



Campbell University School of Engineering – Student Computer FAQ's 2018-2019

Q: I have a laptop with MacOS installed instead of the required Windows 10. Is this OK?

A: Virtually all engineering software, including that used by Campbell University, is not available for MacOS. Campbell University engineering requires that all students bring a computer **with Windows 10 already installed to the first day of classes**. It is possible to install Windows 10 onto most Apple or other computers, but neither Campbell University Engineering nor the Campbell University Helpdesk can provide any assistance with accomplishing this. Students wishing to install Windows 10 onto an Apple computer are advised to seek professional assistance to accomplish this task **prior to the beginning of classes**. In this case it is recommended to dual-boot the laptop rather (via Bootcamp) than to run both OSs simultaneously as with Parallels or comparable products. However, the cost of this operation in professional assistance and software licenses can be substantial and simply buying a newer Windows-based laptop may be the better choice for some students.

Q: What is the difference between the Standard and Advanced laptop configurations sold through Dell and Bookstore? Will students using Standard laptop configurations be at a disadvantage?

A: The Standard (XPS 9370) laptop configuration is the recommended model for purchase for all students, and is suitable for all engineering coursework. The Advanced model (Precision 5520) is made available for those students who wish to purchase a more powerful laptop than required for coursework. As the Advanced model is a much more powerful computer designed as a professional engineering workstation and certified for use with engineering software, it is considerably more expensive. The Advanced model does enable some advanced graphical features (potentially convenient, but not required) that are not available on non-engineering-certified laptops.

Q: Are there any differences between buying a laptop through the given Dell link, at the Campbell University Bookstore, or from another vendor?

A: The Standard and Advanced models offered through our Dell website and the Bookstore are an excellent choice based on our specifications, typically represent good value (though prices can fluctuate) and are of models that the support desk at Campbell is familiar with. However, if a computer meets our specifications, there are no effects on students and no additional fees for non-Dell or non-Bookstore laptops. We especially recommend that students interested in the Advanced model purchase through the Dell website or the Bookstore to ensure they obtain a correctly configured machine.

Q: I am looking at various laptops for sale and they are less expensive than the models available through the Dell website or the CU Bookstore. Is the Dell/Bookstore laptop really a good deal?

A: The Dell and Bookstore laptops use up-to-date components in a chassis from a brand and product line that is more premium (and therefore has better tech support and better build quality) than bargain-basement discount models. As we expect students to need a laptop daily throughout engineering school, we prioritize reliability and the ability to get service / repairs over the absolute lowest cost. Also, the extended warranties available for those models (which are also offered with a minimal 1-year warranty) are extensive and include on-site repair of the laptop by Dell – which adds to cost but makes it much less likely that an emergency replacement laptop will need to be purchased to ensure class success in the event of damage to a student's laptop.

Q: What warranty does the Campbell University Bookstore model have?

A: The models offered without warranties have only the minimum 1-year warranty from Dell. The additional warranty packages extend coverage of the product to 3 years for both failure of the machine or accidental damage, and includes having a Dell technician meet the student to fix the laptop, without needing to ship the computer out for repair. The School of Engineering strongly recommends purchasing extended warranties to allow prompt fixes / replacements in the event of damage to the laptop. It is important that students consistently have access to laptops to complete coursework.

Q: Should I get a computer more powerful than the required / recommended specifications to 'future proof' the laptop?

A: Attempting to 'future proof' a laptop is not likely to be beneficial. The software to be employed does not raise its requirements very often. A properly maintained laptop meeting the specifications is very likely to provide acceptable performance for the entire engineering program. If students need very high computing power for research, industry, or other educational purposes, the School of Engineering does not expect that any laptop for any price will be the appropriate computing tool. However, students interested in buying a more powerful machine may consider the significantly more expensive Advanced configuration, which is comparable to laptops that might be used by engineering professionals. The Standard model is entirely sufficient and much less expensive.

Q: The computer specifications you recommend are not great for [gaming, video editing, hosting files, or other non-Engineering computing task].

A: Yes. Our specifications are designed to emphasize higher reliability and sufficient power for relevant engineering tasks, at a reasonable cost. Students with major non-engineering computing needs may wish to consider building a desktop computer designed to satisfy those needs. Numerous guides are available on the internet.

Q: You state in the specifications that most computers do not have the ideal graphics for engineering use, and only the Advanced laptop model is guaranteed to work correctly. What kinds of problems might be experienced by students using the Standard model or other laptop that meets specifications?

A: Only graphics modules specifically designed for professional use enable error-free use of most engineering software. However, these graphics chips tend to be expensive and the types of errors most users without those chips will experience are very minor. For example, some types of reflection are disabled in the display of metals in our CAD program. However, all required coursework can be completed without a professional graphics module. Professional graphics are found in the Nvidia Quadro, AMD Firepro, and Intel Xeon families of products. If you are interested in professional graphics, it is recommended you purchase the Advanced laptop model (Precision 5520) from Dell or the CU Bookstore.

Q: You recommend a 256GB SSD, but I can get a larger hard drive for less money. Why do you recommend the SSD, and is that really enough space?

A: We recommend SSD's for several reasons. First, they are much harder to damage than hard drives through rough handling of the laptop. In our experience, the primary cause of failure of student laptops is falls or drops, and an SSD makes it much less likely that students will lose data (or their entire laptop) to a fall. Second, SSD's are capable of much faster boot times and faster loading of programs, meaning that when students use their computer in class, less time is spent waiting and more time is spent learning.

In terms of space, faculty testing suggests that 100GB is sufficient for all the relevant programs, the operating system, and 20+ GB of file storage. Thus, we are confident that unless a student is using the computer extensively for non-engineering purposes, 256GB should be plenty. Also, external hard drives for additional storage are inexpensive, should a student eventually need more space.

Q: You recommend a 13" screen size in the Standard laptop model. Isn't that kind of small?

A: We recommend a screen of 13" or larger. Testing of our software on 13" screens has shown them to provide an entirely usable experience. If a student desires a larger screen, that's fine, but keep in mind that each laptop needs to be carried with the student to all engineering classes. A 17" laptop weighing 8-10 pounds with the power brick will be a significant and enduring burden. A 2 pound 13" laptop is a lot less work to carry back and forth every day. Smaller laptops can also be less expensive. One alternative to a big laptop is to buy a small laptop for class and an external monitor to place on a desk where the student is living for prolonged use on out-of-class assignments. We strongly encourage students and parents to prioritize portability and battery life in selecting a laptop.

Q: Why does engineering recommend screens with only 1080x1920 pixels? Is there any benefit to screen resolutions above 1920x1080 pixels?

A: Engineering specifically recommends 1080p monitors as higher resolutions have caused visual errors (unreadably small text, extremely small buttons, etc.) when using engineering software not designed for 4K and similar screens. 1080p screens are also lighter, cheaper, and have extended battery life versus higher resolution screens. It is certainly not impossible to be successful with higher resolution screens, but inconveniences may apply.

Q: You recommend 8GB of RAM, but I can buy laptops with 16GB. Would 16GB be better?

A: 8GB of memory will not be limiting for students performing appropriate engineering tasks. It is possible to fill any amount of memory (for instance, opening 1,000 Facebook tabs or writing a program with certain types of errors) but for our class-related tasks 8GB is enough, and will continue to be enough for the foreseeable future. We do not believe that spending extra for 16GB of memory versus 8GB makes sense given the purpose of these laptops. However, additional memory won't hurt anything but your wallet.