

ECE 480 Design Resources

ECE Shop Technical Staff

Brian Wright - wrightb@egr.msu.edu

Email to eceshop@egr.msu.edu is the best.

Typical hours M-F 8:00 – 12:00 and 1:00 – 5:00

ECE Shop phone – 355-5233

ECE Shop web page is at www.egr.msu.edu/eceshop

ECE Shop walk up counter is located in room 3234 Engineering

ECE Shop parts stock.

We typically stock most standard items resistor, capacitors, voltage regulators, TTL stock etc. All parts we have in stock are available for your projects in small quantities. If you have a question as to what we stock email us at eceshop@egr.msu.edu and we can let you know if we have the part you are looking for.

Parts Ordering and Budgets

Roxanne Peacock will provide details after this talk

Locker and Storage Bins

There are storage lockers in the lab and one is assigned per team with the lock combination. In addition, there are plastic storage containers in the lab again one per team. These are there for you to use but keep in mind they are lockable but still are just plastic. These storage containers will also be used to move your project for design day.

Lab Computers

The computers in the lab are there for you to use and have the standard software installed on them. You can use remote.egr.msu.edu to access DECS standard lab software as well. We do not add software to these machines during the semester and we ask that you do not remove the cables attached to these computers. If you need cables for your project or to connect to your laptop please let us know as we have cables that can be checked out to your teams.

Laptops

Each ECE480 team is issued a laptop computer for your use during the semester. Your team is responsible for the security of the laptop while it is checked out to you. Each computer comes installed with the OS, Antivirus, and MS Office. You can load software on the machine as needed for your project. Software should be properly licensed. You are also responsible to keep the laptop up to date with necessary patches and antivirus definition files. Backups of your data are also your responsibility. Laptops are re-installed each semester to a standard image and will be re-imaged if you have problems or the computer is blocked from the network due to spyware and viruses.

Microsoft Imagine Program

[Imagine](#) is a Microsoft program that supports technical education by providing access to Microsoft software for learning, teaching, and research purposes. It offers professional-level developer and designer tools and software for the purpose of furthering educational and research efforts. This program is managed by DECS on their web site.

PCB (Printed Circuit Boards)

The ECE Shop does have the ability to produce proto type PCB boards for your projects at no cost to the budget. Layout files must be in a “extended 274 Gerber format” only. These proto type PCBs are double sided only and are not thru hole plated.

Cadence Layout Suite is installed on the PCs in the lab.
Eagle Full version is installed on the PCs. In the lab.

Eagle software (<http://www.cadsoftusa.com/>) has a free version that is limited to a 4x3 inch size. There is also a short tutorial on the ECE shop web page.

Altium CircuitMaker (circuitmaker.com) Free software with no restriction but does require a Gmail account and web access to run. Projects are available to the community as a whole.

PCBs can also be sent out for layout and we typically use expresspcb (<http://www.expresspcb.com/>) which also provides free layout software online. Boards sent to them have to be in their software. There is a fee for these boards and are charged to your budget.

There are other PCB board houses and software you can use but again you have to cover the cost with your budgets.

College Machine Shop

The Engineering College has a machine shop located in room B250. Access is limited and usage of some tools is restricted unless you have taken a safety course and had proper training. If you need parts machined or something cut it is best to check with the ECE Shop technicians and we can help you or direct you to the proper facilities.

3D Printers

There are several 3D printers available in the college. DECS has several Makerbot 3D printers that can provide basic 3D models for your projects. Cost is about 0.10 per gram of material used. ECE also has a Connex350 Polyjet 3D printer with much higher resolution and finish quality. Cost for these prints is about 0.24 per gram of material. Additional details can be found on the ECE Shop web page under the Testing and Prototyping Tools link and DECS printers on their web site

Problems in the lab

All unreported problems in the lab will never get fixed. You can report any problems to your lab TA, either of the ECE Shop technician's or send an email to eceshop@egr.msu.edu with as much detail as possible.

General Lab Issues

Please pick up after yourself in the lab. Each semester we seem to get more and more visitors and corporate sponsor in the lab and first impression means a lot for both the senior design lab and the ECE department.