



Hardware/Software Purchase Recommendations for Computing Majors Fall 2024

This letter outlines recommendations for computer hardware purchases for students seeking degrees within the School of Computing (SoC) and provides some explanations for those recommendations. Hardware and software purchase recommendations for students outlined in this letter are limited to **personal computers or laptops**, and do not include recommendations regarding tablets, mobile phones, embedded computers, or similar devices.

As a student in a technology-based major, laptop and computer resources are generally owned and used by all students pursuing any of the majors in computing. **As such, you will be at a distinct disadvantage without proper computing resources such as those recommended below.** This fact drives the need for computing students to purchase hardware and software resources over and above what tablet-based devices or low-end computers (Chromebook, Raspberry Pi, etc.) can provide. Moreover, in certain computing degree programs you may be required to become adept in all major operating systems and platforms for modern computing applications and software development.

It is imperative that students **obtain software legally** through direct purchases or through the leasing of software licenses, usually from the software company or an authorized vendor. The SoC faculty and staff will not provide support or assistance to any student running unlicensed, illegal, or pirated software, and will intervene if they believe a student is running pirated software. Also, **students are required to implement a system of regular backup** either locally through an external storage device or through a cloud-based backup service.

Recommended Computer Configurations:

Hardware:

- Apple MacBook Pro/Air 13" (8GB RAM minimum is fine)
- -or-
- Any Microsoft Windows 10/11 based laptop with 16GB+ RAM
- External hard drive or cloud backup service 2TB minimum
- HDMI output capability (Native or Thunderbolt/HDMI/USB-C to HDMI adapter is fine)
- A bag or backpack specifically designed to carry laptops (padding, securing straps, and accessory pockets)
- Optional laser monochrome printer (used ones are great and one toner cart can last 4+ years)

Software:

- Antivirus (Avast! or similar free/built-in options are fine)
- Oracle VirtualBox (free download) or other VM host for running virtual machines
- Ubuntu 22.04 or later, desktop (free download) or WSL for Windows
- Java SE/JDK 21 LTS or later stable version (free download)
- Microsoft Visual Studio Pro or Community (available for free as well)
- Xcode if Mac (latest version)
- JetBrains CLion or PyCharm (both free downloads) based on major

While students are not required by the SoC to specifically purchase any particular brand of laptop, students should choose a computer that runs either Apple MacOS or Microsoft Windows, and additionally:

1. Students may be required to legally run all three major operating systems (OSX, Windows, and Linux/Unix).
2. For certain majors there will be a professional expectation that graduates use Apple branded computers. For example, Software Engineering students heavily involved in web development and UX have significant contact and interactions with professionals in the graphic design community where computer systems are almost exclusively Apple branded.
3. The quality of the chassis (metal case vs. plastic) should be such that it is likely to last four years without replacement due to accidental damage.
4. There are options for fast service at a variety of the local computer vendors and businesses, some of which are very convenient to Lipscomb's campus.

For these reasons, I **strongly recommend** the above listed hardware and software products for students of our computing programs. This recommendation is echoed in my own choices of computing hardware and software. As a student you will come to rely on this hardware for your educational activities and assignments, so I do not recommend items that are 1.) of low quality, and 2.) of limited support.

Sincerely,

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