Technology Requirements

Many have asked about computer and hardware specifications. Below is a response from Tate; a current graduate student and a member of the Graduate Docent team. As a Graduate Docent, Tate is available as a resource for visualization, graphics, and general design questions. Please feel free to contact him directly if you have any questions about his thoughts below. Also, I have included a link to the CCIT page that is the [University's "official" computer recommendation resource](#) and the [2021-2022 Recommended Laptops Matrix](#).

There may be both complementary and contradictory information upon your review. As with technology, this is often the case. If you need to acquire a new machine, do your best to make the right decision for you, and do not hesitate to reach out to Tate.

-Dan Harding

From Tate:

In undergrad, I ended up spending somewhere around $3000 for a Mac that ended up bottlenecking me by junior year. I'd recommend nobody get a Mac cause it's just not strong enough to run rendering software and run complex tasks when modeling, especially in graduate school.

For the CPU I'd recommend at minimum a mid-tier processor like an i5 (Intel [8th gen to current]) or Ryzen 5 (AMD [current gen]). The sweet spot for money -> performance is an i7 or Ryzen 7 but the 5s should be able to handle the typical strain a student would put it through. If they're doing parametric modeling, then they'll want a stronger CPU.

The graphics card is a bit tricky cause there are so many models but a mid-tier card will work fine. It's not necessary to have RTX on your card since rendering software has been doing great with other light solutions lately. Even then some of the new renderers like d5 that use RTX for rendering will still be able to use non-RTX cards, it'll just take longer. If a student can spend even $50 more on their computer they should put their money towards a better graphics card (unless they don't have an SSD which I'll get to in a minute)

For RAM, you frankly don't need a ton. I've never run into an issue with it and I have 16 GB which is a pretty standard low-end amount of RAM.

For memory I would stress getting a solid-state drive (SSD) over a hard drive (HDD). This will help with loading and saving larger files and it has a much lower risk of corruption. I made it through the majority of school without running out of memory on 500 GB though with better software comes bloated file sizes. So I would recommend getting 1 TB now. In some cases, you can get an SSD and a HDD in a laptop and it'll save some money and give you more space. I do this on my desktop where I have my bootloader on my SSD as well as all the current files I'm working on and then I use the HDD as an archive for older files.

A mouse is a must.

The last thing is the screen and unfortunately macs have the best screens with the truest colors and resolution. However, IPS panels tend to have great color accuracy but tend to cost more. The one to stay away from would be the cheaper TN panel which sacrifices color accuracy and viewing angles for a high refresh rate which isn't necessary for anything in architecture.