

COMPUTER REQUIREMENTS

Interior Design Program 2023

The Interior Design Program is proud to make use of the latest technology to prepare students more fully for the professional design world. In order to facilitate this process, all students will need a laptop computer. The software we use require more RAM and specific graphics cards that out-of-the-box laptops may not be equipped with, especially for upper level courses. The complex, advanced software that we use changes annually and requires more computing power, RAM, and graphics capabilities.

Because of this, students need to be prepared to invest in a quality laptop. Since computers are used in the classroom environment, a laptop is the required platform. There are two approaches (Option 1 and Option 2 below) to meeting this need.

The first is to purchase the highest level of computer power available when you begin your freshman year and try to make the computer last all four years. Currently that price would be between \$2,500-\$3,500.

OPTION 1

Below are the minimum system requirements for a laptop computer intended to be used for the duration of an academic career in the Interior Design Program. The specifications listed below are the ideal system configurations. Each component is typically a separate specification, therefore allowing for more customization on the consumer's end. Variations to these specifications will be acceptable, but optimal performance will be achieved with the listed specifications. For example, the specified operating system is Microsoft Windows 10 64-bit: enterprise or pro; however, you may choose to purchase a laptop that has Windows 10 Home Addition or even Windows 8.1. Each of these operating systems will work with the software but may not perform as well as the listed operating system and may not be supported through the full four year duration.

PERFORMANCE LEVEL CONFIGURATION	
Operating System	Microsoft® Windows® 10 64-bit: Enterprise or Pro
CPU Type	Multi-Core Intel Xeon or i-Series processor or AMD equivalent with SSE2 technology. We recommend a Dual Core Processor at minimum. Multiple cores (i.e. 16 cores) will result in better computing power. Budget permitting, we recommend the purchase of the highest number of cores available. The higher the CPU speed, gigahertz (GHz), the better. The latest i-Series is an i9.
Memory	32 GB RAM (recommended: with expansion slots); 64GB RAM will provide even better performance
Video Display	1680 x 1050 with true color or Ultra-High Definition Monitor
Video Adapter	Basic Graphics: Display adapter capable of 24-bit color

PERFORMANCE LEVEL CONFIGURATION	
	<p>Advanced Graphics: DirectX® 11 capable graphics card with Shader Model 5. Visit https://knowledge.autodesk.com/certified-graphics-hardware for graphics cards approved by the software developer of the software we use in ID (AutoCAD and Revit). (more dedicated RAM on the card is better)</p> <p>Required Graphics Cards: NVIDIA GeForce RTX or Quadro (Our software does not run with Intel Graphics Cards). Recommended Graphics Cards for optimal performance: NVIDIA Quadro RTX 5000, 4000, 3000 NVIDIA GeForce RTX Ti, 2080, 2070, 2060</p>
Pointing Device	MS-Mouse or 3Dconnexion compliant device (an optical mouse is required; either wired, wireless, or Bluetooth)
Hard Drive	500 GB Hard Drive or larger; Solid State (SSD) is not required but recommended because it enables less power usage, faster data access, and higher reliability)
Wireless Capabilities	IEEE 802.11ac wireless capability
Screen Size	We recommend a 13-15 inch video display. If a student gets a bigger computer, it is cumbersome to carry to and from class. Always look for the lightest computer to meet your needs. For better visibility for long term use, a separate monitor may be purchased to connect the laptop to.

*The software required for the Interior Design Program upgrades each year. Note that the system requirements have the possibility of changing over a four-year period. We cannot control the software needs. Therefore, if a computer is purchased with these higher end specifications but upgrades to hardware are required during the academic cycle, there isn't much control we have on our end. Ultimately, all software requirements (and hardware) are implemented so that we are teaching and applying the most current technologies being used in the field of interior design.

The alternative, **which is what we recommend**, is that students plan to purchase two computers at lesser costs while in the Interior Design program. It is our experience that the amount of money spent today for the higher computing power is often significantly more than buying two computers at lesser costs. The MSU Information Technology Services group also recommends this purchasing method for faculty and staff computers.

Students who try and purchase one computer for their freshman year to last until their senior year are often very frustrated by the delayed computer response and ultimately decide to purchase an additional computer only after they suffer for several months. Additionally, we find that the following are very likely to occur with student laptops-no matter how much care the student takes. Computers will be dropped, get viruses, have drinks spilled on them, etc. This leads to more rationale behind the multiple computer option. The Interior Design Program does not recommend a particular brand or vendor. It is common for students who have planned for two computers to make their second investment following Portfolio Review or in the fall of their junior year.

**OPTION 2
PART 1**

Below are the minimum system requirements for a laptop computer purchased for freshman and sophomore years.

BASIC LEVEL CONFIGURATION	
Operating System	Microsoft® Windows® 10 64-bit: Pro or Home
CPU Type	Single or Multi-Core Intel Pentium, Xeon, or i-Series processor or AMD equivalent with SSE2 technology. 1 gigahertz (GHz) or faster 64-bit (x64) processor at minimum. i7 or i9 preferred
Memory	64-bit: 16 GB (32 GB recommended) RAM
Video Display Resolution	1360 x 768 (1920 x 1080 recommended) with True Color High Resolution & 4K Display: Resolutions up to 3840 x 2160 supported on Windows 10, 64 bit systems (with capable display card)
Video Adapter (Display Card)	Windows display adapter capable of 1360 x 768 with True Color capabilities and DirectX 9. DirectX 11 compliant card recommended. Visit https://knowledge.autodesk.com/certified-graphics-hardware for graphics cards approved by the software developer for the software we use in ID. (more dedicated RAM on the card is better) Consumer based graphics card: NVIDIA GeForce GTX or RTX or Quadro is required. (Our software does not run with Intel Graphics Cards). Recommended Graphics Cards: NVIDIA Quadro RTX 5000, 4000, 3000 NVIDIA GeForce RTX Ti, 2080, 2070, 2060
Hard Drive	500 GB Hard Drive minimum
Wireless Capabilities	IEEE 802.11ac wireless capability
Screen Size	We recommend a 13-15 inch video display. If a student gets a bigger computer, it is cumbersome to carry to and from class. Always look for the lightest computer to meet your needs. For better visibility for long term use, a separate monitor may be purchased to connect the laptop to.

**OPTION 2
PART 2**

When purchasing the second laptop:

LOOK AT THE MOST CURRENT COMPUTER SPECIFICATIONS WHEN PURCHASING THE SECOND COMPUTER TO ENSURE THAT TECHNOLOGY IS MOST CURRENT. CHECK WITH FACULTY FOR RECOMMENDATIONS AS WELL.

Required Operating System: **Windows 11 Home or Professional (defined by software)**

Recommended Optional Equipment:

External Hard Drive or Online Cloud Storage	Students are strongly encouraged to purchase an external, portable hard drive that can be used for computer back-ups and storage of large files. These are reasonably priced and available with varying amounts of storage space. We cannot over-emphasize the importance of performing regular backups of important documents and keeping backups in a separate location from the laptop. Should a laptop be lost or damaged, the backup will allow for file retrieval from another computer. Lost or damaged laptops are not acceptable excuses for missed assignments. Currently, many external hard drives come equipped with additional CLOUD storage that enables automatic backup of hard drive information. This setup is most ideal so that there are 2 forms of backup and files are accessible from anywhere. Students have access to an unlimited GOOGLE DRIVE through the University as well.
Flash Drive	Two 1GB Minimum USB Flash Drives; flash drives are used in the Interior Design program to allow file transfers between computers, for submission of assignments, etc.
External Mouse	Wireless, Bluetooth, or Wired are acceptable
Printer	Although the Interior Design Program has standard and large format printers available, it is suggested that an additional printing source be available outside of the studio environment. An ideal printing format would be 11 x 17, as many of our assignments are printed to that size. However, the on campus library and our printer room both have these size printers.
External Monitor	We highly encourage students to have an external monitor. Using either a VGA or HDMI cable, it will allow them to link their computer directly with it as a second monitor. For online instruction, it is helpful because they can put WebEx on one screen and work on the other. For two of our more advanced software, the dual screens are necessary for ideal project workflow. The minimum size we recommend is a 23-inch. (they will also need a cable for connecting devices)

Required Software:

Most software is not purchased until directed by the instructor. The exception is Microsoft Office which students need upon entering the program. An educational version can be purchased through the MSU Bookstore's website at msstate.bncollege.com or through their secondary source <http://thinkedu.com/bn/bn2/>

Additional software we use are listed below with their current prices and specific semesters.

	Price	Semester
Microsoft Office 365	\$69.95 (1 year subscription)	First Year (Fall)

Should Include Word, Excel, and PowerPoint. (Microsoft Works is NOT an acceptable substitute)		
AutoCAD	Free	First Year (Fall)
Autodesk Revit	Free	Second Year (Spring)
Adobe Creative Cloud ADOBE CREATIVE CAMPUS https://www.adobe.msstate.edu/	\$150 Per Academic Year	Second Year (Spring)
Rhinoceros (Rhino)	Free 90 day trial	Fourth Year (Fall or Spring)
SketchUp	\$55 – 1-year student license	Second Year (Fall)
Lumion Pro Student	Free	Fourth Year (Fall)
Enscape3D	\$149 – 1-year student license	Second Year (Fall)
Genius Scan (and smart phone to operate)	Free	First Year

*Given that technology/software change rapidly, there is a strong possibility that software requirements beyond those listed above may be required.

Use of Macs:

Some of the software used in Interior Design is incompatible with the Apple Macintosh Operating System and Mac versions of the software are not available. Should a student choose to use a Mac they will need to ensure it has the appropriate microprocessor, will need to purchase a dual booting software (such as BootCamp or Parallels), the Windows 10 Pro Operating System, and need additional versions of any software they wish to operate in both Mac and Windows 10 operating systems. We do not have recommendations for purchasing an Apple Mac.

*We recommend that students avoid purchasing a computer until the end of the first semester in the program. A basic computer for word processing should be all they would need for that first semester. They are permitted to use a computer that is being carried over from high school in the first semester, and it can be either a PC or a Mac. Given the possibility that students may change their major after the first semester, it is best not to make a full investment in an expensive computer that would be unnecessary for other majors.

The second semester in the program will require the use of Autodesk AutoCAD which is a processor-heavy software. It will require a more advanced system with the specifications provided above.

**Given that software needs change regularly, we cannot foresee whether computers will need to be replaced or upgraded during the duration of a student' academic career. In addition, every system functions differently and is maintained differently by each individual. Many factors effect needing to upgrade a computer, therefore, it should be expected that multiple computers or upgrades to hardware may need to be purchased when necessary.