

# ECE 480 Design Resources

## ECE Shop Technical Staff

Brian Wright - [wrightb@egr.msu.edu](mailto:wrightb@egr.msu.edu)  
Gregg Mulder – [mulderg@egr.msu.edu](mailto:mulderg@egr.msu.edu)

Email to [eceshop@egr.msu.edu](mailto:eceshop@egr.msu.edu) is the best as that email will be sent to both technicians in case someone is sick or on vacation

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

We will add some additional hours in the evenings and weekends the last month of the semester. In the past we have done Thursday night from 6:00 – 10:00 and Sunday afternoon from 12:00 – 4:00. Dr. Shanblatt will discuss this later in the semester

ECE Shop phone – 355-5233  
ECE Shop web page is at [www.egr.msu.edu/eceshop](http://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](mailto:eceshop@egr.msu.edu) and we can let you know if we have the part you are looking for.

There is available to ECE 480 teams a small tool box with some hand tools. These can be checked out at the ECE Shop counter during regular business hours.

## Parts Ordering and Budgets

Roxanne Peacock will provide details after this talk

## Parts Kits and Returning

During the course of the semester you are issued to parts kits for experiments. Both of these kits must be returned complete to the ECE Shop before you will be issued a lab grade. A complete parts list, with vendors and part numbers, is included in the lab experiments write-ups.

## 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 from the lab to the MSU Union for design day.

## 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.

PCBs can also be sent out for layout and we typically use expresspcb (<http://www.expresspcb.com/>) which also provides free layout software on line. 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.

### **Lab Computers**

The computers in the lab are there for you to use and have the standard software installed on them. 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 you 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 spy ware and viruses.

### **MSDNAA Program**

The College of Engineering is a member of the Microsoft Developers Network Academic Alliance (MSDNAA) You can register and find out more information at [www.egr.msu.edu/eceshop](http://www.egr.msu.edu/eceshop) and select the 'MSDNAA' link at the left.

### **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.

### **Posters**

The ECE department will supply each team with two mats boards cut to size for your posters at the end of the semester. The ECE department will also cover the cost to have the poster laminated in the college at the DECS support desk. Each team is responsible to cover the print cost of the poster from there college print quota. Print and have the poster laminated then staple it to your mat board.

### **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](mailto: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.