

Level 4 Overview

Bluetooth Speaker (7 Sessions)

The goal of this project is to bring together multiple disciplines of making found in the shop into one project.

Woodworking: Students will use skills and knowledge they have gained in the previous levels to make the wooden enclosure for the speaker using classical woodworking joinery and drilling precise holes for the electronic components.

Electronics: Students will learn about the engineering facts of each component in the Bluetooth speaker including lithium-ion batteries, single pole single throw switches, speakers, amplifiers, and Bluetooth chips. These components will be assembled and mounted into the wooden enclosure.

Leather: Students will use the skills learned in the Leatherworking class to make their leather handle that will be mounted to the wooden enclosure.

Metal Sculpture (5 Sessions)

Students will be challenged to use a variety of different metal parts to fabricate a metal sculpture. They will first design a paper mock-up to think through how parts are connected and to use as a template for cutting. Students may weld, rivet, bolt, or find unique ways to join metal.

Fabricating: Students will take raw metal and cut dozens of precise metal parts for their project and prepare them for the welding.

MIG Welding & Work Holding: Students will MIG weld their parts together to form the basic structure of the Cube Knot project. It will be tack welded temporarily, verify its accuracy, and finally fully welded the project to finish.

Grinding Techniques: The welds will be ground away to make smooth flush faces using hand grinders, bench grinders, belt sanders, and disc sanders.

* Urban Workshop reserves the right to change class topics and the order the classes are taught without notice.