

**ALL SOFTWARE USED IN RP4K CLASSES ARE FREE FOR PARENTS  
DO NOT PURCHASE ZOOM LICENCES OR PROGRAMMING PRODUCTS**

# Course Hardware Requirements

Minimum Requirements for RP4K Courses

## Summary

RP4K courses use a variety of tools at various difficulty levels, requiring different minimum hardware and software requirements to successfully complete RP4K courses. Due to bandwidth limitations and the use of multiple applications at the same time, RP4K courses have general requirements that apply to all courses, and specific requirements unique to individual courses.

Immediately below are the recommended hardware and internet requirements for RP4K courses. For details and requirements on specific course requirements, check the appropriate sections. Software requirements are also mentioned here.

## Recommended Internet, Hardware, and Software

### Internet

25 Mbps Download / 5 Mbps Upload **Average Speed**

Take a speedtest: <https://www.speedtest.net/>

### Hardware Minimums

Operating Systems: MacOSX and Windows

Processor: Intel i3, AMD Ryzen 3 or Better (quad core recommended)

Hard Drive: 512 GB HDD or 256 GB SSD (**CLOUD STORAGE DOES NOT COUNT**)

Memory: 4-8 GB RAM

**Microphone for communication IS REQUIRED**

**Recommended to have 2 Screens, a camera, keyboard and mouse instead of trackpad.**

### Software

Zoom: <https://zoom.us/>

[System requirements for Windows, macOS, and Linux – Zoom Help Center](#)

Zoom will be used in conjunction with a web browser for our Canvas platform, and our programming IDE which are specified below under **Specific Requirements**. The section below will cover the requirements in more detail if you are interested in the **General Requirements** section.

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### General Requirements

These will be consistent across all RP4K courses, and focus on elements other than the computer hardware such as internet connection, speed, and stability. Other general requirements include having a working microphone, and a quiet space to work. RP4K uses Zoom as its primary communication and classroom delivery tool, and requires students to have the ability to download and use the application locally instead of through the browser.

### Internet Connection

RP4K Students should have access to a Broadband wifi or ethernet connection with a minimum Upload and Download speed of 25 Mbps download and 5 Mbps upload. See Zoom's bandwidth requirements.

[System requirements for Windows, macOS, and Linux – Zoom Help Center](#)

### Workspace Requirements

RP4K Students must have a quiet workspace that they can comfortably communicate with RP4K students and instructors in their class. Students should be monitored during their classes, and RP4K Instructors should be able to reach you at your given phone number in case of an emergency. Students should be free from distractions, in particular should not be playing games or using their phone during class.

#### **In Summary:**

- Need a quiet workspace
- Minimize distractions
- Observation is required

RP4K instructors will adjust accordingly to handle the behavior of students as best as possible, however you may be asked to sit in and monitor your child's behavior if an issue arises.

### Communication and Zoom

Zoom lists the supported devices and operating systems in the link below. Please note that RP4K Students must have access to a PC with Windows or MacOS in order to successfully complete RP4K courses. RP4K Students must have a microphone and are recommended to actively use a camera to communicate with instructors.

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## Specific Requirements

### Web Browser for Canvas

RP4K Recommends to use **Chrome, Firefox, Safari, or Edge** to access our Canvas platform, available here: <https://realprogramming.instructure.com/login/canvas>

Every course has recordings of lessons available for review on this platform, all other course materials will also be available on the specific course page. **Students will be invited to Canvas on or after the first day of classes.**

### Software by Course

#### Introductory

Scratch - <https://scratch.mit.edu/>

Alice - <https://www.alice.org/get-alice/alice-2/>

These lightweight tools should be fine when used with the recommended Hardware Requirements listed above.

#### Beginner & Developing

Processing - <https://processing.org/download/>

This lightweight tool should be fine when used with the recommended Hardware Requirements listed above.

#### Intermediate

Python Avalanche - PyCharm - <https://www.jetbrains.com/pycharm/download/>

Java Asteroids - IntelliJ - <https://www.jetbrains.com/idea/download/>

C# Sharpshooter - **WINDOWS ONLY** - Visual Studio 2019 - <https://visualstudio.microsoft.com/downloads/>

#### Advanced

C++ Haunted Harbour - **WINDOWS ONLY** - Visual Studio 2019 - <https://visualstudio.microsoft.com/downloads/>

Java Minecraft Mod - IntelliJ - <https://www.jetbrains.com/idea/download/>

Java Android Mobile Tower Defense - Android Studio - <https://developer.android.com/studio#downloads>

#### Elite

C++ Game Engine - **WINDOWS ONLY** - Visual Studio 2019 - <https://visualstudio.microsoft.com/downloads/>

C# Unity 3D - <https://unity3d.com/unity/qa/lts-releases?version=2019.4>

**Note that Unity 3D has a free, personal license available for use in our RP4K classes.**