

Laptop specification guidelines:

	Economy 6000-9000 SEK	Balanced 9000-20000SEK	High-end 20000+ SEK
Operating system	Windows	Windows	Windows
CPU (processor)	Intel Core I5	Intel Core I7 Or Ryzen 5 4xxx	Intel Core I7 or Intel Core I9 Or Ryzen 7 4xxx
GPU (graphics card)	GeForce GTX 1650 or GeForce MX350	GeForce GTX 1660 or GeForce GTX 2060	GeForce RTX 2070 or GeForce RTX 2080
RAM (temp memory)	8GB (add 8 more later)	16GB	16GB
Storage	SSD 256GB	SSD 512GB	SSD >512GB
Screen	15.6" IPS	15.6" IPS	15.6" IPS

Notes:

- Most of software packages used by architects are designed for Windows operating systems. Some of the programs such as Rhino or AutoCAD will run on a MAC, but will be quite restricted, while others – such as Revit will simply not run.
- If you are already using a MAC, you'll need to use virtualized Windows on it via Boot Camp to be able to use some of the programs taught in the school.
- As long as your machine is using windows, it does not matter if it's a Dell, Lenovo, Acer or any other company that's made it.
- CPU (processor) is an important part of your machine. The numbering is a bit weird so let me explain with an example: let's say you're looking at *Intel Core I7 8650U* processor, let's break it down:
 - *Intel Core I7 8650U* – Made by Intel
 - *Intel Core I7 8650U* – i7 class processor. There are 4 classes: i3 i5 i7 and i9. You can think of it as economy class, business class, first class and ... over the top first class. i3 types are too weak, while i9 types are too hot/expensive, so you'll be looking at either i5 or i7 types.
 - *Intel Core I7 8650U* – 8th generation. Every year Intel updates their processor lineup with a new generation. Not much to say, the newer the better. I wouldn't go older than 7th gen.
 - *Intel Core I7 8650U* – SKU number (product family). Don't worry about this part, it's basically a barcode.
 - *Intel Core I7 8650U* – That letter is very important. It tells you the type of your processor. You can see these letters:
 - *U – Ultra Low Power. High battery life, low heat, slower performance.*
 - *H or HK or HQ – High Performance Graphics. Lower battery life, higher heat, higher performance.*
- GPU (graphics card) used to rotate your model around. The better the graphics card, the more objects you can have in your model without it becoming slow. There are graphics cards made

specifically for CAD, but they are too expensive to be an option. The cheapest laptops might not even have a graphics card, these laptops use your CPU to draw graphics as well. You definitely do not want that, so make sure that your laptop has at least some sort of AMD or nvidia graphics card. Let's go through an example of an NVidia graphics card – *Nvidia GeForce GTX 1060*:

- **Nvidia GeForce GTX 1060** – Company name. Either AMD or NVidia. If you see “Intel HD Graphics” that means the laptop you’re looking at does not have a dedicated graphics card.
- Nvidia **GeForce GTX 1060** – Product line. There are GeForce cards used for regular consumers and Quadro cards used by high-end companies. You want a GeForce.
- Nvidia GeForce **GTX 1060** – Card type abbreviation. GTX has best price/performance, while RTX has a few additional things (such as ray tracing) but comes at a higher price. I would suggest buying a GTX card, unless you’re planning on playing a lot of newest games.
- Nvidia GeForce GTX **1060** – 10th Generation. The performance improvement between generations is slim. For instance, I am using 7th generation graphics card and it’s only 7% slower than 10th generation. Also the way they numbered generations is weird so keep an eye out for that. It goes like this: 760, 960, 1060, 1660, 2060.
- Nvidia GeForce GTX **1060** – Most important number. This is the class of the card. You can see xx50, xx60, xx70 or xx80.
 - **XX50** – cheapest cards. Still powerful enough to be absolutely useful for next 5-7 years or so. I’d recommend aiming for these if your budget is below 9000 SEK
 - **XX60 and XX70** – price/performance balanced cards. Usually 40% more powerful than xx50 and a bit more expensive. I’d recommend aiming for these if your budget is between 9000 and 20000 SEK
 - **xx80** – highest grade GeForce lineup cards. Way too expensive for me to recommend.
- RAM. You will need 16GB of RAM. You can work with 8GB as well, but it will not be pleasant. Cheapest way to get 16GB of RAM into your laptop would be to buy a laptop with 8GB of RAM, buy an additional 8GB RAM chip and insert it. Most of the companies that sell laptops in Sweden offer this service free of charge.
- Storage – There are 2 types: SSD and HDD. You want an SSD, because the slowest SSD is multiple times faster than the fastest HDD. Use SSD even if it means smaller space. If you need more space, just buy an external portable HDD drive.
- Screen – Somewhere between 15 and 17 inch is the best size. If you go larger, the laptop won’t fit in your backpack. If you go smaller, you won’t see what you’re doing. There are 4 most common screen types:
 - TN – horrible colors, horrible viewing angles, good response time, cheap.
 - VA – Same as TN only slightly better in all fronts. More expensive too.
 - IPS – Great color accuracy, great viewing angles, average price. (Recommended)
 - Oled – Very high contrast, good color accuracy, very expensive.