Professional Intensive Equipment Requirements

What to buy now, what to buy later, and why you need it

For a short and sweet list of what to buy for the *Professional Intensive* program, click here. In this document, we'll more thoroughly outline the specific reasons why you need each item and give greater clarity to the purposes of the gear.

We recommend starting out with a minimum of equipment and adding as you go. Generally, equipment needs will change and grow as one's photographic work evolves, depending upon the project or field. In addition, a great deal of information about equipment is provided during the program. It is recommended that students purchase only the equipment listed on the Equipment List prior to attending *PI*, and to wait to purchase more gear until a photographic specialty is chosen.

Additionally, RMSP maintains an on-campus equipment cage, outfitted with current loaner gear for students, which includes camera bodies, lenses, lighting gear and more. Students are allowed to "check out" equipment on a weekly basis.

RMSP works with several vendors as "Educational Partners" who visit the school during the *Professional Intensive* program. Representatives often bring equipment with them, allowing for hands-on trials that can help you make more informed purchasing decisions. Also, some of the vendors are able to offer special product pricing to students who are enrolled in *PI*.

Please keep in mind that the following is not an exhaustive list of available photography equipment. We have outlined below the required equipment for the program, indicating which items should be purchased before or after you begin classes.

If you have any questions about equipment, feel free to call or email Bob McGowan. He can be reached at 800-394-7677 or bobm@rmsp.com.

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Camera Equipment Details

You must have a digital SLR (DSLR) camera (or mirrorless interchangeable-lens digital camera with a hot shoe) to attend *Professional Intensive*. Your camera must also have HD video capability. If you are unsure whether your camera meets our minimum requirements, please call RMSP and speak to Bob McGowan.

If you need to purchase a camera, we strongly suggest choosing one of the models listed below. All DSLR models on the market are quality tools in our opinion, but if the camera is more than a few years old, you may get frustrated with the outdated technology very quickly. Canon, Nikon, Fuji, and Sony all offer great options.

"Advanced amateur" DSLR cameras are so close to professional that many pros use them as a back-up camera or even their main camera; examples are the Canon 80D and Nikon D7500. "Semi-professional" DSLR cameras are professional cameras, just not quite as fast or robust as the most expensive models; some examples are the Canon 7D Mark II, 6D Mark II, 5D Mark IV or the Nikon D780, D610 or D850. "Professional" DSLR cameras are heavy, but built for speed and rugged use; examples are the Canon 1DX Mark III or the Nikon D6.

Some Sony and Fuji mirrorless interchangeable-lens cameras are also acceptable for *Professional Intensive*. These cameras are sometimes smaller, can also be operated manually, and on average, are less expensive than traditional DSLRs. If you are considering this as your professional camera, please contact School Director, Forest Chaput de Saintonge (forestc@ rmsp.com) to learn about the limitations and benefits of these cameras. Some of these models are incredible, but they are not optimal for all photo genres, and each camera brand has different strengths. If you are looking for mirrorless models, look for cameras like the Sony A7R IV or A9, or the Fuji X-T4 or X-H1.

Some cameras have larger sensors than others. A large sensor offers more image quality, the potential for a slightly shallower depth of field, the ability to print photos larger, and other benefits. All of the cameras we recommend are great and can help you create professional results regardless of sensor size, but we encourage you to do research on this topic if you're curious.

Camera Accessories

Cable Release/Remote: Sometimes you'll want to take a photo without pressing the shutter release. You may need to reduce camera shake, take exposures longer than 30 seconds, or take a photo while standing away from the camera. A cable release is a device that attaches to your camera and lets you trigger the camera remotely. You may use either a wired or wireless electronic release, depending upon your camera and your goals. If you plan to take self-portraits often, you'll want a wireless remote. Camera cable releases are brand-specific and can be camera-specific. Make sure you do your research so that you end up with the right one. Some cameras can't accommodate cable releases. If this is the case for yours, you can use your camera body's self-timer to perform roughly the same function.

Camera Bag: You will need at least one padded bag to keep your gear safe during *PI*. Backpack or waist pack styles are ideal for hiking and biking, but make it difficult to access your camera gear quickly. Shoulder bag styles are useful for travel and city photography because they are easy to access and allow you to keep your gear in sight (important in less secure areas), but they can be clumsy when hiking or biking.

Filters: Wait until this is covered in class before you purchase any filters. If you already own filters, bring them with you.

Lens Details

During *Professional Intensive*, you will learn about lenses that cover normal, wide angle and telephoto focal lengths. You'll want to make sure your lens purchasing decisions are made with understanding and deliberation. Come to *PI* with whatever lens(es) you already own and wait to buy more until you learn more about them. Early in *PI* you will attend a detailed lecture on equipment that will help you decide what you want to purchase for your future photographic career.

- Wide Angle: 35mm or shorter (shorter = lower number) (ex: 28mm, 20mm, etc.)
- Normal: 50mm
- Telephoto: 70mm or longer (longer = higher number) (ex: 200mm, 300mm, etc.)

Important Notes About Lenses

1. The quality of your images is largely dictated by the quality of your lens. The higher the lens quality, the better the photographs. When making purchases, it's usually wise to spend more money on a professional lens than a more expensive camera body.
2. A camera's sensor size is important to consider when purchasing lenses. There are lenses that only work on crop-sensor cameras, and there are lenses that work with both full-frame and crop-sensor cameras. Most professionals purchase only full-frame-capable lenses. That way all of your lenses will all be compatible with any camera body you may eventually upgrade to. We will discuss this in class.
3. Focal lengths of 24mm and wider (on a full-frame sensor) are considered extra-wide. This is important to know if you're using a camera that magnifies the lens length (crop-sensor cameras). Your full-frame, wide-angle lenses will appear "longer" on a crop-sensor camera, but will still create the distortion common with wide-angle lenses.

Tripod Details

Tripods are such an important tool that you'll want to make sure to purchase smartly. We require that you arrive with a tripod because you'll need it the first week of school. If your tripod is one where the head cannot be detached from the legs, we are going to recommend that you replace it. Typically, "complete" tripods are not sturdy enough. A sturdy, reliable tripod keeps your camera steady and safe while shooting. Tripod heads and legs are sold separately, so there are nearly as many types and combinations of tripods as there are photographers. (And yes, all genres of professional photography will require a tripod occasionally, even if not frequently, which is why we require you have one.)

These recommendations will suit you well during *Professional Intensive* and into your career. Please note: you will need a set of tripod legs *and* a tripod head. The tripod head will affect your photography more than the tripod legs. There are two basic kinds of tripod heads used by photographers, each of which has advantages and disadvantages:

Pan/Tilt Head: You can rotate the head (also called panning, which allows you to follow a moving subject), tip it forward and back, and tilt it side-to-side. A protruding handle controls each separate motion. This type of adjustment can be awkward and time-consuming when you are on the go. These are good for commercial studio and architectural photography, both of which allow you to spend a lot of time setting up a shot. In these cases, having separate locks for separate planes can be crucial.

Ball Head: Ball heads are generally lighter and smaller than traditional pan/tilt heads. They are also faster to use, because you can compose and lock the camera with only one knob. This makes these great for nature/landscape photographers. Most other types of photographers also prefer ball heads for the many possible camera angles.

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Computer Details

Because you will be required to shoot with a digital camera, you will need to bring a laptop computer. Working on your own computer enables you to set up and use your professional workspace and workflow in class with assistance from our staff and then utilize the same system when working at home during (and after) the program. You will need to have intermediate computer knowledge. The more you know, the easier your time will be at *Professional Intensive*. In addition, familiarity with *your own* computer is absolutely essential.

To attend the *PI* program, you need to have a solid understanding of the following:
- Operating system navigation
- Computer folder structure
- Locating, moving and copying folders from one location to another
- Copying data to and from a computer to a flash drive/external hard drive/server
- Knowledge of common uploading and downloading processes
- Comfortability with installing new software
- Basic program troubleshooting

Please feel free to contact us if you have any questions or concerns regarding these expectations. Also, please note that due to the amount of processing power that digital imaging requires for efficient and effective learning, your computer must meet our operating standards detailed below. If your laptop computer does not meet these requirements, or you don't already own a laptop, please see our laptop recommendations on the Equipment List.

RAM (Random Access Memory): This is the most important requirement. You will need a minimum of 8 Gigabytes (GB) and a recommended 16GB (or even 32GB) of RAM in your laptop. Programs like Adobe Photoshop and Premiere Pro are very taxing on your system and will run much better with plenty of available RAM.

Hard Drive: We recommend that you have at least 100GBs of free space on your built-in laptop hard drive after all your programs and updates have been installed. A crammed-full internal hard drive will slow down your computer, which may cause you to fall behind in class. We strongly recommend installing or purchasing a computer with a Solid State Hard Drive (SSD). An SSD will make your computer much faster and is a relatively easy upgrade on many computers.

Operating System: For Windows users, we require Windows 10. For Mac users, we require Mac OSX 10.14 (Mojave) or higher. Be sure to update your operating system before coming to *PI*.

Graphics Requirements: While not required, it is highly recommended that you purchase a computer with a dedicated graphics card. While onboard graphics are fine for many purposes, as photographers, a graphics card can vastly speed up your workflow. We recommend a dedicated graphics card with at least 2GB of video memory (RAM).

Cables and Cords: Please bring all of your cables and cords associated with your laptop computer. If you prefer working with an external mouse, consider bringing that with you to classes. If you own a newer MacBook Pro, you are required to bring all necessary port adapters to be able to plug in your own hard drives and a USB flash drive.

Portable External Hard Drives
Photographers typically use external hard drives to store their images. There are many types of hard drives available. You'll need to have at least three *portable* external hard drives for your time in the *PI* program (not desktop drives). One will be used as your working photo drive and another as your backup photo drive; these drives should be of equal size. The third will be used as a backup for your internal system drive; this third drive should be equal to or greater in size than your internal system drive. None of these are optional, and all must be completely empty for day one of *PI*.

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Please consider the following when making your external hard drive choice:

1. External hard drives come in a variety of storage sizes from around 500GB to over 5 terabytes (TB). We recommend that students get drives with a storage size of 2TB or larger.
2. Different hard drives use different kinds of ports to connect to computers. Be sure that the hard drives you purchase will connect and interface with your computer. For the fastest connection speeds we recommend USB 3.0 or Thunderbolt.
3. If you can afford it, buying a Solid State Drive for your main external photo storage drive can speed up your workflow tremendously. While these drives are much more expensive, they are much faster and more durable than their standard counterparts. However, we don't advise spending tons of money on three SSD external hard drives. Purchasing one SSD and two normal drives is our recommended approach, because there is no need for your backup drives to be so insanely fast.

Memory Cards: We recommend purchasing multiple 32, 64 or 128GB memory cards. Be sure to get memory cards that are compatible with your camera model. It's also recommended to get a memory card with a read/write speed of at least 80MB/s. Many memory card packages hide this info somewhere small on the back, so look carefully before purchasing.

Basic Software Needed

Anti-virus Software for your computer is recommended and should be up to date prior to using your laptop in *PI*. We recommend the following anti-virus applications: Windows: Windows Defender (pre-installed on Windows 10). Mac: Sophos or Avast.

Adobe Lightroom, Adobe Photoshop and Capture One Pro will be the primary photo-editing software programs used for *Professional Intensive*. You will also use Adobe Premiere Pro, Adobe Illustrator, and Adobe InDesign for additional purposes. Capture One Pro software is also required, but a license code is included in your *PI* tuition. While all of this software is required at some point during the program, all you need installed on the first day of the program is the Photography Plan from Adobe Creative Cloud. Because the Adobe All Apps plan is not needed until the middle of *PI*, we recommend not spending extra money on this plan until that point.

In addition to these photographic softwares, you will be required to have a word-processing program to create Word documents and PDF documents. (Word on a PC or Pages on a Mac). You will be asked to install a few additional business-related programs throughout the course of *PI*. We will talk about these when they are needed within the program.

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Lighting Systems Details

Your camera may have a built-in pop-up flash. While this is useful in some situations, it is not flexible or powerful enough for a career in photography, and can often make photos look worse. One flash unit *and wireless trigger system* is required for *Professional Intensive*.

You should wait to purchase a flash and flash accessories until you arrive at *PI*, but you will be required to purchase these early in the program. You will learn how to use these portable flash units both on- and off-camera. Nikon uses the term "Speedlight" and Canon, "Speedlite" to describe these.

Only one flash is required, and it must be compatible with your camera model. It must also have TTL (Through The Lens) and manual flash mode capabilities. These flashes can be as cheap as $100 apiece if you purchase third-party brand flashes (which we recommend!). If you already own an external flash unit for your camera, bring that with you to the program; we will assess it and determine whether an upgrade is needed.

You will also learn about studio strobes during your time at *Professional Intensive*, but we prefer to give recommendations on those purchases in person, after you've learned an extensive amount about studio gear. You will not be required to purchase any studio gear to participate in *PI;* students have full access to our gear. Not all graduates will go on to purchase lights, but if you do end up wanting to buy some, please ask Jeff McLain or Forest Chaput de Saintonge in person.

Miscellaneous Equipment Details

Monitor Calibration Tool (Required)
Part of our responsibility as professional photographers is managing the appearance of colors and tones in our images from the moment we press the shutter button through adjusting the photo with editing software to sharing the picture on screen or on paper. This process is called color management. During your first Output class, you'll learn the steps involved in managing colors and how to calibrate your computer screen using a monitor calibration tool, which is the most essential tool for color management. It ensures our computer screens are displaying colors and tones accurately. Because we base our picture-editing choices on what the screen shows us, it is vital to keep our computer screens calibrated.

Inkjet Printing Paper
We require you to purchase at least 25 sheets of inkjet printing paper early in the program. We will discuss these options during the first printing class, and you will be required to purchase paper immediately after learning about the choices.

Print Protectors and Print Binder
We recommend that you purchase a package of 8.5" x 11"archival photo sheet protectors and a 3-ring binder or binder box for storing printed photos. We will discuss this in your Output classes so that you can purchase them early in *PI*. PrintFile and ClearFile are two good options for print protectors. Be sure to get the **ARCHIVAL**, three-hole punched kind, *not just a "normal" Avery-brand sheet protector*. Check B&H Photo/Video for the photo pages and binder or binder box. Make sure that the binder box is large enough to accommodate photo pages for 8.5" x 11" prints.

Extra Batteries
Your camera and your flash system will all need plenty of batteries. Our suggestion is rechargeable batteries. These will perform better and be more cost effective for you in the long run. For a flash, Panasonic Eneloop Pros cannot be beat. They are long-lasting, quick-charging and perform great in cold weather.

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Purchasing Equipment & Supplies

Buying locally - if you have a camera store you know and trust - is often a good idea. In addition, we suggest ordering from B&H Photo/Video before, during and after the *Professional Intensive* program. They are the largest retailer of photographic equipment in the world with a diverse selection from which to choose. They offer excellent customer service and a dedicated educational website and phone line for our *Professional Intensive* students through their educational program, EDU Advantage, which also offers special pricing on many items. You can find the B&H EDU Advantage site on the web at www.bhphotovideo.com/find/eduAdvantage or call their EDU (education specific) number at 866-276-1435.

RMSP has worked with B&H's EDU team to make registration easy. To get signed up, just visit the following link: https://rmsp.com/bhedu

Educational Partners

As an educational institution, we hear about and experiment with many different manufacturers, products and retail organizations. The companies listed below consistently provide excellent service, products and prices. They also recognize students as important customers and ambassadors for their products and services. Please consider using these fine companies as resources for your photographic needs.

We would like to thank **Adobe Systems**, **B&H Photo/Video and Canon U.S.A.** and all the companies listed below for making significant and generous contributions of necessary lecture materials and/or equipment to our programs.

Adobe Systems	www.adobe.com
B&H Photo/Video	www.bhphotovideo.com
Canon U.S.A.	www.usa.canon.com
Sony Electronics	www.sony.com
Canson	www.canson-infinity.com
Datacolor	www.datacolor.com
Kirk Enterprises	www.kirkphoto.com
Lensbaby	www.lensbaby.com
Lens Pro to Go	www.lensprotogo.com
Profoto	www.profoto.com
Tether Tools	www.tethertools.com

" ... RMSP helped me understand my strengths, weaknesses, and my reason for picking up my camera every single day."

- Jillian G., NY

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