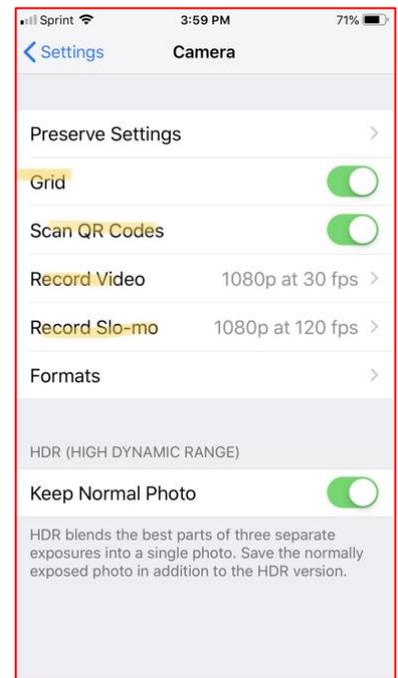
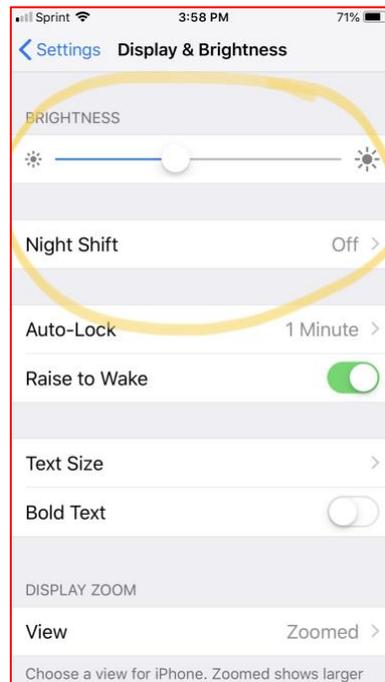
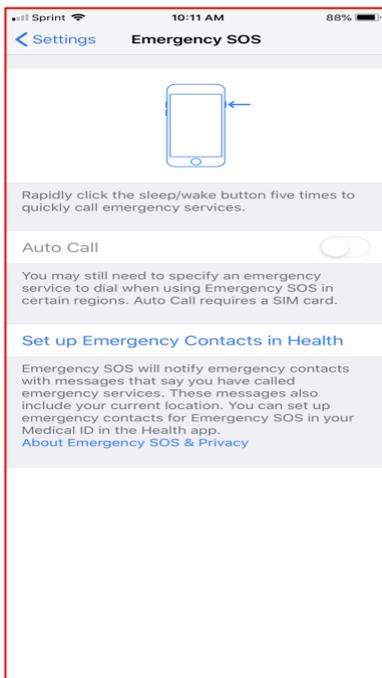


Smartphone Workshop Photography

- Introductions
- Basics on how the camera in your phone operates
- Settings in the phone and app.
- Image storage – do you have any? iPhones do automatically. See comments below.
- Cloud based back-up of your imagery is very important. Personally, I do not like how Apple handles this issue with iCloud and Photos App.
- Camera accessories - equipment
- Photography apps and what they do. The App Store and Google Play Store are where you should be looking, purchasing and downloading from. I suggest that you be very cautious if you use an alternative Android app store. You could open your up to the risk of malware.

A note for safety: If you are unaware, rapidly clicking the sleep/wake button five times will contact you to emergency services i.e. police. Settings > Emergency SOS.

- **Settings** in the phone and app.



⇒ Open Settings app and scroll down to camera to open the options panel.

- set to maximum image size/quality
- turn on Grid
- set to QR Codes
- I have Record Video set to 1080p at 30fps and Record Slo-mo to 1080p at 120fps.

⇒ Now got to Display & Brightness:

- should be set to about half brightness or slightly less while judging exposure and working on image. Complete this step in a room, not outside in bright

sunlight. Also, sit so that a window is not directly behind you, which will/could cause unwanted reflection on your screen.

- Turn Night Shift off
 - Auto-Lock, I set to 1 minute. If I set down my phone on a bench or something similar and walk away, no one can grab the phone and have access if it were still active.
- ⇒ Control Center: This allows you to swipe from the right side for immediate use of the camera for the instantaneous capture, or from the bottom, but you have to then select the camera icon. Both of these methods can be completed while in lock-screen mode to have quick access to the camera and other apps of your choosing.
- Access Within Apps, turn on. This allows quick access to your camera, after you complete the next step
 - Customize Controls > you can add the apps that you wish to have quick access to. The camera is there by default.

A possible general photo workflow –

○ Camera and photo basics

⇒ Types of imagery you can capture via your phone's camera

- Still, HDR, flash, panoramic (video, time lapse, Slo-Mo/ we will not be covering these in this workshop.)

⇒ What / how / who:

- Start by cleaning the lens. Use a microfiber cloth for the lens and for the screen. Never use a paper towel or burlap!
- Exposure – usually not a problem. Exposure is based on ISO, amount of light striking your subject, exposure time and aperture. When you don't have a lot of light, the exposure time is lengthened, which means you need a more solid camera on a tripod to prevent unwanted camera shake. Your camera will automatically increase its ISO setting, which means you'll have greatly increased noise levels. The built-in cameras do not offer the flexibility of selecting an ISO setting or exposure time. If you want these features, then you'll have to get a camera app that allows for these controls.
- When photographing people “in the moment,” go stealthy and mute your phone so that the “shutter” noise is turned off.
- When making a portrait, of an individual or a couple, consider using the Portrait capture mode to blur out the background, which is only available if you have the two cameras. The portrait mode automatically switches the “telephoto” lens for shallow(er) depth of field. You have to be about 36” away as your minimum distance.
- Side note – no extra charge: the camera is scanning the sensor to capture the image. If you are photographing a fast-moving subject, then the scanning produces what is known as a rolling shutter effect. Watch this video if you are curious about this effect. <http://twistedstifer.com/videos/rolling-shutter-effect-explained-by-smarter-every-day/>
- Try to not take a photo by holding the phone with only one hand – use both of your hands to steady the phone. Try to avoid holding the camera without-stretched arms. Try to tuck your elbows into your sides or body to steady the camera, especially in low light. If possible, in very low light situations, use a table top or fence post to set the camera on. However, be very careful of setting the camera on the side where the volume control buttons are located. You will end up taking a burst of images without realizing it.
- Shutter speed – is changeable in some camera apps. But only from about 1/4 of a second to 1/10,000 of a second.
- Aperture – not changeable due to it being fixed at one setting by the phone manufacturer.

- ISO – the camera moves the ISO setting higher when the light level is lower so that the shutter speed is shortened as much as possible. The problem is that the noise level is greatly increased. The settings could be from ISO 25 to 1,200.
- White balance - with built-in camera, usually Auto with no adjustments.

⇒ Composition

- Vertical or horizontal format. Maybe you'll want to capture in a panoramic format – can be vertical or horizontal as well?
- Consider turning on the grid so that you can apply the rule of thirds in all of your images.
- Decide on camera positioning and framing. Try to find the “best” point of view or perspective to your subject.
- If someone is moving to the left, leave space for them to “walk” into. How you frame your subject is important.
- If possible, wait for the light to be the “best” for your subject. Teach yourself to stop and observe the light. Light can be very flat and non-descriptive on your subject. Light from the side creates texture. Back lighting is very dramatic and is one of Ford’s most looked for type of light. If you like back lighting, switch to HDR mode.
- Having an object close to the camera creates linear depth, 3Dness so to speak.
- Look in the corners to make sure that your finger/s are not in the frame.
- Have a straight horizon by using the grid.
- If you want to have your subject “pop” out from the background, when possible, try finding a contrasting location (brightness and/or color), simplify, create symmetry or balance in the framing and lock focus and exposure for the main subject.
- Are you close enough? But, try not to use your digital zoom. This only crops the image once you take the photo. Use your feet to zoom, when possible. Or, purchase a telephoto lens for your camera phone. Which could mean that you'll need a tripod as well.
- Color or black & white? You can select a filter prior to the exposure if you are wanting an effect other than “natural” color.

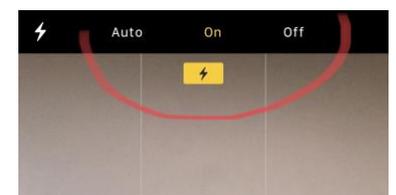
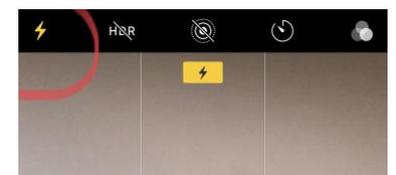
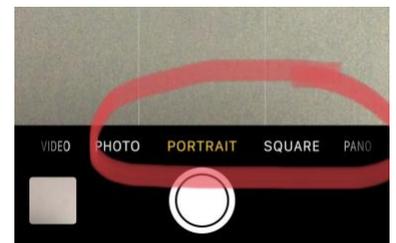
⇒ Basic in phone image editing

○ Using our camera phones

⇒ iPhone Camera app

▪ Capture modes

- Time-Lapse, Slo-Mo, Video, Photo, Portrait, Square and Pano capture modes. Options for Photo, Portrait and Square: flash, HDR, timer and filter presets. Photo also has Live mode, which is a three second video to capture a moving portrait of sorts.
- I tap in the lightning bolt in the upper left corner of the camera app. Now can have the choices of Auto, On or Off by tapping on one of them. Auto means that the camera will use a flash when it evaluates the light level to be too low. On, well is on. Off is off. I select off. Turn off your camera’s flash. Use the flash only if you really have to. It is very ugly light, but when you must, you must. It is also very small and will not help very much with subjects further than 10 feet away. So, don’t have it on while taking a picture of the stage when in a stadium!
- You can set the other four as you wish – HDR, Live, Timer and Filters.



- Manual focus and exposure

- Tap screen to set the focusing point and exposure at that spot. A yellow box will appear where you touched. There is also a small sun icon off the right with a up/down slider for manually setting exposure.
- Touch and hold for 2 seconds to lock the focusing point, and then swipe up and down to set exposure. You will see a yellow box appear center/top of the viewer that reads, AE/AF LOCK, however you can still manually change exposure.
- Performing both are especially important when shooting a back lit subject or scene. This is also important when you really want to specific subject in focus and you have something very close to camera. The camera may have a hard time deciding where to focus or average the scene and still not be focused where you want.



- Zoom

- In Photo and Square capture modes, you will see a 1X in a circle center/bottom of the viewer – if you had two cameras on your phone. Tap once and you will change from wide to telephoto.
- Tap and hold and you can zoom from 1x to 10x, digital zoom. The 1x will still be visible, but now you will see a dotted arc. As you swipe to the left, the zoom amount will appear in the circle and you will see the viewer updating as you zoom in and out.



- I really do not recommend using this feature unless you really, really have to. The camera is simply cropping the image prior to exposure. It is a very, very tiny jpeg with lots-n-lots of artifacting. At 10x, you will probably also have a lot of camera shake.

- Capturing an exposure:

- Tap exposure or shutter release button or one of the volume control buttons to capture an image.
- Note: we have a burst mode, meaning we can have the camera capture multiple frames for as long as we hold down one of the volume control buttons. You can hold it down for 5 seconds. Review the 30 frames in Photos. Select "THE" frame you were hoping to capture, and then delete the rest. Most people seem to be photo hoarders and don't trash their unwanted files. Remember, all of them do require storage space.
- Set the timer to two or three seconds so you can steady the phone prior to exposure. This should not be applied if you are trying to capture an action type of shot. If you are using a tripod of some sort and you have ear buds/head phones, press the volume button as a cable release.
- For street or candid photography, put on the earbud's and have the camera app open. As you are walking down the street, you can be looking at the camera waiting for that "Cartier-Bresson" moment.

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⇒ Evaluate results

- If I think I am done, then I'm done. Or, I will then upload to Instagram and/or print and/or just show family? Photography is about creating a voice and sharing that voice in a visual image. I hope that you do.
- If I want to continue in any additional app/apps, then I explore those ideas. Do I want to add texture and grunge or color casts or black & white or ??? That's how I decide which app to explore first, and then second, etc.
- If I like certain areas with certain effect changes, I will save those changes, and there may be only one or several. And then, I'll layer them together in Photoshop, mask them together based on the likes of the effects in different image areas to create an extremely unique version of the image.
- If I think I want to apply some glow or blur, then I do it near or at the end of the processing exploration. This could be one of the layers that I just mentioned above. If I am thinking that I will print the final image, then I will apply a "too much" amount so that the glow or blur will still show after I add sharpening for printing.
- If I want to add a frame around the image, I apply it after the glow or blur.
- If I am going to print, I add sharpening via LR in the Detail section of the software in my desktop version of the application or print from Photoshop.

⇒ For panoramic images

- Typically, I shoot HDR with overlapping framing
- I will bring the HDR files into LR Classic in my desktop computer
- Stitch together
- Crop
- Make adjustments based on my notes above in my workflow.

While these accessories may say iPhone, many of them or similar items can be found for the android phone as well.

Moment Lenses & Case For The iPhone X

The high-end, third party lens manufacturer, Moment, appears to have won the race to bring out case and lens kits for the iPhone X. They offer a wide angle, a 2X telephoto, a fish-eye, and a macro lens. Since the iPhone X has an excellent optical 2X telephoto lens and a regular wide-angle lens you may want to look at the Macro Lens. If you do decide to go for Moment's 2X Telephoto lens then you'll be pleased to know that when placed in front of the iPhone X's built-in 2X telephoto lens you'll get the equivalent of 4x telephoto "zoom".

However, it's worth noting that with any of Moment's lenses attached you won't be able to use the Portrait Mode feature since the bulk of the Moment lens blocks out the second lens, meaning the iPhone's camera can't gather the depth information it needs from the scene.

Moment's case and lenses are available for the [iPhone X](#), [iPhone 8](#) and [iPhone 8 Plus](#).



Waterproof Case For Underwater Photography (Up To 6'6")

Do you want to take more photos in or near water? While the iPhone 8, iPhone 8 Plus and iPhone X have the IP67 rating for dust and water resistance, it only protects in up to 3' 3" of water and even then, only for a maximum of 30 minutes. As good as that sounds, I'm not sure I'd want to test that claim out with my own iPhone! Luckily, there are several iPhone accessories for improved waterproofing which will give you more confidence to venture out into the pool or the sea with your pride and joy.

Third-party waterproof cases have been carefully designed to prevent water ingress due to the pressure of being underwater. The deeper you go, the more pressure the waterproof case and its seals are under, and the more likely it is that water will get in and reach your iPhone. Cases with a rating of IP68 are designed to cope with being up to 6 feet 6 inches under water for up to an hour, and have been tested over 1000 times.



Products you could consider are the [Temdan waterproof case for the iPhone X](#) for \$24.88, or for the [iPhone 8 Plus](#) for \$19.88, or for the [iPhone 8](#) for \$21.99.

Rugged "OtterBox" Case

Do you spend most of your time outdoors or have a very active lifestyle? With a rugged case to protect your iPhone from knocks and drops, you'll use your iPhone for photography far more often. It'll probably be one of your most valuable iPhone accessories!

It's normal for such cases to be bulky and somewhat on the masculine side in terms of design, but OtterBox seems to have found a good middle-ground in terms of design and functionality. The [OtterBox Defender case for iPhone X](#) costs



\$33.81 is available in several colors. The OtterBox Defender case is also available for [iPhone 8](#) costing \$28.94, and for the [iPhone 8 Plus](#) costing around \$45.00.

Tripod – Desktop or standard height

Did you know one of the biggest causes of bad photographs is camera shake? That's when the camera moves whilst the shutter is still open, causing undesirable blurring. This mostly happens in low light conditions, or when you're creating a long-exposure photo. Now, there are many ways to reduce camera shake, but when you need to be sure, a tripod is the perfect accessory.

Tripods come in all shapes and sizes – from the smallest which fit in your pocket, through to heavy-duty professional models. Since your iPhone is so small and portable, it makes sense to have a similarly small and portable tripod.

The [Manfrotto MTPIXI-B PIXI Mini Tripod](#) costing \$34.99 is compact yet sturdy and is easily adjustable. It even comes with a universal smartphone adapter, which attaches to the tripod and holds your iPhone in place. The tripod has a standard 1/4" screw.



GripTight PRO 2 Mount For smartphones and mobile accessories

Pro-Grade smartphone mount includes removable Cold Shoe PRO mount for mounting accessories.

SKU: JB01525-BWW

<https://joby.com/phone-tripods-tablet-stands/griptight-pro-2-mount>

\$49.99



Remote Bluetooth Shutter Release

Even with your iPhone mounted on a tripod, you can still get blurry shots if you're too heavy-handed when pressing the shutter button. Sure, you could use the camera app's timer feature – and that's certainly a good thing to do – but for more control, you need a bluetooth remote shutter release. This will give you the ability to trigger your iPhone's camera shutter whenever you're ready, and from up to around 30 feet away.

Not only will this result in less blurry shots, but you'll be able to get yourself in the frame too! Why not position your iPhone near the bird feeder in the garden, retreat indoors and shoot the feathered visitors when they arrive? It couldn't be easier and the results can be stunning.



The [Zodiac Bluetooth Selfie Remote Shutter](#) costs just \$19.99.

Hand grips for steadying the camera while hand holding

Just Mobile ShutterGrip

https://www.bhphotovideo.com/c/product/1389949-REG/just_mobile_gp_100bk_shuttergrip_black.html
\$39.95

- Attaches to Your Smartphone
- Wireless Shutter Button
- Non-Slip Ergonomic Grip
- Auto Bluetooth Connection
- Auto Power-Off
- Modular Design
- Works with or Without Phone Cases
- Tripod Screw & Lanyard Hole
- Includes CR2032 Battery & Wrist Strap
- iOS & Android Compatible



GripTight POV Kit Handgrip with remote camera control for phones

Up your mobile photo and video game with this compact, versatile smartphone mount. Kit includes Impulse Bluetooth® technology remote.

SKU: JB01474-BWW

<https://joby.com/phone-tripods-tablet-stands/griptight-pov-kit>

\$39.95



Fantaseal iPhone Cell Phone Hand Grip Holder, Smartphone Handle Stabilizer Phone Holder Support Selfie Stick for iPhone X 8+ 8 7+ 7 6S+ 6S 6+ 6 5 5SE 4 Galaxy Note 8 S8 etc Landscape + Portrait Mode

<https://www.amazon.com/Fantaseal-Smartphone-Stabilizer-Landscape-Portrait/dp/B075S17PVB>
\$18.99

- Universal--Adjustable super wide cellphone clamp mount, fits for 55-100mm wide screen, especially for 5.7" or above screen, perfectly compatible with Apple iPhone 8, 7, 7 Plus, 6s, 6s Plus, 6, 6 Plus, 5, 5c, 5s, 5se, Samsung Galaxy Note 8 S9 S9 Plus S8 S8 Plus S7 S7 Edge S6 S6 Edge S5 Note 7 Note 5 Note 4 Note 3 A9 A8 A7 A5 A5 (2016) Sony Xperia XZ E5 Z5 Z5 Premium Z5 Compact Z3 Compact Huawei Ascend P10 P10 Plus P9 P9 Lite P9 Plus P8 P8 Lite P7 Mate 8 Mate 7 Mate S Honor 8 7 6 G8 G7 Xiaomi Redmi Note 4 3
- Non-slip clip to hold your phone with or without defender case firmly.
- Better holding and comfortable using experience, Improving the shooting & reducing the vibration by the professional ergonomic design ,for the smoothing video recording, especially for a long time shooting.
- Compact and Lightweight: ABS material, super sturdy 360 degree rotation smartphone clamp mount holder for portrait mode (vertical) or landscape mode (horizontal)



Power Bank / External Battery

Using your iPhone powerful camera app puts a big demand on your iPhone's built-in battery. Under normal use, you might be able to get a day's use out of one charge – but just a few hours of fairly constant shooting will drain your battery. For the more serious iPhone photographer, an external battery is the perfect solution. These are available from different manufacturers in a variety of sizes, capacities, and colors. Aside from the physical size of the battery, each battery has a capacity rating, a maximum input amperage, and a maximum output amperage.

The capacity rating tells you how much power can be stored in the battery, measured in mAh – milliamp hours. The mAh value tells you how many milliamps of power can be provided in one hour. 1000 milliamps is the same as one 1 amp – so a 5000mAh can provide 5 amps for up to an hour before running flat.

Most iPhones can charge on as little as 0.5 amps but can take up to around 2 amps. Charging at 0.5 amps, a 5000mAh (or 5Ah) battery could provide up to 10 hours of charging. Charging at 2.1amps, the same battery would provide only 2 hours 22 minutes of charge. The number of times you can recharge your iPhone's battery will depend on the iPhone model and the condition of the battery when you recharge.

Check out Anker's [6700mAh](#), [10000mAh](#), and [20100mAh](#) PowerBanks.

