Columbia Climate School

# Student Laptop Requirements

Information Technology | Updated June 2026

This guide outlines the minimum and recommended hardware specifications for your personal laptop as a Climate School student. Meeting these requirements will ensure you can run the software used in your coursework without performance issues. If you have questions, contact the Climate School IT team.

## Minimum Specifications

These are the baseline requirements for all Climate School students. Your laptop must meet or exceed each specification.

| Component | Minimum Requirement |
|---|---|
| **Windows PC** | Intel Core i5 (12th generation or newer) or AMD Ryzen 5 (5000 series or newer), 16 GB RAM, 512 GB SSD, Windows 11 64-bit |
| **Apple Mac** | MacBook Air with M-series chip (M1 or newer), 16 GB unified memory, 512 GB SSD, macOS (one of the three most recent versions) |
| **Memory (RAM)** | 16 GB (both platforms) |
| **Storage** | 512 GB Solid State Drive (SSD) |
| **Wireless** | Wi-Fi 5 (802.11ac) or newer |

### Processor Guidance

The processor suggestions above reflect options that perform well in 2026 and should remain capable for the next several years. When shopping, look for:

- Intel Core i5, i7, or i9 (12th generation or newer). The 12th generation marked a significant architectural improvement; older generations are not recommended for new purchases.
- AMD Ryzen 5, 7, or 9 (5000 series or newer). Ryzen 5000 and 7000 series processors are strong performers at multiple price points.
- Apple M-series (M1 or newer). Any current MacBook Air meets or exceeds the processor requirement for all Climate School coursework, including QGIS.

*You do not need the latest or highest-end chip. A current mid-range processor (i5/Ryzen 5 or above) from a recent generation is the right target.*

### Wireless Networking Guidance

Wi-Fi 5 (802.11ac) is the minimum and is widely supported on campus. However, most laptops sold today include Wi-Fi 6 (802.11ax), which offers better performance in crowded environments like lecture halls and libraries. Wi-Fi 6 is the recommended standard for a new purchase in 2026 and provides a good balance of performance and future-readiness.

## Application-Specific Requirements

Certain software used in Climate School courses has requirements beyond the general minimums above. Review the sections below if they apply to your program.

### QGIS (Geographic Information System)

QGIS is used in several programs, including Climate Finance. It is a resource-intensive application, and the general minimum specifications above are not sufficient for comfortable QGIS use. Students who will use QGIS should meet the elevated requirements below.

| Component | QGIS Requirement |
|---|---|
| **Memory (RAM)** | 16 GB minimum; 32 GB recommended for large raster datasets or satellite imagery |
| **Storage** | 512 GB SSD minimum; NVMe SSD strongly preferred for faster data loading |
| **Processor** | Intel Core i5 or AMD Ryzen 5 or better (multicore; 64-bit required) |
| **Graphics** | No dedicated GPU required for standard 2D GIS work. Integrated graphics (Intel Iris Xe, AMD Radeon integrated) are sufficient. OpenGL support is required and is present on all modern laptops. A dedicated GPU provides additional benefit primarily for heavy 3D visualization. |
| **Operating System** | Windows 11 64-bit or macOS (recent version); QGIS no longer supports 32-bit Windows |

## Additional Recommendations

### Memory (RAM)

More RAM allows your computer to run more programs at the same time without slowing down. 16 GB is the minimum for all students and is required for QGIS users. If your budget allows, 32 GB provides meaningful headroom for multitasking and future-proofs your machine for more demanding coursework.

## Warranty

We strongly recommend purchasing an extended warranty when buying a new laptop, particularly if the standard coverage is one year or less. Hardware failures and operating system issues during your degree program can be disruptive and costly. An extended warranty provides protection and peace of mind for the duration of your studies.

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