

## COMPUTER LABORATORY / COMPUTER USAGE

This section lists the equipment, software and supplies required to equip a laboratory to support those PLTW courses that are computer based. The Introduction to Engineering Design, Computer Integrated Manufacturing, and Civil Engineering and Architecture high school courses, and the Design and Modeling and Automation and Robotics Units of the Gateway To Technology middle school program need to be scheduled in a computer laboratory equipped as specified in this manual. High school courses are based on a class of 20 students and the middle school program is based on a class size of 28 students. Schools should adjust the number of student stations to meet their individual needs.

The Principles of Engineering, Digital Electronics, and the Engineering Design and Development courses require an extensive use of computers and will need substantial access to a computer laboratory in order for the students to successfully complete many of the lessons and activities. Schools can avoid the cost of additional computer laboratories by scheduling PLTW courses so that courses do not meet during the same block of time. If this is not possible, then additional computer laboratory(s) will need to be purchased and set up in order to provide the students with the necessary access. At the middle school level, the Science of Technology and the Magic of Electron units will need periodic access to a computer laboratory in order for the students to successfully complete some of the lessons and activities. As described above, appropriate scheduling can avoid the need for additional computer laboratories.

## COMPUTER REQUIREMENTS

Project Lead The Way<sup>®</sup>, working with its vendors, will specify computers each year that we estimate will run our course software for the next three years.

Many schools have developed policies under which new, more powerful computers are placed in PLTW labs, and the existing computers are moved to areas with less demanding applications. In doing this, they insure the longest useful performance of their computers.

**Computers should meet or exceed the specifications stated here:**

### DESKTOP

Intel Core2 Duo E8400 or better 1333 MHz FSB 6MB L2 Cache	2 GIG (4 preferred) DDR2 SDRAM Memory with room to upgrade
Keyboard	Optical Mouse with Wheel
80 + GB (7200 RPM) SATA Hard Drive	Anti-Virus software
CD or optional CDRW/DVD drive	Win XP Pro (32 or 64 bit) or better or

	MACs running Bootcamp and one of the above systems
PCI-express x16 Video card with a minimum 256 Megs RAM (Must be 3D CAD Display Compatible and support DirectX 9 &10) See <a href="http://www.autodesk.com/us/inventor/graphic_cards/">http://www.autodesk.com/us/inventor/graphic_cards/</a>	3 year Warranty
Integrated LAN connection	17" SVGA 1280X1024 Color Monitor or optional flat screen
4 USB Ports Minimum - Version 2.0	

## LAPTOP

Each teacher participating in training and teaching Project Lead The Way<sup>®</sup> courses is required to have a laptop computer for his/her use. Teachers should have Administrator rights on their computer. Specifications for new laptops are as follows:

Intel Core2 Duo T9300 or better	USB Memory Key (Memory Stick, Thumb Drive, etc.)
2 GIG DDR2 SDRAM Memory (4 GB Preferred)	Integrated 100 Mbps Fast Ethernet connection
60 GB + 7200 RPM SATA Hard Drive	External VGA Port
DVD-CDRW Drive	2 - USB Ports Minimum
14.1 XGA TFT Color LCD Display or larger	Anti Virus software
Li-Ion Battery	Win XP Pro or later 3 Year Warranty
PCI-express x16 Video card with a minimum 256 Megs RAM (Must be 3D CAD Display Compatible and support DirectX 9 &10) See <a href="http://www.autodesk.com/us/inventor/graphic_cards/">http://www.autodesk.com/us/inventor/graphic_cards/</a>	802.11 a/g wireless

For further details about graphics cards, see Autodesk's website [http://www.autodesk.com/us/inventor/graphic\\_cards/](http://www.autodesk.com/us/inventor/graphic_cards/)

PLEASE NOTE: Basic Intel graphic chipset or other chipsets with shared memory are **not** recommended for video display. All graphic chipsets must be 3D capable and support OpenGL and DirectX. A third party Graphic card is usually necessary.

## **BARE MINIMUM SPECS TO RUN INVENTOR FOR 2009**

Minimum system requirements should not be used to purchase equipment; rather, they are provided to evaluate existing equipment for use with Inventor.

Minimum hardware required to run (Not recommended for production use).

Intel Pentium® or AMD Athlon Processor 2.0GH or better

8.0GB Free (minimum install) Hard Drive Space

3 GB Scratch "Temp" space

1 GB RAM

2-4 Gigs Virtual Memory Space

64+ MB DirectX 9 Capable Graphics Card

Windows XP Pro with Service Pack 2 operating system

Internet Explorer 6 with latest service packs

(from 2009 PLTW Purchasing Manual—12/2008)