



Civil Engineering Technology & Surveying Technology Computer Hardware Guidelines

The industry standard engineering software used in the Civil Engineering Technology & Surveying Technology programs is Autodesk Civil 3D. Autodesk annually updates its software versions and provides [minimum requirements](#) for each version. These minimum requirements are only being provided by Civil Engineering Technology & Surveying Technology for informational purposes.

Many computers that don't meet the minimum requirements, including laptops, may still be able to run Civil 3D satisfactorily for educational purposes. A personal device is not required by Civil Engineering Technology & Surveying Technology, but it does recommend if a personal device is being purchased, convenience be prioritized over performance. **The college provides desktop computers with software or apps in its computer labs** that are needed for most course work. It is the student's responsibility to choose a personal device that accommodates their needs and wants. The following are some things to consider when selecting a personal device.

Laptop vs. Desktop vs. Tablet vs. Smartphone: Laptop is recommended for portability. A tablet (such as an iPad) will not run specialized engineering software but could meet basic technology needs for some students. A smartphone with data plan is the minimum recommended device for any student to check email and to access the internet.

- **PC vs. Mac:** Personal preference, although more software and apps, particularly specialized engineering software, may exist only for PC.
- **Software and apps:** As a minimum, the device should be able to run an internet browser, email application, and productivity software. Students will frequently use D2L (the college's online course management platform) and Office 365.
- **Internet connection:** The college has a secure wireless network on campus. A Wi-Fi card and college provided user account is required to access it.
- **Bluetooth:** Recommended.
- **RAM:** 8 GB minimum recommended
- **Storage:** SSD recommended for installing OS, software, and apps to reduce boot time. A backup internal HDD or an external HDD is recommended to increase storage and for data backup. The college provides a limited amount of cloud storage to the student.
- **CPU:** Intel CORE i5 or equivalent minimum recommended
- **GPU:** Intel integrated GPU or equivalent is satisfactory. A dedicated GPU is not required. If included as a personal preference, NVIDIA GeForce GTX 1060 or equivalent is the recommended minimum.
- **Screen:** Touchscreen with pen support is recommended. Wacom tablet or equivalent is an alternative for pen support.

When choosing a device, be mindful that technology changes rapidly. No device will be able to continuously run the newest software and applications at highest settings, or at all. It does not have to for the Civil Engineering Technology & Surveying Technology programs, particularly because the purpose is educational use and not professional use. However, it should be able to perform the core functions that the user needs it to for as long as possible. Set a budget, ensure the device can perform the user's core functions within that budget, and then use any remaining budget to add wants. The recommended order of precedence for optional upgrades is increased RAM, a faster CPU, additional storage space, and dedicated GPU.