

## **2017-2018 Computer Specifications For the Class of 2021**

Required laptop specifications for freshmen students entering the Bagley College of Engineering in the fall of 2017 have been established. Based on our years of experience with our laptop requirements, we do not recommend students purchase laptops until mid-June or early-July. This provides adequate time to order and receive the laptop.

Students who are transferring from another institution are only required to meet the computer requirements in effect at the time they were freshmen.

Requirements for 2018-2019 academic year will be posted in the summer of 2018.

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### **Minimum Configuration for Bagley College of Engineering Student Computers 2017-2018 Academic Year (Class of 2021)**

These specifications are only for freshmen entering school during the fall 2017 semester. Transfer students should follow the specifications in place at the time they were freshmen.

#### **Notes on Purchase of a Laptop**

The information provided below is sufficient for you to purchase a laptop. We are not able to review individual systems, provide additional guidance on suggested vendors, or tell whether or not a specific model will work. If the laptop meets or exceeds the specifications below, there should be no issues. Please note the recommendation against purchasing Macs for engineering work. This is not bias but is based on experience. If you chose to ignore our recommendations, you do so at your own risk.

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### ***Microsoft Windows Laptops***

#### **Minimum Hardware Specifications:**

Laptop computer

Intel Core i5 processor or equivalent

8 Gb RAM

250 Gb Hard drive (500 Gb or larger is encouraged)

Video screen with resolution of 1600 x 900 is encouraged (higher resolution, 1920 x 1080, strongly encouraged, especially for those who think they may make extensive use of CAD software). Computers with 4K displays may have to be operated at a lower screen resolution to be compatible with some software used. Students planning to major in Biological, Biomedical, or Mechanical Engineering will make use of SolidWorks. There have been some reported issues of graphics cards not being compatible with this program. It is possible an updated version of the program will address this issue. For now, those BE, BME, and ME affected students may want to consult <http://www.solidworks.com/sw/support/videocardtesting.html> for a list of tested and certified graphics cards for SolidWorks.

IEEE 802.11 wireless capability (ac, g, or n are the most commonly used, a and b are not supported).

Ethernet (network) card

1 Gb minimum USB Flash Drive (thumb drive, memory stick, etc.) to allow easy transfer of files between computers

#### **Required Operating System (OS):**

Microsoft Windows 10 or higher.

#### **Required Software:**

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. MSU students are able to download Microsoft Office 365 from our ITS website and use it free of charge as long as they are enrolled students.

Sophos Antivirus is available to students free of charge on the [university intranet](http://www.its.msstate.edu/software/downloads/?party_id=49)([http://www.its.msstate.edu/software/downloads/?party\\_id=49](http://www.its.msstate.edu/software/downloads/?party_id=49)) once they arrive on campus and should be installed as soon as possible. You may use another antivirus program, but antivirus software is required. Students are strongly discouraged from using free antivirus programs.

### **Recommended Optional Equipment:**

Students are strongly encouraged to 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. Additionally, students may want to subscribe to an on-line service such as DropBox, Carbonite, or others to use for 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 portable hard drive, 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.

We do not have specifications for printers. 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.

### **Suggested Vendors:**

Through a special partnership agreement, the Bagley College of Engineering has worked with Dell to provide discounted pricing on Dell laptops that meet or exceed the college requirements. By clicking on the link below, you will be directed to a website that will allow you to select and customize a Dell laptop. This is provided as a service to our students and prospective students. It is not required that you purchase a Dell. [Click here to access your Premier Dell.com site.](#)

Be sure to review the minimum laptop specifications. If you have questions or experience any problems with Dell's pages, please call Dell at 1.866.257.4711.

Another option for computer purchases would also be HP. [Click here to visit HP's MSState page.](#) Again, it is not required that you purchase a Dell or an HP computer, this is just an option that we share here as a service to our students.

## ***Apple Macintosh Computers***

The Bagley College of Engineering does not recommend engineering students use Apple Macintosh computers due to the incompatibility of some required engineering software that is not available in Mac OS versions. However, some students already have Apple Macintosh computers or wish to purchase one. If you choose to use a Mac, it must meet the minimum specifications below and note that it will be more expensive than a Windows-only machine.

Support for Macs is limited on campus. The Bagley College of Engineering will not be able to provide assistance to any student who is running a pirated, borrowed, or bootlegged copy of Windows. It is fairly easy to purchase a software bundle which includes both Parallels 12 and Windows 10. The technicians must be able to verify that the version being used is legally purchased. You should preserve your

purchase receipt as well as you're your installation key to prove the legality of the software should any question arise. These receipts can be scanned and maintained on your computer.

**Apple Mac Minimum Hardware Requirements:**

MacBook Pro

Intel Core i5, or higher. Non-Intel processors are not acceptable.

16 Gb RAM

250 Gb Hard drive (500 Gb or larger is encouraged)

Minimum screen size of 13 in. (15 inches is probably better or access to an additional monitor). See note under Windows machines for SolidWorks compatibility.

IEEE 802.11 wireless capability (ac, g, or n are the most commonly used, a and b are not supported).

Ethernet (network) card

1 Gb minimum USB Flash Drive (thumb drive, memory stick, etc.) to allow easy transfer of files between computers

**Required Operating System (OS):**

macOS Sierra (10.12.4) or later. For security reasons, we encourage students always run the latest version of the Operating System

**Additional Required Software in Addition to macOS**

Virtualization software (Please choose only one):

- Parallels Desktop 12 for Mac [www.parallels.com](http://www.parallels.com)
- VMware Fusion 8.5 for Mac <http://www.vmware.com/products/fusion.html>

Microsoft Windows 10 or higher

Some vendors such as Amazon sell bundles of Parallels Desktop or VMware Fusion with a copy of Windows. Borrowed or pirated copies of Windows (or any software) is not permitted.

Although there are other dual-boot systems available (BootCamp and Virtualbox Fusion for example), our faculty have found that Parallels Desktop or VMWare Fusion works best for the software we use and they are the only systems that will be supported by the college.

Other software that you will use in class will be provided to you at the appropriate time. Microsoft Office is available through the university. It can be obtained through MSU by following the instructions found at <http://www.its.msstate.edu/files/STA.pdf>.

Sophos Antivirus is available to students free of charge on the [university intranet](http://www.its.msstate.edu/software/downloads/?party_id=49) ([http://www.its.msstate.edu/software/downloads/?party\\_id=49](http://www.its.msstate.edu/software/downloads/?party_id=49)) once they arrive on campus and should be installed as soon as possible. You may use another antivirus program, but antivirus software is required. Students are strongly discouraged from using free antivirus programs

**Recommended Optional Equipment:**

Students are strongly encouraged to 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. Additionally, students may want to subscribe to an on-line service such as DropBox, Carbonite, or others to use for 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 portable hard drive, 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.

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**Vendors:**

Apple computers may be purchased either in Apple Stores or on-line at <http://www.apple.com/us-hed/shop>. If purchasing in an Apple Store, let the sales person know that you are purchasing the computer for college and you may receive a discount.

**Warranty, Loss, Theft, and Accidental Damage Insurance:**

Students should consider the cost of purchasing an extended warranty as well as additional insurance for their investment in their computer. Warranty's do not generally cover accidental damage (such as spills or drops). Many Homeowners insurance policies will cover loss and theft of a computer in many cases but you should ensure that your specific policy does cover loss of theft if the computer is at school. It may be possible to add riders to a homeowner's policy to include accidental damage at slight additional cost.

**Past Requirements**

Transfer students are expected to only meet the requirements in place at the time they would have started at MSU. So, a student transferring to MSU as a junior would be expected to only meet the requirements in place two years prior. For those and historical purposes, previous specifications are listed below.