

Cuttlefish Casting Workshop, February 4 and 5, 2023

10:00-4:00, with a half-hour lunch break

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<https://www.barbaramannstudio.com/>

Cuttlefish Casting Workshop Description:

This workshop will give participants the skills and inspiration to cast jewelry or a small-scale object in sterling silver. Using the ancient technique of cuttlebone casting, students will learn to make molds into which molten metal will be poured. Within minutes after casting, the molds are opened and the metal objects are ready for finishing. Students will learn how to use a jeweler's saw, hand files, abrasive paper and how to patina metal and use a rotary tumbler for polishing.

The cuttlefish is a squid-like creature whose skeleton can be found on the beach. It is soft enough to carve and has a beautiful wood grain-like pattern which yields a rich texture on the surface of the cast metal. There are several ways to prepare the molds from the cuttlebone, including direct carving, making a mold cavity by pressure (pushing something hard into the soft surface of the mold) or by creating a negative space in a sheet of mat board which is placed between the two halves of the mold. This may sound complicated, but it is not. The process is fun and students should be able to create one to two pieces during each day of the workshop.

During the workshop we will talk about other methods of casting, alloying metal, when to cast and when to fabricate a metal project.

For students in the in-person workshop: I will have the tools and equipment you need to cast and finish your pieces. You can purchase casting silver from me at approximately \$25.00 an ounce or you can bring your own silver including clean silver scrap. A blend of 50% new silver and 50% scrap is recommended. You will need two ounces minimum. Please let me know if you will bring your own silver or if you would like me to bring silver for you (please let me know by January 10, 2023). I will bring 6 cuttlebones for each student at approximately \$4.50 per cuttlebone. You can buy your own at a pet supply store or order them online. See supply list below. If you **do not** want to purchase the cuttlebone from me, please let me know by the end of December.

Expendables that you can bring to class or purchase from instructor: Also see materials list below.

Casting silver as mentioned above. Approx. \$25.00 per ounce.

Cuttlefish bone, approximately \$4.50 per bone.

3/0 jeweler's sawblades, \$3.00 per dozen.

Finishing tools to clean up castings, your preferred. The following are flex-shaft **attachment** that I prefer: Dedeco Heatless wheel, or Heatless Mizzey from other suppliers. \$1.00 each

Advantage brown aluminum oxide points, flat end taper \$1.00 each.

Polisher wheel blue 22 x 3, \$1.00 each.

If you have some carving tools that you like to use, please bring them. The cuttlebone is very soft and can be carved with bamboo skewers, toothpicks, a pencil, etc. Dental tools, woodcut tools, wax working tools, etc. are also good to use. You don't need to bring carvings tools, I will have plenty for you to use, but you may have a favorite carving tool or two.

We will be working with the cuttlebone using several different approaches. One method involves pushing an object into the cuttlebone, removing that object and filling the void with molten silver. I have included a few examples of objects which would make a successful casting. The items should be small (about the size of a quarter or smaller), somewhat hard (like a hard plastic, metal, hardwood, etc.). Look around and see if you find something that has a shape or form that you like and you can use that as a starting point. For example: a ring you have, a metal washer, a plastic toy, etc. I will bring several objects that you can use also.



examples of objects that could be used to push into cuttlefish bone



plastic football ring and plastic monkey toy
pressed into cuttlefish and cast in silver

For Zoom students:

You will need a basic jewelry and metalsmithing studio and knowledge where you can safely melt silver to pour into a mold, the cuttlebone, and have the skills to finish a metal object.

You can purchase the casting silver and or cuttlefish bone from me, or preferably, purchase on your own.

For in-person students and Zoom students: Because we will be around hot molten metal, please wear closed toe shoes. And because preparing the cuttlebones is dusty, you might want to wear an apron and if you are sensitive to dust, you may want to wear a dust mask.

Materials list for Zoom students to set up your casting area and for in-person students to purchase some expendable supplies:

I will give Rio Grande, www.riogrande.com, item numbers, but any supplier will do.

3/0 or 2/0 jeweler's sawblades , #110-035.

Sterling silver casting grain, #110-800 .

Small whip crucible and pinch tongs (my favorite) or the older style silica crucible with handle, a bit clunky. #704-221.

Soft firebrick or high heat surface for crucible to rest on while melting silver. Vermiculite soldering block or silquar high heat block, #502-055, #502-004.

Matt's casting flux (heavier than 20 Mule Team Borax which floats in the air). #704-115.

Graphite stir rod 12" x 1/4" diameter. #705-120.

Cookie tin, metal container, approximately 8" diameter x 3" deep.

Play sand to fill cookie tin. Cuttlefish mold will be pushed into sand to secure it for casting. Hardware store.

Cuttlefish bones: large are best, medium are good, small will do. Cuttlebone can be found at pet stores or anywhere pet supplies are sold, like Walmart. They will most likely be small at these locations. Some have a filler which makes them harder than the natural bones. For our workshop, avoid the bones with filler as they are harder to carve and have less texture. For more choices, go to Amazon where there are many sellers. You can buy individual pieces or buy in 5-pound, 10-pound, or larger size boxes. When buying in bulk, be prepared to receive a percentage of them broken or cracked, and unusable as a whole piece. But small pieces are fine for small castings.

Small knife, with a thin blade about 2 to 3 inches long, is ideal. My favorite is about 3" long and 1/4" wide. This is used to cut the gate and sprues for casting. An Exacto or scalpel blade is just a bit too short to do the job. Hardware store, kitchen drawer.

Paper cup, not waxed in the interior. You will heat your crucible and pour the casting gain from the cup into the hot crucible.

Pair of tweezers to retrieve any left-over silver in the crucible after the metal has been poured into the mold (cuttlebone). Any inexpensive, beat-up pair of tweezers, 4" or longer.

Bucket to fill with water to quench hot metal casting. Plastic bucket is fine, gallon or larger. Find anywhere.

Roll of masking tape, to tape two pieces of mold together. Find anywhere.

Steel wool, 0000. Hardware store.

Tongs, copper or kitchen, to take cuttlebone from sand container to quench bucket.

Matboard or cardboard sheet, 1/16" or so. A piece about the size of your cuttlebone. Thickness of 18-20-gauge metal. Frame stores give away scrap matboard. You can use anything, from the back of a tablet of paper or packaging, but it should be dense like matboard, not corrugated cardboard.

Flex-shaft for cleaning up castings.

Finishing tools to clean up castings, your preferred. The following I prefer: Dedeco Heatless Wheel, or Heatless Mizzey from other suppliers. #332-1899 (Dedeco heatless wheel).

Advantage Brown Aluminum oxide points, flat end taper. #332-555.

Polisher wheel blue, 22 x 3. #332-401/10.

Liver of sulphur.

Rotary tumbler or magnetic finisher would be good but not essential. Hand finishing is just fine!