Before you start lab work, sign this form and hand it to your Lab instructor

Lab Safety Pledge

Microprocessor Systems and Robotics Lab (EECS2334)

I, the undersigned _____

Student's name (Family name, Given name), in ink

- ✓ Appreciate that no success in the lab brings happiness if it comes at the expense of one's health; thus safety is the first and foremost among the lab rules.

- ✓ Understand that, although the voltages applied to our circuits do not exceed ±12 V and the working conditions are generally safe, the power grid voltage 120 V RMS can be lethal under certain conditions, and other hazards may also exist in the lab.

- ✓ Promise to take the lab safety seriously, and will follow these general rules:
  - **I will immediately report any dangerous conditions** such as stripped 120 V AC lines, sparks in laboratory equipment, loose wall sockets, unknown smells and fumes, etc. **to my Lab instructor**
  - **In case of emergency** (fire, medical, police, etc.) I will immediately notify my Lab instructor and/or **call 911 (wall phone near lab entrance)** or **(734) 763 1131 on my cell phone**
  - **In case of building evacuation I will immediately follow the orders**
  - **I will not work in the lab alone at any time** (if another student and/or Lab instructor is not present)
  - **I will immediately report *any* equipment failure to the Lab instructor.**
  - **I will NEVER create any hazard in the lab for myself or others**
  - **When in doubt, I will ask my Lab instructor for advice and/or help.**

- ✓ In particular, I will follow these lab specific rules. These safety concerns generally come in to play during the project phase.

Soldering Iron Safety

- **I will avoid contact with the tip of the soldering iron** (it can be 400 degrees C)
- **I will avoid contact with the object I am soldering.** The heat will flow to/from the object rapidly. I will use a clamp or pair of pliers to avoid contact.
- **I will wear safety glasses.** The solder from my or another workstation can spatter and burn eyes, etc.
- **I will wash my hands after soldering.** The solder contains lead, which is a poisonous metal.

Heat Gun Safety

- **I will avoid the hot air flow from the tip of the gun.** (it can be 400 degrees F)
- **I will not touch the metal end of the gun.** (it can be 400 degrees F)
- **I will take care to direct the air flow to the working area.** Avoid turning the gun on until the tip is pointed at your work. Turn it off before pointing away from the work.

Cutting Tool Safety

- **I will cut away from myself when using razor knifes.** Never cut toward yourself and keep your hand holding the work away from the cutting action.
- **I will dispose of razor knife blades in the safety containers.** There is plastic container on one of the fabrication benches for spent blades.
- **I will clamp or use a vise to hold my work when using hand saws.** There is a vise on one of the fabrication benches and several hand clamps available.
- **I will keep my free hand away from the cutting area when using hand saws.** Use the vise or the clamp to hold your work. Never use your free hand especially near the cutting area. If you are working with a large piece of material, you can hold it, but stay away from the cutting area.

Power Tool Safety

- **I will only use the lab power tools with the consent and supervision of the lab staff.** We have a power drill and Dremel tool for limited use. You may only use them with the consent and supervision of a lab instructor.
- **I will wear safety glasses when using any power tool.** Drill bits can break or the material you are working on can shatter causing potential eye injuries.
- **I will not use power saws under any circumstances in the lab such as circular or saber saws.** If you need a power saw for your project fabrication, you can use them in the Wilson center with training.
- **I will not bring and use my personal power tools to the lab.** You may not use your own power tools in the lab.

Storage Safety

- **I understand that improperly stored equipment can be a potential hazard.** Equipment on the floor can be a tripping hazard, a precariously placed item can fall on seated user and haphazardly placed items can generally obscure and create hazards.
- **I will keep my project and group lab items stored in the provided containers.** Your lab group will be provided a plastic tub at the start of the semester to store your lab items (kits and personal tools) and projects.
- **I will keep my group storage tub on the shelves above workstations.** You may have them near you when you are working, but they should always be stored on the shelves otherwise.

- **I will follow storage polices for items that do not fit in the storage tubs.** Some project items may not fit in your tub, in this case the lab instructors will advise you were to store them.
- **I will maintain the group lab items given me and keep them stored in the tubs.** You will be provided some basic tools and components to do your labs. These items should remain in your tub and be returned at the end of the semester.

Lab Cleanliness and Order

- **I understand that a clean organized lab is a safety issue.** Workstations obscured with cables, project debris, food items or other lab items can hide or cause hazards.
- **I understand that everyone is responsible for maintaining the order and cleanliness of the lab.** Building services will sweep and empty the trash cans, but all other maintenance issues are our responsibility.
- **I will clean up after myself putting any personal trash or recyclables in the appropriate containers.** The lab has several trash cans. There are recycle containers down the hall near the elevators.
- **I will put all instruments cables back in their storage areas or racks.** There are several cable hangers on the lockers.
- **I will keep the fabrication benches in order and clean up any debris after using them.** There are two fabrication benches (soldering stations) for general construction and soldering. Sweep any debris such as wire bits and insulation into the trash. Turn off the soldering stations and put them back.

Safety Glasses

- **I understand the risks of eye injury are real and preventable with proper protection.** The risk of eye injury is very serious business. Eye injuries can be very difficult to treat and can be irreversible!
- **I will wear safety glasses under all required circumstances.** We have listed several cases when safety glasses are required. If you have any doubts, always consult your lab instructor.
- **I will wear safety glasses if my project application requires it.** During your project review you will be advised if you need to wear safety glasses.
- **I will wear safety glasses if I am working or assisting someone working with high speed spinning devices such as propellers.** Blades can fragment and enter the eyes.
- **I will wear safety glasses if I am working or assisting someone soldering.** Solder can spatter and enter the eyes. It is very hot and can contain caustic flux.
- **I will wear safety glasses if I am working or assisting someone working with high capacity batteries such as lead acid or lithium polymer (LiPo) varieties.** These batteries when shorted can melt metal potentially spattering into your eyes.

- **I will wear safety glasses if I am working with high speed rotating cutting tools such as a drill or Dremel tool.** Drill bits or cutting disks can shatter sending fragments into your eyes.

Student's signature: _____
(in ink)

Date: _____

Course: _____

Semester: _____

Lab section (day/time): _____