Q: I hear that Windows 7, Windows 8/8.1, and Windows 10 runs on the Apple Mac computers. Will a Mac laptop work for me if I'm an incoming engineering student?

Response by Prof. M. C. Rosen, Director of Information Technology, U.Va. SEAS Posted: 30APR2016 [rev. 1]

A: Most of the software used throughout the Engineering School curriculum is available in editions that run on Microsoft Windows. This general compatibility is not the case for the Mac OS or Linux.

If you feel comfortable providing your own self-help technical support, and are willing to find creative ways to get your work done should it turn out that a particular program or device doesn't operate properly, then maybe you are a Mac person.

It is possible to make the Mac work in most cases-- but it depends on your familiarity and interest to work with computers -- and as mentioned, that you're comfortable being more self-supporting. That is up to you and how you feel about it.

Last cycle, Fall 2015, approximately 25.6% of U.Va. engineering students brought a MAC. From what I heard, Mac adopters make out okay in general, but a good portion had difficulty with running the software used in the Intro to Engineering first-year course.

Also, students enrolled in different majors use a different mix of software applications, but I can not recommend computer hardware or a non-Windows operating system based on major. This is because about half of our incoming students don't know what major they want. Another factor is that a portion of those that targeted a particular major when applying to U.Va. Engineering wind up changing their mind once enrolled after learning more about the various choices in majors and minors that we offer. (As an example, one of our most popular minors is the ‘Engineering Business Minor’ which includes courses from U.Va.’s Commerce School that has similar recommendations supporting Windows-based computers.)

Running Windows on a Mac

Technically, there are a number of ways to make it work.

If you weren’t aware, the University implemented a remote access method to run some Windows editions of U.Va. licensed engineering, math and science software. These software titles can be
accessed and run from a Mac or a PC. It is known as the U.Va. HIVE. More information is available at: http://its.virginia.edu/hive/

Unfortunately, not all of the titles used in engineering courses are part of that initiative, and the need to run some Windows application software on your laptop remains.

**If you are interested in pursuing the MAC option, here’s some detailed information that you might find useful:**

[1] An upgrade copy of Microsoft Windows is made available to our students. The licensing cost for this one copy is covered under a special U.Va. student program and it can be used on a Mac. More information is available at: http://its.virginia.edu/software/studentoffice/

[2] Running Windows under a virtualized environment is one path. On Intel-based Macs, leading choices include Parallels, VMware Fusion, and Virtualbox. *(Emulation software such as Codeweavers CrossOver is less likely to be successful.)*

Many Windows applications will work under such virtualization. However, software versions are updated each year and there's no way to test ahead that all the Windows-based software or your devices (incl. some peripherals) will work correctly in that mode, and that the virtualization not interfere when you are trying to work in the Mac mode.

The use of Parallels*, Fusion & Virtualbox *(a free download)* consumes system resources (CPU, RAM) when running Windows sessions/software. The choice of MAC hardware model is relevant. *For example, an older MacBook Air configured with 2GB RAM would not be sufficient.*

Note too that keyboard mappings are different as well as the mouse operations on the Mac compared with Windows. When running Windows software or running even just in virtualization modes, this takes some getting used to even for some experienced users.

[3] An alternative that only shares hard drive space, but not system resources is Apple's Boot Camp.

Boot Camp is included by Apple in its operating system, but Apple's support does not cover a lot of questions on Windows running on their hardware, Microsoft doesn't support Windows running on Apple hardware, and the U.Va.'s ITS Computing Help Desk (http://its.virginia.edu/helpdesk/) does not support dual boot or virtualization modes.

Please consult Apple’s page:” System requirements to install Windows on your Mac using Boot Camp” https://support.apple.com/en-us/HT204048

This material covers which Apple laptops are compatible with which versions of Windows.

The bottom line is in either the virtualization mode or dual boot mode, you're on your own to try and make it work.

*Parallels is available for $39.99 at Cavalier Computers.*
Reference Links:

Apple Boot Camp Installation Guide/Getting Started: Information on Boot Camp, for dual booting Microsoft Windows and Mac OS X:
  http://www.apple.com/support/bootcamp/

Information on Computers for Incoming 1st Year Students arriving August 2016
  http://infotech.seas.virginia.edu/firstyear
U.Va. School of Engineering and Applied Science's web site
  http://www.seas.virginia.edu

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