

Laptop and Internet Specifications

Cybersecurity (CYB) Program

Your program requires you to use a laptop computer for your courses – both for on-campus and remote learning. Your computer must meet or exceed the specifications in this table to meet the software requirements for courses.

Component	Minimum Specification	Consideration
Operating System	Windows 10 64-bit (Home or Pro) OR Windows 11 (Home or Pro) English or bilingual version of Windows is required.	Your laptop must have one of these versions of the Microsoft Windows operating system. Please install all required updates for Microsoft Windows. If your laptop does not come with Windows, you are eligible for a free version as a student of RRC Polytech. We do not recommend using a Mac computer in this program. However, if you already own a Mac laptop, it is your responsibility to ensure it meets the requirements. Please note that you may encounter significant differences in software when using a Mac and will be responsible for adapting to meet course requirements.
Processor (CPU) – option 1	Intel Core i7 (10th Gen or newer)	Intel Core i7 (10th Gen or newer) is the minimum required to run software used in the programs. Higher core count and newer CPUs improve performance when running multiple virtual machines (VMs) simultaneously.
Processor (CPU) – option 2	AMD Ryzen 7 (4000 series or newer)	AMD Ryzen 7 (4000 series or newer) is the minimum required to run software used in the programs. Higher core count and newer CPUs improve performance when running multiple virtual machines simultaneously
Memory (RAM)	32 GB RAM	Memory is a relatively inexpensive upgrade that can result in a significant performance increase. 32 GB is required for running multiple virtual machines simultaneously.

Storage	1 TB SSD (SATA or NVMe)	Ensure at least 500-600 GB free space for labs; NVMe significantly improves VM performance.
Networking (Wired)	Integrated Gigabit RJ-45 Ethernet port or USB Gigabit Ethernet adapter (NIC) <i>* Integrated Gigabit RJ-45 Ethernet port preferred</i>	If your laptop does not have an Ethernet port, you will need a USB to Gigabit Ethernet adapter. Wired port is required for labs in some courses to connect to lab networking devices/equipment. Integrated Gigabit RJ-45 port preferred if possible.
Ethernet cable	Cat5e or Cat6 (minimum 2 meter)	Required for wired lab activities; longer cables (2-3 meters) provide flexibility for classroom setups.
Networking (Wireless)	Wi-Fi 6/6E	RRC Polytech campuses have free wireless (Wi-Fi) network access in addition to wired connections. Your laptop should support the latest standard in Wi-Fi technology, which is Wi-Fi 6. Wi-Fi is not a replacement for wired connections in networking labs.
USB Ports	Minimum 2× USB ports	USB ports are for connecting peripheral and input devices such as a mouse, or an external keyboard.
Display Output	HDMI port or USB-C (DisplayPort capable)	Required for connecting to classroom smartboards/projectors during presentations.
Display (screen size)	14" or larger	Consider advantages of a larger screen size as well as the maximum display resolution that your laptop supports. Also, consider that larger laptops may weigh more.
External mouse (optional)		
Virtualization	Must support hardware virtualization (enabled in BIOS/UEFI; for VMware Workstation / VirtualBox)	Virtualization must be enabled; required to run all lab environments successfully
Camera & Audio	Built-in webcam and microphone or external high-quality webcam and microphone	A camera and microphone are required to interact with your Instructors and classmates during online classes. (These are often built-in to laptop computers.)

Tips on selecting a laptop

Spend some time reading reviews online. Consider the upgradability of the laptop: for example, if you decide to go with the minimum amount of memory (RAM), can you later easily add more? Consider purchasing warranty coverage on your laptop. RRC Polytech does not have facilities to assist with computer repair.

Please also consider these factors:

- **Battery life.** How long can you use the laptop before charging it? You may not always have easy access to an electrical outlet.
- **Ergonomics.** Consider the weight of the laptop, keyboard layout, mouse, screen size, etc. You will need to carry your laptop around.
- It is your responsibility to perform daily backups to an external source so that you do not lose your work if your computer fails. You may use a USB flash drive, external hard drive, or a cloud-based backup solution.