

## **APPLE**

Macs generally come complete, but a couple of options exist that allow memory and hard disk/solid state drives upgrades at the time of purchase. 4 GB of RAM is generally minimum, but 8-16 would be highly recommended. Hard disk sizes start at about 500 GB, and go up from there. Newer solid state drives (SSD) start at 256 GB, depending on the model, and 512 GB or 1 TB SSD are now more common. 256 GB of SSD storage should be considered the minimum starting point. A 13" screen is generally adequate for e-book reading and day-to-day work. Rule of thumb for both RAM and Hard Disk/SSD is "more is better". As far as Operating Systems on a previously owned machine goes, try to have at least MacOS 10.11 (aka: El Capitan) or later. Apple is currently at Mojave (Version 10.14.4) as of this writing. The core processors these days are all Intel Cores, much the same as PC's. If the machine was made in 2015 or later, you are good to go. A MacBook Air is the minimum machine model to consider for general use. The MacBook Pro series are top of the line and will provide the ultimate experience for students into multi-media arts – particularly advanced video and photographic applications.

Battery life has improved as technology has advanced. Macs will run 6 to 8 hours depending on the model what they are being used for. Run time will be reduced when using processor and GPU intensive applications such as those from Adobe (Photoshop, Premier, etc.) Macs also have the advantage of being relatively ignored by the hacker community when it comes to malware and viruses. The most current (and only) broad method of attack is a malicious website compromising a browser (Safari, Google, or Firefox), but this is easily cleaned up should it occur. We always highly recommend having an active anti-virus strategy in place. Two very good choices are MalwareBytes for Mac, or Sophos Home for Mac. We also recommend installing multiple browsers alongside of Apple's Safari. (Chrome, Firefox, Opera) to ensure full compatibility with various sources of on-line educational materials.

Even though Macs are robust machines, a data backup strategy should be seriously considered as even the best machines can fail at the most inopportune times. Apple machines have a built-in backup utility named "Time Machine", but it needs an external disk and active involvement on the part of the user for it to be useful. Other options are available to make backups to the "cloud". Whichever strategy you wish to use will help ensure that no important homework, video projects or term papers are lost.

Macs do come with a premium price, but there are a couple of things in your favor that can reduce the sticker shock. Apple sells refurbished current models for about a 10-15% discount. You should also be able to get a student discount. If you work for a company on Apple's list, there are discounts that generally save you about 9%. The refurbished models from Apple are prime quality, with new cases, the current release of Mac OS and full warranty – like new. We would recommend an AppleCare extended warranty. Other warranties can be purchased to protect an owner from other forms of accidental destruction not covered by AppleCare.

You can also purchase used machines from other sources, but the age and state of such machines will always be somewhat questionable, and the warranty (if any) will be weak. We have examined some of these third party sourced machines and they have generally been abused. Before making an on-line purchase, we recommend taking a trip to an Apple store and trying out the machines. Get a feel for the screen size comfort level and speak with a representative.

## **PC's**

Most laptops will give you anywhere between 2-5 hours depending on what they are being used for during that time. If you are watching a movie, gaming, etc., there might be less time. If you are sending email, word processing, etc, you may have a bit more time.

Windows 10 Professional or Home editions (now at Version 1809) will perform better with at least 4 GIGs of RAM memory and many machines come with 250 gigs – 500 gigs of hard drive space. Machines with solid state drives (SSD) are more robust as there are no moving parts. However, this option increases the cost of the machine. Most laptops now have cameras included, speakers, microphones built in and some still have a DVD drive for loading software or watching movies.

We have seen a need to download Chrome or Firefox web browsers to make the books work with Windows 10 machines. The resident web browser, Edge, that comes with Windows 10 is problematic at times and is not recommended as a preferred web browser.

A netbook is a smaller version of a laptop and may have longer battery life but the screen is smaller and there is no media/disk drive.

Because so many PC laptops have the same basic components inside we would recommend the following things to look for in a Toshiba, a Dell, HP, Lenovo or Acer machines. You should also take a trip to a store to try out different machines.

Intel i5 4<sup>th</sup> generation processor, minimum.

Machines with Intel i7 or i9 processors are more expensive but are more useful if the student is going to be working with rich multimedia applications such as video editing.

4 - 8 gigs of RAM

250-500 gigs of hard drive space is fairly standard(SSD drives make the computing experience much better due to their speedy access to Apps and data.)

13-15 inch screen (for day to day work a 13" screen is adequate. Bigger = heavier)

DVD/media drive – NOT necessary as they are eliminating them to reduce weight and size.

Windows 10 operating system.

While Apple machines are far less likely to require anti-virus software, we strongly recommend anti-virus software for any Windows PC. It is important to keep any and all machines and software current and up-to-date.

## **Applications**

Bishop Dunne has partnered with Microsoft and students will have access to Office 365 for free.

Adobe Reader DC is required to in order to be completely compatible with any .pdf files. It can be found at [www.adobe.com/reader](http://www.adobe.com/reader).

It is important to note that when downloading the reader application that you uncheck any boxes that offer other software. This applies to both PC and Mac.