2022-2023 Engineering Computer Specifications

March 2022 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).
- The PLTW Engineering curriculum does not support Chromebooks (except EES and IED), Android tablets, Kindle Fire tablets, or iPads.

PC/Windows and Mac Specifications (all courses except EES and IED)

Specification	Minimum for Existing Devices	Recommended for New Purchase
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 OSX 10.9 +. Bootcamp required with one of the above Windows operating systems. **NOTE: MAC devices made with the new M1 chip cannot run Bootcamp or a parallel OS. Take this into consideration when purchasing new machines.**	Windows 7, Windows 8, or Windows 10, 64 bit operating system or MAC device with OSX 10.11 +. Bootcamp required with one of the above Windows operating systems. **NOTE: MAC devices made with the new M1 chip cannot run Bootcamp or a parallel OS. Take this into consideration when purchasing new machines.**
Network	Must have network connectivity (wireless and/or wired)	Must have network connectivity (wireless and/or wired)
Other Basic Software (complete software lists here)	• We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW. • Microsoft Office, 2016 or later for iComponents, thread customization, and spreadsheet-driven designs in Inventor	• We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW. • Microsoft Office, 2016 or later for iComponents, thread customization, and spreadsheet-driven designs in Inventor

* 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

PC/Windows and Mac Specifications (EES only)

Specification	Minimum	Recommended (not required)
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)
Other Basic Software (complete software lists here)	• We recommend the most current version of Firefox or Chrome with WebGL for optimal utilization of Tinkercad and myPLTW.	• We recommend the most current version of Firefox or Chrome with WebGL for optimal utilization of Tinkercad and myPLTW.

PC/Windows and Mac Specifications (IED only)		
Specification	**Minimum for Existing Devices**	**Recommended for New Purchases**
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 OSX 10.15 +.	Windows 7, Windows 8, or Windows 10, 64 bit operating system or Apple device with OSX 10.15 +.
Network	Must have network connectivity (wireless and/or wired)	Must have network connectivity (wireless and/or wired)
Other Basic Software (complete software lists here)	• We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW.	• We recommend the most current version of Firefox or Chrome for optimal utilization of myPLTW.

* These specs are based on the Autodesk Fusion 360 hardware specifications for basic modeling.

PLTW Chromebook Specifications (EES, IED and Distance Learning Only)	
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

EMPOWERING STUDENTS
TO THRIVE IN AN EVOLVING WORLD