

# 2023-2024 Engineering Computer Specifications

March 2023 v1

The PLTW curriculum utilizes powerful, industry-based software. To prepare for a successful school year, please work closely with your IT department to ensure your computer hardware meets or exceeds the specifications below.

**Distance Learning:** To accommodate distance learning environments, students may use a Chromebook in place of the recommended desktop or laptop. A Chromebook is not recommended for the teacher’s computing platform.

Please note, we do not support the following software solutions for use with the PLTW curriculum:

- Open Office
- Some Virtual Desktop Environments
- Internet Explorer

## PLTW Engineering Specifications

Engineering Course	PC/Windows	Mac*	Chromebook	Android Tablet	iPad/iOS
Aerospace Engineering	✓	✓	DL		
Civil Engineering and Architecture	✓	✓	DL		
Computer Integrated Manufacturing	✓	✓	DL		
Digital Electronics	✓	✓	DL		
Engineering Design and Development	✓	✓	DL		
Engineering Essentials (EES)	✓	✓	✓		
Environmental Sustainability	✓	✓	DL		
Introduction to Engineering Design (IED)	✓	✓	✓		
Principles of Engineering	✓	✓	DL		

\*Mac devices must have Windows partition installed except for IED and EES. Mac devices with the new M1 chip are not compatible with Bootcamp or a parallel OS.

- Each teacher must have a PC or Mac laptop.
- Each student must have a PC or Mac laptop or desktop computer (or Chromebook for EES and IED only).
- POE can follow the specifications for IED, with the exception of one activity that requires a PC.
- The PLTW Engineering curriculum does not support Chromebooks (except EES and IED), Android tablets, Kindle Fire tablets, or iPads.





<b>PC/Windows and Mac Specifications (all courses except EES and IED)</b>		
<b>Specification</b>	<b>Minimum for Existing Devices</b>	<b>Recommended for New Purchase</b>
Processor	Intel® or AMD processor 2.5 Ghz +	Intel® or AMD processor 3 Ghz +
RAM	8 GB +	32 GB +
Hard Drive	500 GB +	1 TB +
Video Card *	1 GB + dedicated RAM, with 29 GB/S Bandwidth and DirectX 11 compliant	4 GB + dedicated RAM, 4 GB GPU with 106 GB/S Bandwidth and DirectX 11 compliant
Operating System	Windows 7, Windows 8, or Windows 10, 64 bit operating system or MAC device with macOS 11.1+. Bootcamp required with one of the above Windows operating systems. <b>NOTE: MAC devices made with the new M1 chip cannot run Bootcamp or a parallel OS. Take this into consideration when purchasing new machines.</b>	Windows 7, Windows 8, or Windows 10, 64 bit operating system or MAC device with macOS 10.11 +. Bootcamp required with one of the above Windows operating systems. <b>NOTE: MAC devices made with the new M1 chip cannot run Bootcamp or a parallel OS. Take this into consideration when purchasing new machines.</b>
Network	Must have network connectivity (wireless and/or wired)	Must have network connectivity (wireless and/or wired)
<a href="#">Other Basic Software (complete software lists here)</a>	<ul style="list-style-type: none"> <li>We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW.</li> <li>Microsoft Office, 2016 or later for iComponents, thread customization, and spreadsheet-driven designs in Inventor</li> </ul>	<ul style="list-style-type: none"> <li>We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW.</li> <li>Microsoft Office, 2016 or later for iComponents, thread customization, and spreadsheet-driven designs in Inventor</li> </ul>

\* You should NOT use Basic Intel graphic chipset or other chipsets with shared memory for video display. See the Autodesk certified graphics hardware page [here](#) as reference tool in selecting graphics hardware

<b>PC/Windows and Mac Specifications (EES only)</b>		
<b>Specification</b>	<b>Minimum</b>	<b>Recommended (not required)</b>
Processor	Intel® or AMD processor 1.7 Ghz +	Intel® or AMD processor 2 Ghz +
RAM	4 GB +	8 GB +
Hard Drive	256 GB +	256 GB +
Video Card *	256 MB + Graphics card	500 MB + Graphics card





Operating System	Windows 7, Windows 8, or Windows 10, 64 bit operating system or Apple device with OSX 10.60 +.	Windows 7, Windows 8, or Windows 10, 64 bit operating system or Apple device with OSX 10.90 +.
Network	Must have network connectivity (wireless and/or wired)	Must have network connectivity (wireless and/or wired)
<a href="#">Other Basic Software (complete software lists here)</a>	<ul style="list-style-type: none"> <li>We recommend the most current version of Firefox or Chrome with WebGL for optimal utilization of Tinkercad and myPLTW.</li> </ul>	<ul style="list-style-type: none"> <li>We recommend the most current version of Firefox or Chrome with WebGL for optimal utilization of Tinkercad and myPLTW.</li> </ul>

<b>PC/Windows and Mac Specifications (IED and POE only)</b>		
<b>Specification</b>	<b>Minimum for Existing Devices</b>	<b>Recommended for New Purchases</b>
Processor	Intel® or AMD processor 1.7 Ghz +	Intel® or AMD processor 2 Ghz +
RAM	8 GB +	12 GB +
Hard Drive	256 GB +	256 GB +
Video Card*	1 GB + dedicated RAM, Microsoft® Direct3D 10® capable graphics card or higher supporting 1280 x 1024 screen resolution*	2 GB + dedicated RAM, Microsoft® Direct3D 12® capable graphics card or higher supporting 1280 x 1024 screen resolution*
Operating System	Windows 7, Windows 8, or Windows 10, 64 bit operating system or Apple device with macOS 11 +. (POE requires Windows OS for one activity)	Windows 7, Windows 8, or Windows 10, 64 bit operating system or Apple device with macOS 13 +. (POE requires Windows OS for one activity)
Network	Must have network connectivity (wireless and/or wired)	Must have network connectivity (wireless and/or wired)
<a href="#">Other Basic Software (complete software lists here)</a>	<ul style="list-style-type: none"> <li>We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW.</li> </ul>	<ul style="list-style-type: none"> <li>We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW.</li> </ul>

\* These specs are based on the [Autodesk Fusion 360 hardware specifications](#) for basic modeling.



<b>PLTW Chromebook Specifications (EES, IED and Distance Learning Only)</b>	
Screen Size	11 inch +
Processor	1.0 Ghz+
RAM	4 GB +
On Board Storage	16 GB +
Graphics	Integrated
USB Connectivity	Must have a USB port and drivers
Operating System	Chrome OS Current version (updated continuously)
Network	WIFI enabled (cellular/LTE not required); Must have wireless network connectivity

**Network Allow list:** Please see our Allow list for ports and websites [here](#). Following the Allow list ensures that teachers and students can access and use the software, websites, and applications required to offer PLTW coursework.

**Other PLTW Engineering Hardware**

**Projector:** Each classroom needs a digital projector with screen (or equivalent classroom display hardware) with appropriate cables, adapters, or software to connect to the teacher device.

**Printer:** Each classroom will need access to a single medium duty printer for coursework:

Print speed: Up to 35ppm

Resolution: 600 x 600 dpi minimum, Color not required

Memory: 128 MB min

Paper size: Letter, Legal 11X17 (required)

Network ready

