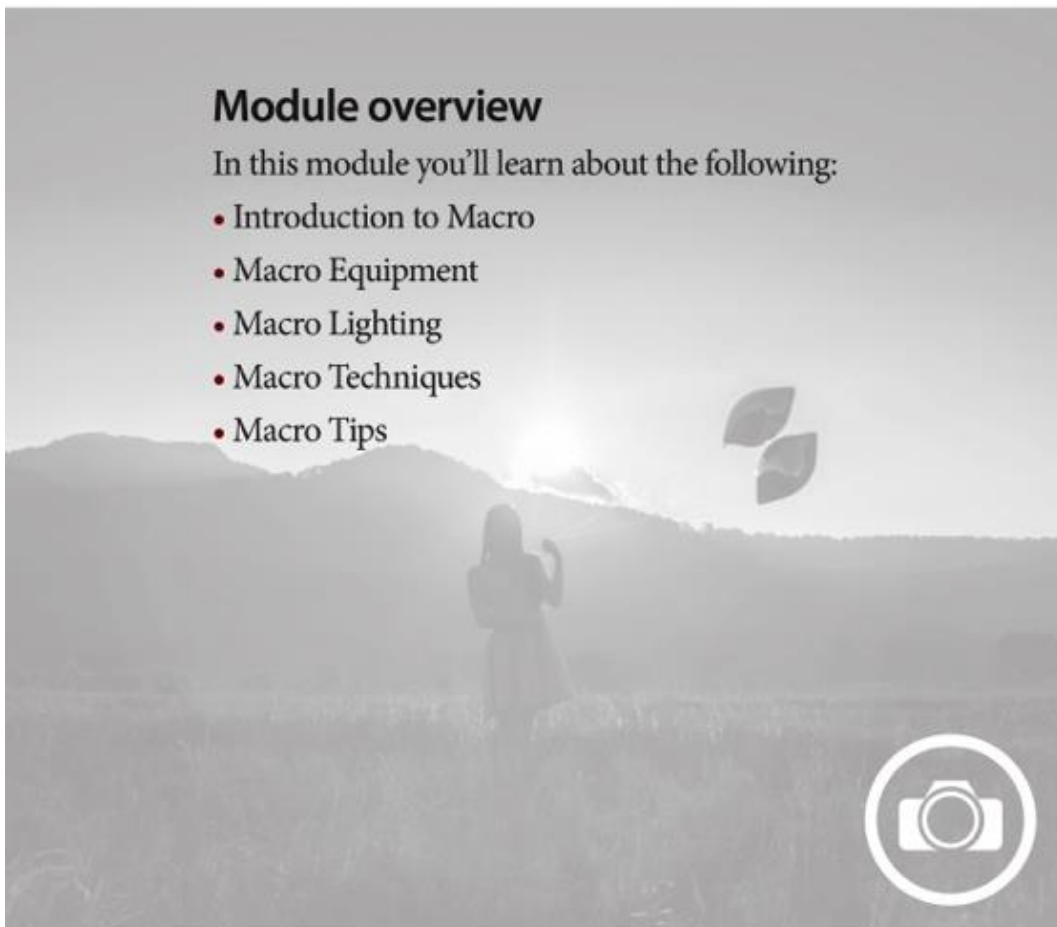


## Module 12: **Macro**

### Module overview

In this module you'll learn about the following:

- Introduction to Macro
- Macro Equipment
- Macro Lighting
- Macro Techniques
- Macro Tips



“Photography helps people to see.”

**Berenice Abbott**  
(1898 – 1991)

**Tip:** you may be familiar with the flower icon on your camera's mode dial.

Some people refer to this as the macro setting, but the manufacturers call it the close-up setting.

This is because it is not a true macro setting and for macro photography it's essentially useless.

## 12.1 Introduction to Macro

Macro photography is challenging: it requires special equipment and a lot of patience – but don't be put off by that. For some people, it becomes their favourite form of photography. So if you haven't already experienced it, then it's definitely worth trying.

If you're not sure what macro photography is, it's extreme close-up photography. How close depends on the equipment you use. You cannot take macro photographs with just a standard lens.

In this module, we'll look at the different techniques required to capture macro images.

So how close up can you get? How about close enough to be able to see the pollen on an insect?



## 12.2 Macro Equipment

So, how is it done?

Well, the first thing you'll need is either a macro lens (which can be expensive) or something to extend a lens (which is cheaper).

### Macro Lens

There are many varieties of macro lens and you might find yourself being overwhelmed with the options available (depending on your camera system). A simple rule usually applies though: the shorter the focal length, the cheaper the lens. So a 60mm macro lens will usually be cheaper than a 100mm macro lens; but remember that the shorter the focal length, the closer you'll have to get to your subject. If you plan on shooting inanimate objects, that will be fine; but if you want to shoot insects, then getting too close will probably scare them away.

**Tip:** if you're going to buy a close-up filter make sure you get the right size filter to fit your lens.

A 100mm lens will give you a lot of versatility and can also be used for landscapes and portraits. Most macro lenses are not just for macro photography: they can be used for other types of photography. The main difference between a macro and a standard lens is the ability to focus close up on a subject. Unless modified, a standard lens cannot do this.

#### Close-up Filter

If you don't want to buy an expensive macro lens, a good place to start is with a close-up filter. They are reasonably cheap and, like the name suggests, can allow you to focus on an object close up.



It's almost like attaching a magnifying glass to your lens: it won't be able to enlarge your subjects to the same degree as a dedicated macro lens, but it's far more convenient and much less expensive.



**Tip:** macro lenses have wide aperture settings, usually as large as f/2; but unless you're deliberately trying to create a shallow depth of field, you're better off using a smaller setting.

### Extension Tubes

These are basically hollow tubes that are used to extend your lens. They usually come in a set of different lengths that can all be joined together to provide the maximum magnification.



If you buy generic extension tubes (which are cheaper), then you will lose the ability to use autofocus and your light meter will not work either. To retain these functions, you will have to buy an extension tube made the same manufacturer as your camera.



### Bellows

This may seem like a low-tech solution, but it works. The reason it is low tech is because they've been around for years and were used a lot in film photography. Some cameras actually had bellows to adjust their focal length.

**Tip:** if you're trying to shoot macro images of insects, a fast shutter speed will be needed. Insects move incredibly fast, especially if they have wings.



As with generic extension tubes, you'll have to operate your camera in fully manual mode, including setting the exposure, because your light meter won't work; but by looking at your live view screen, you should be able to tell if the exposure is correct.

#### Reverse Ring

This may sound crazy, but reversing your lens actually gives you the ability to focus closer. However, you'll need a reverse ring to be able to mount your lens to the camera in this way.



**Tip:** the key to macro photography is patience. If this is not one of your strong suits, then maybe macro is not for you.

However, if you are patient, you will be rewarded with some amazing imagery.

That's not even the craziest thing you can do. You can actually attach a reversed lens to a standard lens to increase the magnification. It's called lens stacking. By attaching a reversed 50mm lens to a standard 100mm lens, you will be able to get incredibly close to your subject and magnify it considerably.



This is probably a technique that you should work your way up to after trying simpler forms of macro photography.

### 12.3 Macro Lighting

If you do an internet image search for macro lighting, amongst the standard lighting apparatus you will find all kinds of bizarre home-made contraptions. If you enjoy making such things, you might be able to save yourself a lot of money; but if you have neither the time nor the inclination, then a more conventional solution will probably suit you better.

If you think that you won't need light because you plan to shoot outdoors, then think again: you need a lot of light to shoot macro.

As with most instances, your pop-up flash just won't cut it with macro, so you will need an external flash. The problem is, sometimes you'll be so close to your subject that there will be no room for the flash.

This is why many macro photographers build their own lighting rigs.

The solution is to use a ring flash. Originally invented for use in medical photography, the ring flash has become popular with macro photographers – but that's not their only use. They are also used for fashion and portrait photography. They provide a soft light and also create circular highlights in the model's eyes.

**Tip:** when you're shooting outdoors, try and make the most of backlight in addition to your flash.

The low sun during the Magic Hour is perfect for this.



With a ring flash, the light comes from the same position as the lens, which eliminates the space problem caused by regular flash units.

## 12.4 Macro Techniques

The first thing to do is to make sure that your camera is set up properly. Aperture priority or manual mode should be used. Try to keep your aperture reasonably small (somewhere between f/8 - f/16), but don't go too small otherwise the images will lose their sharpness (remember diffraction?).



**Tip:** your camera will probably have a system that allows the mirror to be raised so that it doesn't move during the exposure.

When dealing with large magnifications, the slightest movement is exaggerated. So, the action of the mirror raising can cause camera shake.

Look for either mirror lock or exposure delay in your menu settings. This will stop the mirror from lifting up and down during the exposure and reduce potential camera shake.



Use the live view and set your focus to manual; it also helps to use the zoom button to make sure your focus is sharp. Use a tripod and cable release or remote release to avoid camera shake.





**Tip:** it can be difficult to spread light evenly, for a small subject especially, if you're using a macro lens with a short focal length.

Your camera needs to be close to the subject, although this can limit lighting options.

A reflector can solve this problem. You can make your own by scrunching some tinfoil up and then flattening it out. Then place it on the side that has more shadow and it will reflect the flash but in a softer way; this will add more detail.



## 12.5 Summary

- Macro photography is not easy.
- You will need special equipment.
- There are cheaper options than a dedicated macro lens.
- The cheaper options are more difficult because your light meter and auto focus will not work.
- Light is important, hence generating artificial light is crucial.
- Medium to small apertures are preferable, unless you want a shallow depth of field.
- Manual focusing will give you better results, but only if you do it correctly.

## **Assessment 12**

- 1) True or False? You can take true macro photography without special equipment.
- 2) Are macro lenses just used for macro photography?
- 3) Name two alternatives to using macro lenses?
- 4) Can you use auto focus when using extension bellows?
- 5) What does a reversal ring do?
- 6) What is lens stacking?
- 7) Is it possible to use the pop-up flash for macro photography?
- 8) True or False? A ring flash is not just used for macro photography.
- 9) What is the purpose of mirror lock or exposure delay?
- 10) True or False? Extreme magnification exaggerates camera shake.

### **12.7 Assignment**

If you're not interested in macro photography and don't want to purchase any macro equipment, then feel free to skip this assignment.

Find small objects around your house; place one of a plain background and try and get as close as you possibly can without losing focus; using the techniques and methods described in this module, take several shots of each item.

Compare the final shots and see which type of object was the easiest and most difficult to shoot (This will probably be something metallic and the difficulty will be caused by reflections created by the flash.).

Choose other items similar to the most difficult one and try to find solutions to improve those shots.