adafruit learning system

EL Workshop

Created by Becky Stern

Guide Contents

Overview

Welcome to class! Here are my tips, tricks, and links for running a successful EL wire class or workshop. I prefer a class size of ten students or fewer, but with one teacher's assistant (or a few intermediately experienced students in the mix) this guide can easily scale to a room of 20 students.

Class listings: Make sure to have a single URL you can point people to containing the title, time & date, location, very descriptive description, picture, and sign-up information for your class/workshop. Here's an example from an EL class I taught at Madagascar Institute in Brooklyn, NY. (http://adafru.it/aMa) Once your listing is up (on your site, a blog, an event site, or wherever), share the info with folks who might be interested. Ask friends if they're on any big mailing lists and wouldn't mind passing the info along, submit the event to blogs on the relevant topics, post to social networks and don't forget word of mouth. Being big on the internet doesn't mean you're reaching a local audience of potential students.

Class descriptions: Express the experience you want your students to have, describe the value of what they're getting for their money (great quality materials, grade A instruction, etc.), reasons why they would want to attend (make a cool project, meet fun people, learn something new, impress a girl), and write down everything students should bring and expect. I ask my EL students to bring an item to adorn, like a hat, jacket, bike, etc., so be clear about any prior planning that is expected. Provide some inspiration if you're expecting creativity.

Tools you should make available to your students:

- **Soldering station** (recommended one for every three students) containing iron, solder, third hand tool, wire cutters, and wire strippers
- **Scissors** (recommended one for every two students)
- **Hot glue gun** (recommended one for every five or six students) - for tacking, touch-ups, and quieting the capacitors inside the inverters so they don't go "squeeee."
- **Pliers** both big and small - students might want to make coat hanger fairy wings (http://adafru.it/aMb).

- **Beverages** - your students will work up a thirst! When I teach adult classes at Madagascar Institute they're BYOB.

Extra Supplies

In addition to an Adafruit EL wire starter pack (http://adafru.it/320) (or EL tape starter pack (http://adafru.it/aMc)), each of my students also gets:

- **Adhesive!** I prefer E6000 because it is super strong and flexible, sticks to almost everything, and it doesn't require mixing-- it's available in multipacks of smaller tubes (http://adafru.it/aMd). Some people don't like it because it's kinda stinky. You can also use quickset (5 or 7 minutes) epoxy. Hot glue isn't so great for this.
- **Round toothpicks** - for working with the E6000 - each student gets a small handful in their bag. Pick them up at the grocery store or on Amazon (http://adafru.it/aMe).
- **Invisible thread** - like fine fishing line, this polyester filament is strong, flexible, see-thru, and you can sew with it! I get mine from Stuff4 (http://adafru.it/aMf). Each student gets an entire spool.
- **Pack needles (http://adafru.it/615)**
- **AA batteries**
- **EL splitter (http://adafru.it/402)**
- **2x In-line power wire (male) (http://adafru.it/319)** - this way students can have up to three total lines of EL wire coming from the inverter
- **Extra heat shrink tubing (http://adafru.it/344)** - useful for masking sections of EL wire to make dotted lines, etc.
- **Tiny lighter** - for shrinking heat shrink

I usually charge students a $35 materials fee - roughly $20 for the EL starter pack (although hackerspaces (http://adafru.it/aNn) and educators (http://adafru.it/aNo) can qualify for special pricing or volume discounts), the rest for the items in the above list plus expendibles like hot glue sticks, the instructor's demo supplies and the like. I also pick up a few sound-activated and 4xAAA inverters in case a student's design requires one-- get enough supplies for everyone to comfortably share and create in a generous environment. They should leave feeling empowered to finish their project or take on a new one- and not like they have to buy a bunch more stuff to do it. You can always use extra supplies for a future class!

You may wish to pick up a few embroidered "learn to solder" badges (http://adafru.it/465) to give to students if it's their first time soldering.

Class Outline

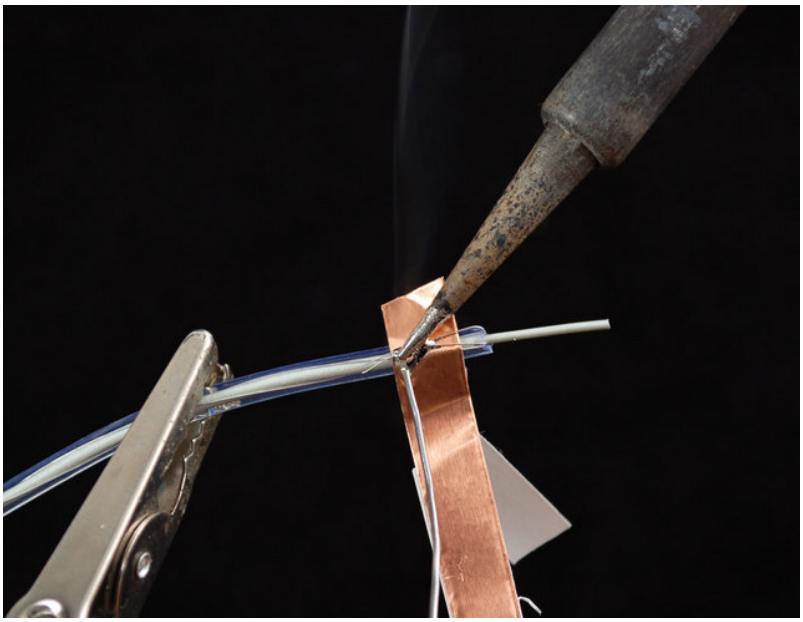
Get acquainted with your students - ask them to introduce themselves and show off the items they brought to adorn with EL wire. Introduce yourself while you're at it.

Introduce the materials and tools - show off the materials in the students' kits and the function of each tool.

Show a smattering of EL projects from around the web to get your students inspired!

If you brought extra EL materials (other types of inverters, EL panel, etc.), show how they work. The sound-activated inverter always induces some "ooo"s from the class.

Describe how the whole circuit will work- what EL wire is made from and how it lights up, the inverter's step up to AC, and the safety precautions to be taken during construction.



Solder demo - show the EL soldering process start-to-finish and explain how to decide when to solder a new branch and when to just mask a section of EL with heat shrink.

Solder practice - have each student make a practice EL solder joint with scrap materials. As they take turns with the soldering iron, the rest of the students can start planning their project design.

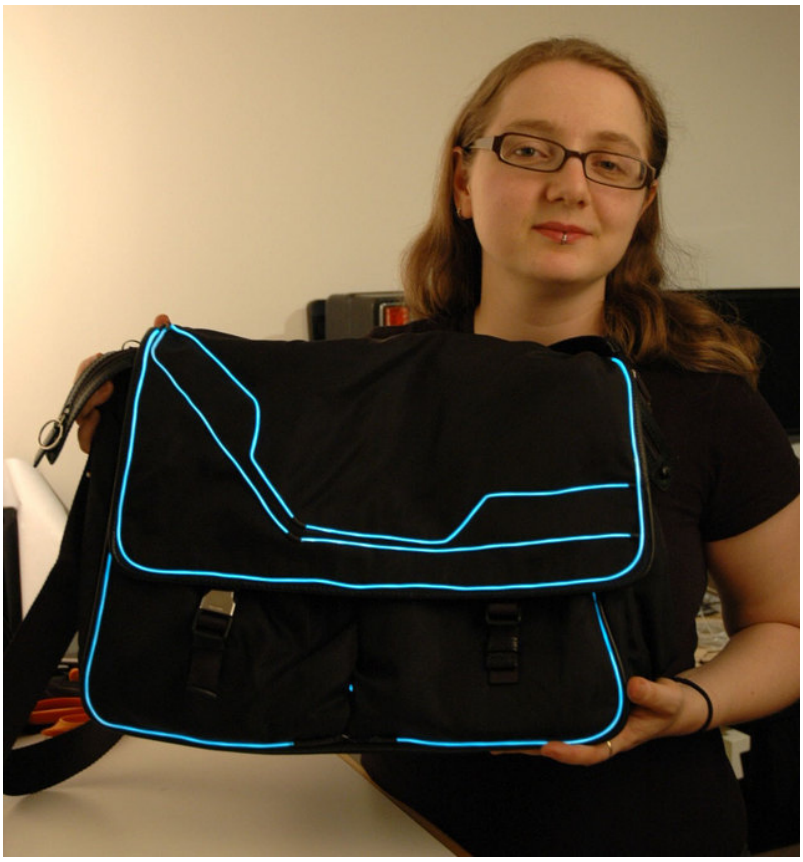
Design planning time! Have your students plan out their design using their EL wire and masking tape. Walk around the room helping advise the best way to incorporate it-- your blessing and suggestions will give the students confidence about their designs.

Construction! Advise students to finish all of their design's required soldering before they leave class - they can always finish gluing or sewing at home.

Demonstrate sewing and gluing techniques - either on some sample material or using a students' project as an example.

The rest of the class is spent constructing the projects. Check in with each student multiple times to keep him/her on track. Your students may run into roadblocks along the way - a tangled thread can cause major anxiety for a newbie stitcher! It's your job to reassure your students that they CAN DO IT, there are solutions to each problem they encounter, and that you will help them make it awesome.

Follow-Through



Add a slip of paper to each kit your students take home. It should contain the subject of the class, your name and contact info, the venue information, and any links or resources (like the Adafruit EL wire tutorial (http://adafru.it/aJF)) they might want to look up after class.

Take photos of your students and their works-in-progress. Ask them to email you photos of their finished projects, and any cool projects they work on in the future.

Buy EL!

Buy EL! (http://adafru.it/aMg)