

# Hardware Specifications

## Pre-existing Hardware

As a general rule, we recommend postponing new hardware purchases until your current hardware breaks or cannot perform adequately. However, pre-existing hardware, or other hardware that does not explicitly meet the hardware specifications below, will be treated as being 'in compliance' so long as the hardware is successfully running all of the software required by the student's program and courses.



### Apple Hardware

*For those who currently own or are considering purchasing Apple hardware, the following should be noted:*

- Since several applications used in the curriculum are only available on the Windows operating system, Apple users will be required to run a Windows virtual machine on their Apple hardware.
- Apple's discreet video cards are not Autodesk certified.
- We strongly discourage virtualization software like VMWare Fusion or Parallels Desktop for use with intense design software.
- Students who are technically savvy and opt for Apple hardware with a Windows virtual machine despite these recommendations should anticipate investing additional time and energy in OS maintenance and application troubleshooting.

## Minimum/Recommended Specifications

The specific minimum and recommended hardware specifications for the next academic year will be updated annually on or before July 1. The minimum requirements constitute a computer system with an anticipated lifespan for architectural design purposes of two to three years. The recommended requirements constitute a computer system with an anticipated lifespan for architectural design purposes of five years.

Laptop Hardware Requirements for New Purchases					
	Non-design		Design		
Component	Minimum	Recommended	Minimum	Recommended (Basic)	Recommended (Advanced)
Processor	Intel i7 10-core or AMD equivalent	Intel i7 14-core or AMD equivalent	Intel i7 14-core or AMD equivalent	Intel Xeon/i9 16-core or AMD equivalent	Intel i9/Xeon 18+ core or AMD equivalent
Memory	16 GB	16 GB	32 GB	32 GB	64 GB
Hard Drive	512 GB SSD	512 GB SSD	512 GB SSD	1 TB SSD	1 TB SSD
Video Card (1)	Discreet Video Card with at least 2 GB RAM	Discreet Video Card with at least 4 GB RAM	6 GB NVIDIA Quadro or AMD FirePro	8 GB or more NVIDIA Quadro RTX or AMD FirePro	12 GB or more VR Ready NVIDIA Quadro RTX
Screen Size (2)	15 inch	15-17 inch	15 inch	15-17 inch	15-17 inch
Camera	IR Camera	IR Camera	IR Camera	IR Camera	IR Camera
Networking	Wi-Fi 6E AX211 w/ Bluetooth	Wi-Fi 6E AX211 w/ Bluetooth	Wi-Fi 6E AX211 w/ Bluetooth	Wi-Fi 6E AX211 w/ Bluetooth	Wi-Fi 6E AX211 w/ Bluetooth
Warranty	3 year + accidental damage	3-5 year + accidental damage	3 year + accidental damage	3+ year + accidental damage (# of years should match program length - recommended)	3+ year + accidental damage (# of years should match program length - recommended)

(1) - The most important recommendation for video cards is that they are on the list of Autodesk Certified Hardware for Revit. The card search can be found at <http://usa.autodesk.com/adsk/servlet/syscert?id=18844534&siteID=123112>

(2) - Screen size is mostly about usage style, weight, portability, and eyesight. Smaller screens provide lower weight and higher portability while larger screens provide a larger desktop at the expense of weight and portability.

## Peripherals

In addition to your required laptop there are several peripherals which can be very helpful to your digital productivity and security.

- **External Mouse** - An external mouse is a necessity for most CAD/BIM packages. We have not included one in our laptop bundles due to the wide variations in price, look, feel, and connection options.

- **External Monitor and Keyboard** - Laptops, while great for portability, are less good at providing an optimal ergonomic workspace. If you anticipate lots of screen time in your degree, consider purchasing an external monitor and keyboard for your primary workspace. We are currently recommending the Dell E-series or Dell P-series monitors, both are 23" 1920x1080 monitors with a sub \$200 price point, the P-series includes an integrated USB and adjustable stand for a small increase in price.
- **USB Memory Key or Mini Drive** - Ranging in size up to 128GB, these devices provide easy access, storage, and mobility for working files. For working architectural or GIS files I would recommend 8GB or larger.
- **Digital Camera** - The School offers digital cameras for checkout, however, if photography is a large component of your design process, there are many benefits to selecting, owning, and getting to know your own digital camera.
- **Cable Lock** - A locking mechanism to lock your laptop, monitor, printer, keyboard, and other peripherals to your studio desk while you are away is a great way to protect your computer investment and your data.