

Microsoft Windows Laptops

The information provided below is enough for you to purchase a laptop. We are not able to review individual systems, provide additional guidance on suggested vendors, or tell whether a specific model will work. If the laptop meets or exceeds the specifications below, there should be no issues.

Please note we do not recommend purchasing Macs for technology/engineering work. This is not bias but is based on experience, that most of the technology/engineering specific software will not operate on the MacOS operating system. If you chose to ignore our recommendation, you do so at your own risk.

Preferred Minimum Hardware Specifications

- Laptop computer
- Intel Core i5 processor 2.5GHz or greater
- 16 GB RAM (Minimum 8GB)
- 500 GB Hard drive (Minimum 256 GB)
- Graphics card 1 GB GPU with 29 GB/S Bandwidth and DirectX 11 compliant
- 15 in. screen
- Camera and microphone capable of supporting web conferences.
- Video screen with resolution of 1220 x 1024. Computers with 4K displays may have to be operated at a lower screen resolution to be compatible with some software used.
- IEEE 802.11 wireless capability (c, g, or n are the most commonly used, a and b are not supported).
- Ethernet (network) card. A USB-to-Ethernet adapter can be purchased if the laptop does not come with an integrated Ethernet port.
- 8 GB minimum USB Flash Drive (thumb drive, memory stick, etc.) to allow easy transfer of files between computers.

Required Software

- Microsoft Office. All students will need access to Microsoft Office including Word, Excel and PowerPoint. Industrial and systems engineering students will also need to have Microsoft Access. Through the Microsoft Student & Teacher Advantage Program, active students are entitled to install Microsoft Office on up to five personally-owned laptop and desktop computers at no cost. For more information, visit <https://servicedesk.msstate.edu/TDClient/KB/ArticleDet?ID=1353>.
- Windows 10 or higher. As part of the MSU Microsoft EES agreement, current MSU students can download one copy of Windows 10 Education Operating System at no cost. For more information, visit <https://servicedesk.msstate.edu/TDClient/KB/ArticleDet?ID=1620>.
- Antivirus software. Students must have anti-virus software installed on their computers. Windows Defender, which comes with Microsoft Windows, is preferred.
- All other software will be designated on a class-by-class basis

Data Backup

Students are strongly encouraged to have a method for backing up data on their computer at regular intervals.

Students can purchase an external, portable hard drive which can be used for computer backups and storage of large files. These are reasonably priced and available in various capacities.

Enrolled MSU students have access to Microsoft OneDrive with 5TB of online storage. Information for using this service and syncing with Windows and Mac PCs can be found at <https://servicedesk.msstate.edu/TDClient/KB/ArticleDet?ID=1521>.

Additionally, students may want to subscribe to an on-line service such as Backblaze, Carbonite, or others to use for automatically backing up files.

We cannot over-emphasize the importance of performing regular backups of important documents and keeping your backup in a separate location from your laptop. Should your laptop be lost or damaged, you will still have your important documents on your external data source, which could then be used on another computer until yours is replaced or repaired. **Lost or damaged laptops are not acceptable excuses for missing assignments.**

Printers

We do not set specifications for printers and there is no requirement for a student to own one. There are facilities on campus that will allow students to print, or students can purchase any printer of their choice from the multitude of vendors available. When/if purchasing a printer, remember to factor the cost of toner or ink into the total cost of ownership.