

Digital Photography Semester 1

Unit 9

The Close-Up

"Photography has certain inherent qualities which are only possible with photography—one being the delineation of detail....Why limit yourself to what your eyes see when you have such an opportunity to extend your vision?" –Edward Weston

Photography offers us a way to look at the world through new perspectives. This is especially true with close-up photography, also known as macro photography. When we take small items or look closely at small parts of larger items, we see details and aspects that we often



Leaf super Macro

miss when looking with our naked eye. Take the leaf picture above. Most of us see leaves on a regular basis, if not every day. Yet, how often do we look closely at them to see the veins of the leaf, the jagged edges, and the color patterns on the leaf? Close-up, or macro, photography offers us the ability to take the familiar and look at it in new and unexpected ways, often finding interesting or beautiful

elements in everyday subjects that we would have ordinarily missed. In this unit, we will learn more about how to examine the minute and everyday items around us through our camera lens.

Macro Photography and Equipment

Macro photography, or close-up photography, involves projecting an image on the digital sensor (or film) that is as close to real sized (1:1 magnification) as possible. In other words, macro photography involves taking close-up pictures of small things. There are many different objects that photographers take close-up photos of, including flowers, insects, fruit, drops of water, the eyes of animals and humans, snowflakes, and other everyday objects. Macro photography illustrates the detail and form of these objects in ways that other types of photography cannot.

For the best quality macro images, special equipment is needed. Specifically, dedicated macro camera lenses often give a true life-sized image. While we often talk about macro images as having magnification, it is important to note that the magnification doesn't come from "zooming" in on the subject. Instead, the magnification comes from the camera lens itself. A true macro lens will magnify the subject to a life size without any other attachments or technology. These lenses come in a specific focal length, such as 50mm or 100mm. In other words, a true macro lens does not have a zoom or telephoto function. While a true macro lens is the ideal, these lenses are also expensive, which is why most amateurs use alternatives to a true macro lens.

Extension tubes are another accessory that can help you with close-up shots. Extension tubes are hollow tubes that are placed between the camera and the lens. This moves the lens farther from the camera sensor, which increases the magnification. The amount of magnification gained from the extension tube

depends on the focal length of the lens. To figure this out, you can take the length of the extension tube and divide it by the focal length of the lens. This will give you the amount of magnification that you can receive. One benefit of using an extension tube is that there is not optical element to the tubes; they are hollow. This means that the image will not lose any quality and will not be degraded in any way. While a true macro lens is the best option for macro pictures, extension tubes are a good alternative for less money.



Morning Rain Droplets - Macro HD

Another option for getting close-up shots is close-up filters. These filters are attached to the front of a lens and magnify the image that is in front of them. Typically, filters come in a range of "powers" or levels of magnification. Close-up filters are sometimes confused with teleconverters, which increase the focal length. Close-up filters, however, do not affect the focal length of a lens; they just magnify the image for the

lens. Close-up filters are kind of like reading glasses for camera lenses. One advantage of close-up filters is that they can be used with any lens that can have a filter attached, which includes some point and shoot cameras that cannot use extension tubes or macro lenses. The biggest drawback with close-up filters is that

because they have an optical element, they can degrade or affect the quality of the image produced.

If you have a point and shoot digital camera, you may not have the option to add equipment such as a macro lens or an extension tube. However, this doesn't mean that you have to give up taking close-up photos. While the photos may not be true macro shots, you can still create beautiful images. Many digital cameras have a macro mode, symbolized by a little flower, which allows you to get a bit closer to your subject. Some will also let you adjust aperture within this setting, giving you the chance to adjust the depth of field even more. Use the composition tips discussed in earlier lessons to help you compose the image, particularly if you can't get quite as close as you'd like to the subject. You may find it helpful to use a tripod and the self-timer on the camera to reduce potential camera shake.

What to Know about Macro

Before you begin snapping those close-up photos, there are a few things that you should know about macro photography to help you get the best images possible. One of the most important elements of macro images to understand is that the greater the magnification, the shallower the depth of field. In other words, taking extreme close-ups creates images that have a blurred background. Only a small portion of the picture will be in focus, and this area will decrease as you increase the magnification.

Another aspect that you'll want to keep in mind is that greater magnification increases the risk of camera shake. Trying to hold a camera during a macro shot is often a recipe for blurred images. Breathing, pressing the shutter release button, and any other movement in your body will impact the photo. Using a tripod and a remote shutter release can eliminate human camera shake. If you don't have a remote shutter release, make sure to press the shutter release button carefully. Although tripods are useful in many situations, you will find those that are still

problematic because of blowing wind or other movement within the photo. With the shallow depth of field, movement within the photo will make it more difficult to get the right part of the photo in focus. In some cases, you may find that it is easier or better to hold the camera, although you'll want to be as steady as possible.

Focusing is also a concern in macro photography. As noted earlier, the depth of field is generally very shallow in macro photography. This means that you'll have to carefully choose where you focus the lens. For example, if you are photographing a flower, you may have to decide whether to focus on a petal or the center of the flower. With an insect, you may have to decide whether to focus on the insect's eyes or wings.

You will also need to think about the light present for the photo. Adjusting the aperture and shutter speed works in some cases. In others, artificial light may be needed. Using a flash can produce glare or a reflection in the photo, but it can also help you control the light and increase the shutter speed. If you use a flash, an external flash is best. Some manufacturers produce external flashes that are designed for macro photography, although these are more expensive than other options.

Photographing Flowers

One subject that produces stunning macro photos is plant life. Flowers, leaves, and other parts of trees and plants can be wonderful subjects for macro shots. You've probably seen at least one macro shot of a flower at some point, even if it didn't register that this is what it was. Flower photography is a popular area for art and advertising, and with both professional and amateur photographers. Why? There are many reasons flower photography is popular. Flowers are colorful, range in shape and form, and are ever changing. From a photography standpoint, flowers are generally fairly static and unmoving (unless a strong wind is blowing), plentiful

during at least part of the year, widely accessible in backyards, parks, and botanical gardens, and change depending on the light of the day.

Despite its popularity, flower photography can be somewhat tricky when trying to get that great shot. You may have tried to take a picture of a flower before or seen someone else's photos where the picture just lacks something. Although the actual flower may have been beautiful, the photo looks dull,



Purple Flower - Macro

amateurish, or less colorful. Common issues with flower photography are a lack of a clear focus and too much going on in the photo. One way to capture the beauty and detail of flowers is to use macro photography. While not every flower is suitable for macro shots and not all photos will turn out like you hoped, macro images of flowers can often help you create something that you want to frame and put on the wall.

The first step in taking close-up pictures of flowers is to learn to look. To get that great shot, you need to examine the flower from different angles. What element of the flower do you want to capture: the color, the form, a specific part of the flower? How is the light hitting the flower? What angle of light best highlights the element that you want to capture? Do you want the whole flower in focus or just one part of the flower? Do you want the flower to fill the frame and will the flower be in the center of the photo (or would another position—such as one of the intersecting points from the rule of thirds—be a better choice)? Once you begin thinking about these different aspects, you'll be in a better position to compose the photo. You may decide to take a number of different shots of the same flower,

particularly if you are not sure of the best angles or composition for the photo. This can give you variation in your photos and different looks for the same flower.



Lily - Macro

As with other types of macro photography, the depth of field and focus play an integral role in photographing flowers. Macro shots of flowers typically have a shallow depth of field. This helps to reduce distracting backgrounds and put the focus on the flower. You'll also often have to make decisions about what to focus on. In some cases, you may choose to focus on small detail in the flower, while the rest of the image will be slightly blurred. This immediately creates a focal area as well as highlights that minute detail of the flower.

Lighting is an important aspect when photographing flowers, as it can change the look and feel of the flower. Both the hue and saturation of the flower's colors are dependent on the available light. Both early morning and late day are good times to photograph flowers, as are cloudy days. However, you can also use inventive ways of photographing flowers on bright, sunny days, such as creating a three-sided structure, with diffusing material on top, to eliminate the harsh glare. While you can buy items like this, you can also create your own with a gallon milk jug, cut open on one side, or poster board put together with a diffusing material on top. The direction of the

lighting will also create different effects. Backlighting, for example, can make the petals of the flower almost glow.

Here are a few more tips for macro flower photography:

- Make use of “bad” weather. While you might not think about photographing flowers on a rainy day, you may find that the rain and clouds make the colors of the flowers more intense. The raindrops on the flowers can also add interest and focal points. Some flower photographers carry a spray bottle of water with them so that they can mimic raindrops on non-rainy days.
- Fill the frame. In many cases, you can create a great photograph by letting the flower fill up the frame of the image. This helps to show the detail of the flower.
- Consider black and white images. While you’ll generally take the photos in color, you might consider changing some of them to black and white photos with a photo editing software program.
- Photograph flowers at their peak. The best photos are those taken when a flower is approaching or at its peak. Flower buds or blossoms can also be good subjects. Once a flower has reached its peak, the appearance of the flower will start to suffer and you may notice more leaves being eaten by bugs.
- Use different perspectives. Get down low in relation to the flower or take an overhead shot. Often the difference between a great photo and a good one is the little details like a slight change in lighting or perspective.
- Place colored paper or fabric behind a flower. If some of the background will be showing and you think it is too distracting, try placing a piece of paper or fabric behind the flower to act as a backdrop.
- Include other objects with the flower in the photo. A spider or insect on a petal can create an instant focal point. Drops of water are another option.

Photographing Bugs and Spiders

Another subject that works well for macro shots is insects. Yes, insects. Some of you may be thinking that this doesn’t seem like something that would produce a great photograph, but if you’ve ever seen a close-up of a butterfly, ladybug, or

other insect, you know that these images can be beautiful. Insects are some of the most plentiful organisms that we come into contact with. Photographing them can create interesting images, as many of us have not stopped to look at the insects around us close up. Like looking at an insect through a magnifying glass, macro photos highlight the various aspects of insects that we don't normally pay attention to.

Before heading out to photograph insects or spiders, you might want to do some research on the types of insects and spiders that you are likely to encounter. If you have a particular insect that you want to photograph, researching that insect can help you know where to find it and what the insect's habits are. For example, some insects are found in particular plants while others are more likely to be found on the ground. Some insects will be shier in your presence than others as well, which can make it more difficult to get that photograph. An insect field guide can be invaluable as you photograph bugs to help you identify particular species and help you identify the habitats of particular species.

There are many aspects that will influence your chances of getting the photo that you want. For example, insects are often more prevalent in spring and summer than they are in the fall and winter, particularly if you live in a colder climate. The time of day will also impact your images. Avoiding the midday light in favor of early morning or later in the day can give you better lighting for the photo. Photographing in the morning when it is cooler can give you the benefit of "groggy" bugs that will move a bit more slowly. Since insects can be unpredictable, you'll also need patience when photographing them. Some days you may see an abundance of insects and others you may struggle to find them.

As with many other types of photography, getting a stunning picture of an insect is often about perspective. Most of our experience with bugs is looking down on them. In other words, we typically see an insect's back. While this may produce a

good photograph, a great photograph of an insect is often one that takes a different perspective. One way to change up the perspective is to think about and look for what makes the insect interesting. You may find that the eyes of the insect would make a great photograph. By getting on the same level as the insect, you'll be able to capture a photo that highlights the eyes.



Macro photography with insects is often all about patience. You may need to be patient to find the insect that you are looking for, patient with setting up the shot that you want, and patient when the insect flies off before you snap the

picture. You will often have to move slowly around insects so that you don't scare them off before the photo.

Here are a few more tips for photographing insects, including butterflies:

- Be careful of where you are positioned in relation to the light. With macro photography, it can be easy to get in the way of the light and cast a shadow onto the butterfly, grasshopper, or dragonfly.
- Use different light angles. You may find that sidelighting will better highlight the form and shape of some insects. When photographing butterflies, you may find that frontlighting will show off their wings without harsh shadows.

- Be ready to take many pictures quickly. Insect photography can be hit or miss depending on what the insect, wind, and other environmental elements decide to do at any given moment. Be prepared to take a lot of photos in order to get one or two great photos.

In this sense, a digital camera can be your best friend, as you can take a bunch of photos without having to worry about how much money it's going to cost.

Before you toss the bad ones, though, consider what you could have done to improve the photo.



Photographing People

While we often photograph people using portraits, action shots, and other types of photography, macro shots can create interesting and emotional photos of people as well. Macro photography has become more popular when photographing newborn babies and children, where different parts of the face (eyes, mouth, nose, ears) are photographed separately in a close-up shot. However, these photos can also work for other age groups as well.

Whether you choose to photograph hands, feet, or noses, you'll want to make sure to focus on the body part and blur the background to eliminate distraction. In some cases, such as when photographing newborns, a white or black blanket can



help eliminate distracting elements and keep the focus on the particular body part. Experiment with different lighting to see what works best for the particular aspect you are photographing and

for the other elements. You'll also want to get close. The dynamic of the shot will often be lost if you are too far away or include too much in the photo. However, there are times when you'll want to include a bit more space in the photo, such as when photographing hands engaged in a task.

Hands are one aspect of a person that can create beautiful and highly personal photos. They can often tell a great deal about people and who they are. For newborns, you can create a macro photograph of the baby holding a parent's finger or grasping his or her blanket. Children's hands can be photographed while

they are playing with a favorite toy. Adults' hands can be photographed engaging in a favorite activity or holding hands with someone. Wrinkled, elderly hands can provide a beautiful example of a long life lived. When working with adults, have them do something that they do often. This will not only relax them, but the photo will reflect more about them than if you had them doing something new or that they don't enjoy. Sewing, writing, working with a tool, doing some sort of craft, reading, or baking can all make good tasks during which to photograph hands.

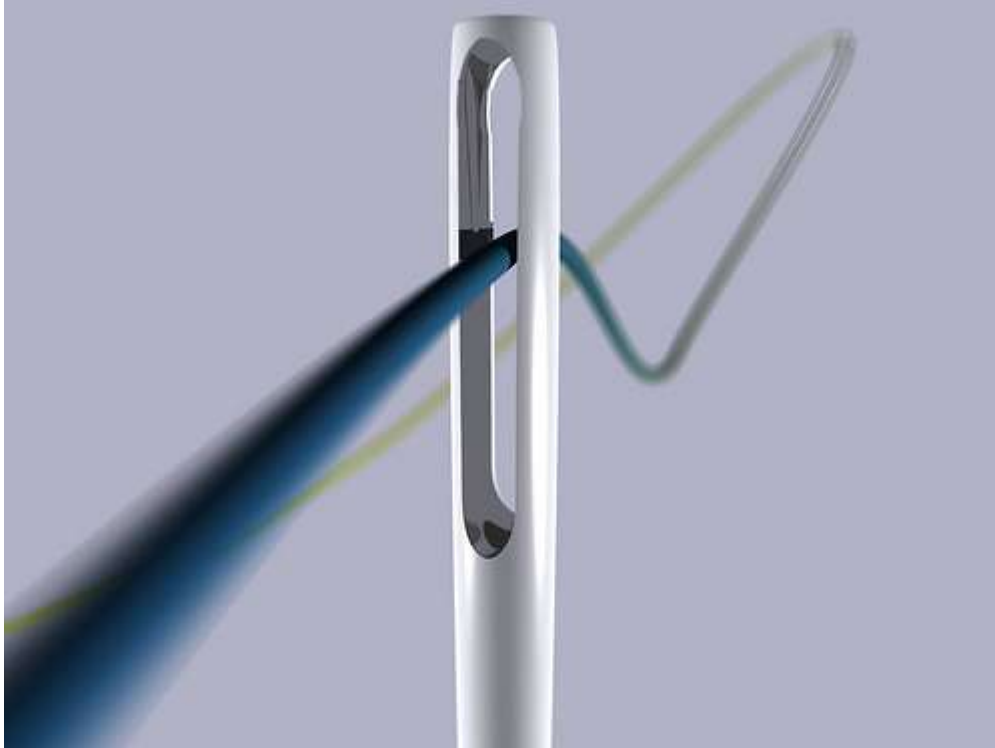
Everyday Objects

One of the best aspects of macro photography is the ability to take something that we see every day and show it in a new light. Almost any object that you see can become a subject for a macro photograph, although some subjects will be better than others. In some cases, you may find interesting photos by experimenting with the objects that you see around you.

When looking for macro subjects, the ones that we've discussed above can be good starting points, but they shouldn't be the ending points. Look around your home or neighborhood for objects with interesting patterns or texture. You can also look through books on macro photography or on websites to find new ideas. Then, the key is to experiment with the object using the various rules of composition and lighting that you've learned.



Some of the objects that you photograph might be small, like a small snail on the sidewalk, a little seashell, or a miniature figurine. Or you might focus on one piece or aspect of larger objects. For example, you might photograph part of a metal



fence, words in a book, or the eye of a lizard. The objects may not even appear to be pretty ones in their normal state, but can be transformed into interesting and unique subjects with macro photography. Look around you.

Experiment with objects that you think might make an interesting picture and see what happens!