

## Microcontrol Kit Checkout FAQ

Q: Why do we have to sign a checkout agreement to borrow the kits?

A: The parts in the kits cost about \$100, even getting them from different sources to minimize the cost. So it would be an inequitable burden to require students to buy them. It takes me over an hour to build each one, even with all of my experience. Some of our exercises depend on the parts being in exactly the same place on every board, so it's too much to expect people to assemble their own. There aren't any extra boards, so we need to have every one returned in exactly the same condition as when it was checked out.

Q: What do I do if I damage or lose a part?

A: Except for the Arduino Nano Sense and the MCP4725 DAC, I have extra parts (all of the logic chips, LEDs, buttons, switches, potentiometers, light sensor, resistors). Ask me for a replacement. It's important to return the board with everything back in exactly the same place and working. If you damage or lose the DAC, order a replacement from Adafruit. If you damage or lose the Arduino, order a replacement from wherever you can get the best price. Be sure to get the version with headers installed. If you can only get the version where they are separate, see me for help with soldering them. I would much rather get a working board back, than charge you for its cost and have to build another one.

Q: Can I rearrange/remove the parts on my board to make more room for my project?

A: NO! They need to be in exactly the same places when the board is returned, and it's hard to get that right if you remove them - especially in the limited time you'll have to restore the kit at the end of the project demo. If you need more board space, I have extra bare boards that you are welcome to borrow. If you want to move the Arduino to a bare board, ask for my help with doing that, and for putting it back when you return the kit.

Q: In addition to moving the Arduino to the bare board, I need other parts from the kit. Can I move them over too?

A: NO! I have extras of all of the small parts. Ask me for them. If you also need to move the DAC, ask for my help with that when we move the Arduino.

Q: Some parts were knocked loose in my kit. How do I know where to put them back?

A: The lecture slides contain many photos of the board, including closeups.

Q: I am building an especially involved project. Can I have extra time to return the kit?

A: NO. You should design your project, in part, so that you can restore the kit during the last 30 minutes of the final project demo. If the Arduino has moved to a bare board, it just needs to be put back. If you've built everything on the existing board, you should just need to remove extra wires and components. If you've borrowed extra components from me, they need to go back into bins by type.

Q: I want to build a project that involves more than the Arduino's sensors and/or actuators. Do I have to buy the parts myself?

A: Maybe not. I have large collection of extra parts, such as LCD screens, SD card readers, sensors, actuators, LEDs, wheeled robot chassis, wifi cards, keypads, remote controls, color sensors, ultrasonic rangers, microphones, amplifiers, etc. You're welcome to borrow them. I can't promise to be able to help you with them - they are from prior projects. If you want to buy components, I recommend Adafruit, in part because they deliver quickly, and their breakout boards usually have Arduino library support.