

## **Computer Use at Colby and Purchase Recommendations for First-Year and Continuing Students**

Ray Phillips  
Director of Information Technology Services, Colby College  
May 9, 2014

### **Top 11 Things This Document Covers**

1. Computer ownership is not required but 98% of students bring one, almost always a notebook/laptop.
2. When buying a computer, focus on support: how will the manufacturer fix hardware and operating system problems? Make sure that at least 3-years of support from the manufacturer are included in the purchase.
3. Macintosh and Windows (Windows 7 and 8) are equally usable; over 70% of students now bring a Macintosh to Colby. Linux is not supported by the College except in specialized labs on campus.
4. You do not need to buy Microsoft Office – the College licenses every student to use MS Office, which can be downloaded from the Colby server or, if necessary, stop by SCS in Lovejoy 120 to have Office installed.
5. Anti-virus software, regularly updated, is required. Mac and Windows system updates must be installed.
6. The wireless network covers the residence halls and the academic and administrative buildings. High bandwidth wireless network capability (802.11n) is recommended in addition to standard wireless (802.11b/g). The advanced 11n network is available in all campus buildings.
7. Make sure the notebook/laptop computer has a video output port for connecting to classroom technology.
8. Copyright infringement is illegal. Use of peer-to-peer file sharing of music, video, software, images or other items in a manner that infringes copyright can lead to legal action by the copyright owner.
9. Know your rights and responsibilities. Read Colby's policies and advice related to information technology: [www.colby.edu/info.tech/policies](http://www.colby.edu/info.tech/policies)
10. Protect your privacy, especially your account password. Never share it and beware phishing attacks. [www.colby.edu/administration\\_cs/its/support/online\\_help/phishing.cfm](http://www.colby.edu/administration_cs/its/support/online_help/phishing.cfm)
11. Student Computer Services provides support to students in person (Lovejoy 120), by phone (207-859-4224) and by email ([scshelp@colby.edu](mailto:scshelp@colby.edu)) for network connection, application installation and operation, and general usage assistance.

### **Here are the Details**

A computer is a very challenging product to purchase wisely. Whether, when, and what to buy are not easy questions to answer, although advice is readily available. If you talk to friends, family, acquaintances, and sales representatives about these issues, you are likely to get a wide diversity of opinion, most likely expressed with near religious fervor. Every computer purchase decision is a compromise and cost is a significant factor.

- **Student ownership of a computer is not required.** We strongly recommend that students seriously consider having a computer. All students have access to computers in the student clusters 24-hours a day, 7-days a week when classes are in session and during finals, but students should be aware that it may be necessary to wait for access to a cluster machine at times during the semester when many classes have papers and other assignments due. Because both Macintosh and Windows computers are used by faculty, even students who have a computer will need to use computers in the clusters and specialized labs at times. However, during the past several years we have rarely had significant delays in student access to a computer in the clusters. Students who choose not to have a computer or cannot afford one have abundant access to computers in the clusters to accomplish their assignments.
- **Most students own a computer.** Nearly every student at Colby has a computer, typically a notebook/laptop model, but students without one have abundant access.
- **Computers are used extensively at Colby.** The College has long provided every faculty member with a computer. There is considerable use of computers in the curriculum in all academic disciplines, in research and other scholarly activity, in general communication through e-mail and the web, and for administrative information access such as academic records, course registration, Career Services job lists, class scheduling information, event scheduling information, etc. Computers anywhere on campus can be used for these tasks.

- **Computer labs are available.** Student computer clusters contain 72 Macintosh and 8 Windows computers in open-access labs and computer classrooms, and about 165 Macs and 125 Windows computers are in specialized facilities.
- **Residence halls are fully networked with wired ports and wireless (802.11a/b/g/n).** Every room in every residence hall has full network access. There is both a wired high bandwidth (100 Mbps) Ethernet port for each student and full wireless network coverage; students must provide what is needed to connect to these resources. Students **are not permitted** to use their own wireless hubs in the residence halls or elsewhere due to the interference of these devices with the College's wireless network.
- **Wireless network access in the academic and administrative buildings (802.11a/b/g/n).** The wireless network is available throughout the academic and administrative buildings, including coverage in the libraries and all classrooms. Instructors may establish policies on use of computers and handheld devices during class, especially where such use may distract attention from class discussion.
- **Secure wireless network connection is available to all students, faculty and staff** ([www.colby.edu/administration\\_cs/its/resources/network/wireless](http://www.colby.edu/administration_cs/its/resources/network/wireless)). Use of this connection, rather than the short duration guest access, is strongly advised.
- **Network Access Control (NAC) System in the residence halls.** The NAC requires that each computer connected to the network in the residence halls be registered to a person and pass the test for up-to-date antivirus software and critical updates to the system. This system is designed to reduce the vulnerability to computer viruses and other "malware." Neither it nor other systems on the network are used to monitor individual activity, in accordance with the rights to privacy provided by the Code of Ethics for Information Technology at Colby College.
- **Windows and Macintosh are both welcome and supported.** The College moved from a Macintosh standard to a Windows/Macintosh dual standard in 1998. Macintosh predominates on faculty desks on campus in terms of number but Windows computers are common and are supported at the same high level. Students should expect to become familiar with both systems because of the specialized software used by the faculty. We have seen a dramatic swing toward student ownership of Macs during the past several years.
- **Microsoft Office is required (but note the next item below).** The standard Colby software package for both Macintosh and Windows computers is Microsoft Office (Word, Excel and PowerPoint). It is expected that students owning a computer will have MS Office to permit document exchange with the faculty and to enable support from Student Computer Services (SCS). Although Google Drive is available in Colby Apps; care should be taken to send or share a Google Drive document only with others familiar with its use. Please note that no support for alternative word processing, spreadsheet, or presentation software will be provided and their use is discouraged for compatibility reasons.
- **THIS IS VERY IMPORTANT! Microsoft Office is provided by Colby to every student. When buying a computer, you do NOT need to purchase Microsoft Office with it.** Colby has a Microsoft Campus Agreement that provides all Colby students, faculty, and staff with a license to use MS Office (Mac and Windows versions) and a variety of other software, including all upgrades as they are released, during their years at Colby at no charge to students. All student-owned computers are covered, no matter where they were purchased. You may install MS Office from the network (see the Class of 2018 tab in the MyColby portal - my.colby.edu) onto your computer using your Colby login name and password.
- **Will I have to delete Office when I graduate?** Maybe. Microsoft is in the process of transforming the way Office is provided to customers, apparently transitioning from locally installed software on a computer to a remotely hosted subscription service. Beginning in 2017, and affecting the Class of 2018, Office may become a subscription service that ends at some point after graduation. If this happens, students will be advised well ahead of time regarding strategies for maintaining access to the Microsoft Office suite and to documents that have been created using it.
- **Anti-virus software is required.** Every computer on campus must have anti-virus software installed and kept up-to-date. Although Colby's email server (Google Apps for Education) and the edge firewalls block many viruses, infection can occur through web browsing, from infected computers on the network and other sources. There are several commercial anti-virus packages but it is essential to renew the license to get updates. Free anti-virus applications are also available. Information about anti-virus options is available here: [www.colby.edu/administration\\_cs/its/support/online\\_help/protect.cfm](http://www.colby.edu/administration_cs/its/support/online_help/protect.cfm)

- **Students owning Windows computers must regularly install Microsoft's critical updates.** A Windows computer that is not regularly updated is vulnerable to attack. Student Windows computers must be set to automatically install critical updates from Microsoft. More information on protecting your computer can be found here: [www.colby.edu/administration\\_cs/its/support/online\\_help/protect.cfm](http://www.colby.edu/administration_cs/its/support/online_help/protect.cfm)
- **Other software.** A variety of software for both Windows and Macintosh computers is available through Colby's network servers, which manage license restrictions on concurrent use. Students may find it appropriate to purchase additional software and, in a few classes, it will be part of what is required or recommended as a "textbook." General student clusters are usually an option for using this software.
- **Choosing between Macintosh and Windows.** Whatever you, the student, is most comfortable using will be the best choice. Every expert is biased on this issue and both systems have strengths and weaknesses.
- **Desktop vs. Notebook (laptop) Computer.** Most students own a notebook computer, although desktop computers are fine. While many faculty members are using notebook computers for in-classroom presentations, students are not generally encouraged to use notebook computers for in-class note taking because of the distraction caused by the keyboard noise and diversion of attention from discussion. However, most students find it convenient to take the notebook computer to the lounges, library study spaces, laboratories, group study areas, and vacant classrooms to use with the wireless network. The libraries (Miller Library, Science Library and Art & Music Library) have notebook computers that can be borrowed (currently 4-hour loan period) on a first-come, first-served basis.
- **For Macintosh computers,** Apple is the only manufacturer of Macs. Colby does not support Macintosh emulation software running on a Windows computer. Although there is good Windows emulation software and multiple OS capability for Macs, support for this is also not available.
- **What brand of Windows computer is recommended?** Colby does not have a recommended Windows manufacturer for individual purchases, although the College purchases Dell computers. Your choice should be based on your confidence that the manufacturer can provide the necessary operating system and hardware support in the case of malfunction/failure of the system. The College's selection of Dell is not based on this criterion; we have a different support structure than a student computer owner would use. Dell may or may not be best for an individual purchaser. While we have been pleased with the quality of Dell computers, there are lots of alternatives and you should consider features and price, but focus on after-sale service that the student-owner will have to use if there is a problem with the operating system or hardware. We also recommend that you ask about the manufacturer's support for environmentally safe old computer disposal.
- **Apple Macintosh OS X and Microsoft Windows 7 and 8 are supported.** Mac OS 10.6 (Snow Leopard) and Windows 7 (SP1) or newer are recommended.
- **Windows Server computers are prohibited** at Colby unless directly managed by ITS because of the network disruption they are likely to cause when not properly configured. Servers discovered to be running in the residence halls will be denied network access.
- **Linux.** A few highly knowledgeable and self-sufficient students are using Linux and its variants. Linux is unsupported except in the labs and offices of the Computer Science Department. Any student running Linux is expected to be completely self-sufficient.
- **What about a "netbook" computer?** These smaller notebooks are either extremely low-end Windows or Linux computers. A Windows netbook may be a good option except for very small screen size.
- **Why not just an iPad or other small tablet?** While these and other handheld devices are very useful, they are unlikely to be adequate without also having a conventional computer. A basic notebook computer and an iPad is an attractive, though expensive, configuration. Another drawback of handheld devices is their short expected useful life: 1-2 years, most likely. There is only very basic support available for handhelds: wireless network connection and configuration for connection to Colby Apps email and calendar.
- **Should you buy a top-of-the-line computer now so it will still be an advanced model when you are a senior?** I recommend that you not purchase an advanced computer unless it is clear that the capabilities are needed immediately. Rather than spending two or three times as much on a computer now, expecting it to meet advanced needs for all four years, I urge saving money and consider a low-end replacement in 2 or

3 years when you are a junior or senior. In fact, the low-end computers next year will probably be more advanced than this year's moderately advanced computer.

- **How long will a computer purchased now be useful?** Many students own a single computer for their college careers and it meets their needs well. In spite of the rapid change in technology and the notion that a computer becomes “obsolete” by the time you get it home, the reality is that a computer with its assortment of software purchased now will function just as well in three years when the student begins the senior year. What that computer may not be able to do well is run newer versions of the software that are released during the intervening years. Students should be cautious in making upgrades in the operating system and software such as MS Office because performance may not be adequate.
- **Music, movie, game and other software piracy is illegal and prohibited.** The College takes a strong stand against the illegal downloading and redistribution (“piracy”) of MP3 music files, movies, games and software. Students who infringe copyright law using, for example, Peer-to-Peer file sharing applications are subject to legal action by the copyright owner, as well as possible college disciplinary action. You should read the RIAA (Recording Industry Association of America) advice to college students: [www.riaa.com/toolsforparents.php?content\\_selector=resources-for-students](http://www.riaa.com/toolsforparents.php?content_selector=resources-for-students)
- **College IT policies.** Information technology policy documents and other advice are available on the web on the ITS home page and in the student handbook. It is very important that you understand your rights and responsibilities as a Colby student under these policies: [www.colby.edu/administration\\_cs/its/policies](http://www.colby.edu/administration_cs/its/policies)
- **Protect your password, your privacy and your personal information.** Colby’s IT Services staff will never ask you for your password in email but you will periodically receive “spear phishing” email from cyber attackers warning of some kind of account problem that requires you to either send your password or click on a non-Colby link. Learn to recognize these and just delete them. [www.colby.edu/administration\\_cs/its/support/online\\_help/phishing.cfm](http://www.colby.edu/administration_cs/its/support/online_help/phishing.cfm)

### Computer Configuration Recommendations

Look for these capabilities. Just about any new notebook computer will have these features, at least as an option.

- **Wireless Network that includes 802.11a/b/g/n** - Notebook computers should be equipped with a wireless network card that uses both the 802.11b/g protocols and also has 802.11n. 11n is the new standard and has much higher bandwidth but one of the other protocols is required for connection in public places such as hotels and restaurants. 11b is the most often available wireless network protocol so having at least 11b and 11n is advised. 802.11ac is being prototyped on campus but not deployed widely until at least 2015.
- **Ethernet 10/100(and optionally /1000)** – Wired Ethernet is available on campus and should be considered but is not required. Most students just use the wireless network. An Ethernet cable is needed to connect to a wired port. This can be purchased at the Bookstore or at area computer supply stores.
- **At least 2 GB RAM and 200 GB disc drive.** New computers are likely to have much larger capacity hard drives than this. Entertainment requirements (e.g., iTunes storage) are likely to be much more resource demanding than that of academic documents.
- **What about a solid-state drive rather than a hard drive?** Because it has no moving parts, a solid-state drive is much more reliable and faster, though significantly more expensive. Once again the College is purchasing higher end notebook computers that have solid-state drives for faculty and staff who need that speed and reliability but do not have large storage requirements.
- **How should students create backups?** Losing a critical draft document after spending days or weeks of effort is a disheartening experience, especially at the end of a semester just before the assignment is due. Back it up!! We strongly recommend that students make backups of their important documents by copying them to their Colby-provided network storage or to an inexpensive USB drive. An alternative approach to backups is to use a service such as Carbonite, CrashPlan, iDrive, etc.
- **Auxiliary Video Port** - The video port on a notebook computer is essential for connecting to an external monitor or projector and many students use their own computers for classroom presentations. All models except ultra-mobile notebooks and handhelds are likely to include this port. An adapter may be required to connect to TV’s and projectors. It is always wise to test a notebook computer ahead of time with the

projector that will be used when making an important presentation in class or elsewhere to allow time to work around compatibility and configuration issues.

- **Anti-virus software** is absolutely essential and must be either licensed or a free application installed. For options, see [www.colby.edu/administration\\_cs/its/support/online\\_help/protect.cfm](http://www.colby.edu/administration_cs/its/support/online_help/protect.cfm)
- **Extended warranty/support** for the hardware and operating system covering a full three- or even four-years of telephone support, parts, and on-site labor warranty is highly recommended. For notebook computers, consider comprehensive coverage that would cover accidental damage. The manufacturer typically services notebook computers by having you ship it overnight to a repair facility. Although theft of student computers is rare, it does happen and I recommend that families review their insurance coverage.
- **Do not include Microsoft Office in the initial purchase.** MS Office Professional can be installed from Colby's network server. See the information in the Class of 2018 tab of MyColby.
- **Printer is optional** - The College does not provide computers or printers in the residence halls, so it is very convenient to have a personal printer. Laser printers in the general clusters are available 24 hours a day and there is currently no charge for b/w printing on them, only a strong Colby Green Computing recommendation to conserve and use duplex (2-sided) printing. Color laser printing is available at a charge (currently \$.20/side), with a \$10 color printing subsidy provided to each student for the 2014-15 academic year. [The charge and subsidy may change in future years.] One possibility is to delay purchasing a personal printer until it is determined what is needed based on the student's own experiences, although printers are often heavily discounted when buying a computer.
- **External keyboard and mouse** – Consider purchasing these for use with a notebook computer in an ergonomically improved workspace at the residence hall room desk to avoid Repetitive Stress Disorder.
- Students will likely find it convenient to own a USB storage device (flash drive/memory stick). 1 GB devices are available for less than \$10.
- Each student has access to convenient network storage and enhanced capacity is available for students with large file requirements on projects that involve such applications as GIS (Geographical Information Systems) and video editing.
- **What will a computer cost?** – The cost of a computer is dependent on the speed of the processor, size of the display, enhancements in video and audio processing hardware, etc. As a rule of thumb, I suggest that a reasonable notebook computer will be \$1,000 to \$1,700, including at least 3 years support coverage. Of course, much more could be spent.

### **Where Do Students Get Help With Computer Problems?**

Students have several resources available to them to solve computer problems and to get repairs made. Most prominent are the following:

1. *The computer manufacturer (Apple, Dell, etc.)* - Operating system and hardware repair.
2. *Student Computer Services in ITS (phone 207-859-4224)* - Network connection, application installation and operation, and general usage assistance. ( [www.colby.edu/administration\\_cs/its/support/scs.cfm](http://www.colby.edu/administration_cs/its/support/scs.cfm) )
3. *Local computer stores* - Expedited service, including out-of-warranty work, usually for a parts and labor fee, can be obtained from a local computer store:  
[www.colby.edu/administration\\_cs/its/support/online\\_help/local-repair-vendors.cfm](http://www.colby.edu/administration_cs/its/support/online_help/local-repair-vendors.cfm)

The Computer Manufacturer (Apple, Dell, etc.)

When you buy a computer, you are also buying access to a support structure provided by the manufacturer. Many problems encountered by students can be solved most expeditiously through this kind of telephone support service, typically available 24 hours a day, 7 days a week. If a hardware failure is identified by the manufacturer during this support process, students will be instructed by the manufacturer on how repairs will be handled by the manufacturer. Colby does not have any involvement in this process.

ITS Student Computer Services (207-859-4224, from campus phones dial 4224)

SCS provides on-site support to students having problems with their computers. It is staffed by students employed by ITS and uses a tracking system that is also accessed by the ITS professional staff to address

network and other general problems that may arise. SCS focuses on the Colby-specific support issues that the manufacturer generally cannot address. These are the priorities for SCS support:

1. Network Connectivity — verification of correct operation of the student's computer network (wireless and wired) configuration.
2. Application Installation and operation — Microsoft Office installation and support. Assistance with free anti-virus applications.
3. SCS employees are prohibited from doing any hardware repair. Any work that entails "opening the computer" or doing more than connecting cables or inserting/removing notebook computer PCMCIA cards must be done by a manufacturer-dispatched repair technician or a local service provider.

#### Local Computer Stores

There may be times when neither the manufacturer nor SCS can provide what a student or parent considers timely service for a problem. For these situations there is always the option of using the services of a computer store in the Waterville-Augusta area ([www.colby.edu/administration\\_cs/its/support/online\\_help/local-repair-vendors.cfm](http://www.colby.edu/administration_cs/its/support/online_help/local-repair-vendors.cfm)). This list is for information purposes only and does not constitute an endorsement of any of these stores. Students should expect, though, that there will be a labor charge for those services, even if the computer is covered by the manufacturer's warranty.

### **Students Are Important Participants in Colby's Green Computing Initiative**

Students, faculty, and staff at Colby are working in many ways to reduce the adverse impact of our campus community on the environment. The Environmental Advisory Group, on which students have provided important leadership, has consolidated recommendations in many areas of campus life, including information technology, and you will be hearing lots more from them. As you make decisions regarding computer purchases it is worth keeping these computing-related issues in mind:

1. Turn off your computer! A modest amount of turning on and off will not harm the equipment. Leaving it on all night and all weekend wastes energy. Break the habit of switching the machine on every morning and leaving it on all day.
2. Do not use a Screen Saver! Set the computer to have the screen go blank after being idle a few minutes. It takes only a moment to restore the display.
3. Set your computer to 'sleep' or 'stand by' when not in use for 15 minutes.
4. Don't turn your printer on until you are ready to print. Printers consume energy even when idle.
5. Print as much as you really need to edit your documents in preparation for the final result, but try to edit on the screen as much as possible.
6. Use duplex printing (2-sided) whenever possible. Don't print those long web pages or literature search results; print to a PDF file and save or email it to yourself.
7. Buy only "Energy Star" computers and accessories. What's Energy Star? Visit [www.energystar.gov/products](http://www.energystar.gov/products)
8. Buy good quality remanufactured toner cartridges instead of new ones, but avoid simple recharged cartridges that can actually clog up your printer.

For more information: [www.colby.edu/administration\\_cs/its/support/online\\_help/green\\_computing.cfm](http://www.colby.edu/administration_cs/its/support/online_help/green_computing.cfm)

### **What To Expect This Fall**

We in Colby's Information Technology Services department look forward to the arrival of the Colby Class of 2018 on August 26, 2014. We will be ready to assist with computer network configuration and final software installation on that day. Look for us wearing our Colby Computer Connection 2014 shirts. On September 2, the day before the start of classes, we will again have response teams to help new and returning students with last minute computer set up problems. Our objective is to have all student-owned computers in the residence halls fully operational before classes start. Microsoft Office can be installed over the network during the summer and after arrival on campus using the links on the Class of 2018 tab in the portal: [my.colby.edu](http://my.colby.edu)

If you have questions about Colby's information technology environment or need general advice on making a purchasing decision prior to Aug. 26, 2014, please send email to [computer-advice@colby.edu](mailto:computer-advice@colby.edu) or call Paula Lemar at 207-859-4206. You are also welcome to contact me directly during the summer or any time during the academic year (e-mail: [Ray.Phillips@colby.edu](mailto:Ray.Phillips@colby.edu); phone 207-859-4209).

Welcome to the Colby Community!