

Required Items for ENGR 120

Students participating in the first-year engineering courses are required to purchase a common set of hardware and software to facilitate hands-on learning through projects. The hardware should be purchased before classes begin to avoid “out of stock” issues. The SolidWorks and Mathcad software can be purchased at reduced prices at the First-Year Engineering HelpDesk in Bogard Hall room 130 after classes begin.

Required Robotics Hardware (order as soon as possible)

part description	part number <i>www.parallax.com</i>	part number <i>www.robotshop.com</i>	part number <i>www.mouser.com</i>	approx price
Custom Kit Louisiana Tech First-Year Engineering	81016			\$57.99
Arduino Uno (ATMega328)		RB-Ard-18	782-A000046	\$30
6 ft USB cable: type “A” to type “B”	805-00007	RB-Phi-36	854-BB400	\$6
400 tie point solderless breadboard		RB-See-29	545-U022-006	\$6

Other suppliers include www.amazon.com and www.sparkfun.com

Other Required Hardware (purchase before classes begin)

Example suppliers and low-end prices are provided below to provide an examples of suitable items.

example part description	example supplier & part number	cost
computer (specs provided separately)		\$500
multimeter – Equus Innova 3320 (available online or at Walmart)	www.automotivetoolsonline.com IN3320	\$17.99
mini test clip adapters	www.radioshack.com 270-334	\$4
ANSI approved safety glasses	purchase locally	\$2
small canvas tool bag (something to hold tools . . .your choice)	www.harbourfreight.com 32282	\$5
small needle nose pliers	purchase locally	\$2
6” stainless steel ruler	www.harbourfreight.com 93684	\$2
6” dial indicator (resolution = 0.001 inch)	www.harbourfreight.com 66541	\$19
Screwdrivers – flat head and Phillips (combination or separate)	www.harbourfreight.com 94955	\$3
wire strippers (we frequently strip 22 gauge solid core wire)	www.omnitronelectronics.net ST30	\$5
alligator test leads (6 will be plenty)	www.omnitronelectronics.net TL-6	\$2
fine point permanent marker (ultra fine point Sharpie)	purchase locally	\$2
black electrical tape	purchase locally	\$1
white Teflon plumbers tape	purchase locally	\$1
0.032” rosin core solder	www.radioshack.com 64-017	\$3
flux for electrical soldering	www.radioshack.com 64-022	\$7
knife for general use	pocket knife laying around house is OK	\$4
6 AA batteries (alkaline or rechargeable batteries are OK)	purchase locally	\$6 - \$35

Required Software

description	example supplier	cost
Microsoft Office 2010 (Word, Excel, PowerPoint)	purchase locally (install before coming to Tech)	\$100
SolidWorks (2D and 3D computer modeling software)*	HelpDesk in BH 130 – purchase after classes start	\$75
Mathcad (mathematical analysis software)*	HelpDesk in BH 130 – purchase after classes start	\$35
open-source Arduino environment	install for free after classes start	\$0

* SolidWorks and Mathcad may be purchased as a bundle for \$100 using a money order payable to Louisiana Tech. This purchase is made in Bogard Hall room 130 after classes start; your instructor will provide details.