

A+D Lab
Ohio State University
Department of Art / Department of Design

Our Mission

The A+D Lab is a research, fabrication, and production space for the Departments of Art and Design. Students and faculty use this series of spaces to explore new fabrication concepts, techniques, and materials and to refine processes, practices and approaches to realizing their projects. The A+D Lab is a hands-on learning environment that supports innovation by providing a wide range of digital and analog tools in a safe, collaborative and respectful environment.

How to Get Access

In order to access the A+D Lab, Students, Faculty and Staff must:

- Be enrolled or employed by the departments of Art or Design, or be enrolled in a class offered by either department requiring use of the shop.
- First undergo an orientation. Orientations sessions are scheduled at the beginning of every semester and are also available by appointment for groups of 3 or more.
- Upon completing orientation, lab users will have access to Wood Shop during regular hours, and to the project space during non-class times.
- Access to the CNC Shop, Digital Fabrication Shop or Metal Shop is by appointment or permission only, and may require additional training on the use of more advanced or dangerous tools.

Overview of the Space

The A+D Lab is located on the first floor of Hopkins Hall and has the following rooms:

- 172 - The Wood Shop, our main fabrication studio. This is where you will find most of our woodworking and general purpose equipment (saws, chisels, drills, pliers, clamps, etc.) and most of our power tools (such as the table saw, band saws, miter saws, lathe, drill press, sanders, and more). It is also the location of the A+D Lab front Desk, where we schedule appointments, check out tools, and conduct most other lab business.
- 171 - The projects studio. This space is primarily a 3d classroom, but is also available to shop users outside of class time.

- 175 - Digital Fabrication Shop. This is where you will find our laser cutters, 3d printers, and vinyl cutter, as well as vacuum molders and sewing machines. This is a clean space so wipe your feet!
- 176 - CNC Shop. This is the home of our CNC router as well as our down-draft tables and sand blaster. It is also used for messier projects.
- 169 - Metal Shop. Here you will find welding and metal cutting and milling equipment.
- 167 - Storage. This room is mostly reserved for intro to 3d students, although some space is available for other students, faculty, or staff to store projects or materials
- 477- Spray Booth. This room contains an exhaust system for use with noxious materials. It also contains a flammable materials storage locker and oily/flammable waste disposal cans. When using the spray booth, proper ventilation and disposal of dangerous waste is imperative.

General Procedures

Workflow

Here is what you do **each time** you visit the shop:

- Show your ID to the technician on duty
- Explain what you are doing
- Check out any necessary tools
- Put on / check your Personal Protective Equipment
- Turn on the dust collector (if not on already)
- Work
- Turn off the dust collector (if no one else is working)
- Clean up
 - Hoses / cords
 - Sweep / vacuum
- Check in your tools

What You Need to Bring

You are expected to supply all of the following materials, the shop will not provide them to you:

- Dust masks (respirators are preferable)
- Safety glasses
- Glue (other than wood glue)
- Sandpaper
- Fasteners
- Staples for the staple gun (T50)

- Brad Nails for nail gun (18 gauge)
- Drill bits smaller than 3/16"
- Pencils/pens/drawing implements
- Raw materials for building / fabricating.

Approved materials (the short list)

- Wood -- natural, clean, unused, unpainted
- Plywood
- Acrylic / plexiglass (not Lexan)
- Paper / cardboard
- Insulation foam
- see "Materials" below for more info

Tool checkout

- Do not check out a tool unless you know how to use it (you may request training in the use of any tool from shop staff or management)
- Go to the tool counter, show your ID, and ask for the items you want
- Do not go behind the counter
- Certain tools are not available for checkout (most power tools)
- The checkout period is 24 hours. Return the tool, within the 24 hour limit, to the tool counter. Be sure that your tool is "checked in" so it does not remain on your record
- In order to "renew" a tool checkout, you must stop by the front desk with the tool in hand before your 24 hour checkout period ends.

Cleaning

- Is a constant issue in the A+D Lab.
- Keep stray dust to a minimum by practicing appropriate dust collection.
- For particularly dust-intensive projects, notify a technician so they can help you with adequate dust collection.
- Take special care not to create excess dust in the digital fabrication room, or to track dust into the room from outside.
- Always sweep or vacuum up all dust and debris that you generate both as you work and when you are done working for the day.
- *Clean* wood dust and scraps should be thrown into the blue bin marked "clean wood," all other materials should be thrown into regular trash cans
- Be sure that all scrap materials from your projects are properly disposed of (for particularly bulky scraps you may ask technicians for assistance)
- If you are still working in the shop 30 minutes prior to closing time, you must come to a stopping place, clean up, and be ready to leave by closing time

- *Please see the “Tools” portion of the “Safety Policies” section of this guide for more information.*

Storage

- In your locker.
- If you do not have a locker through your class, one may be assigned to you by shop management.
- In the storage room (167).
- For large work, we will help you find storage.
- For long-term processes such as clamping and gluing, be sure to talk with a technician first. Do not leave clamped / glued work on work tables.

Scheduling appointments on advanced tools

While most of the general purpose tools are available to you once you complete the orientation, there are pieces of equipment in the shop that require you to have more advanced training on that specific tool before you can use them. In addition, you will need to schedule an appointment to use these tools.

Appointments are allocated in 2 hour blocks. We find this length gives enough work time while ensuring you don't become tired. You are welcome to schedule multiple appointments, one each day, to give yourself sufficient working time. If you are concerned about your ability to finish a project by the deadline, talk with a technician and we can discuss the best strategy for you to proceed.

The tools that require advanced training:

- Laser cutter
- Vinyl cutter
- CNC machine
- Lathe
- Sewing machine
- Flex-shaft drill

To use one of these advanced tools:

- Speak with a technician to schedule an orientation appointment on the chosen tool
- Pass orientation / training on that specific tool during your first appointment, and have some remaining work time
- Schedule an appointment for **all future work** sessions on that tool

Safety Policies

Apparel

- Wear all necessary protective gear and clothing. This includes your PPE.
- Wear closed-toed shoes that offer protection and good mobility. No flip-flops, sandals, high-heels, or any other footwear that exposes your feet or impedes your movement will be allowed.
- Do not wear any apparel, nor have anything hanging from your body that can get caught in your work or the machinery. This includes ties, lanyard, loose clothing, jewelry, gloves, or even long hair.

Medical Emergencies

- In any emergency situation, **call 911 on the telephone located by the middle door in the Fabrication Studio room 172**. This will reach OSU Public Safety. Please note that dialing 911 from your cell phone will reach Columbus Emergency Services (not OSU) and this may increase response time.
- For non-emergency medical situations, you can go to Ohio Health Urgent Care in Grandview, or to Martha Moorehouse Urgent Care on west campus after 5pm and on weekends.
- For all medical related incidents, you must tell the technician on duty so that they can file an incident report.
- Always use the buddy system when there is not a tech on duty. Accidents do happen. You need to have a second person present so that if you become unable to help yourself, the second person can render aid and contact outside help.
- Do not try to remove foreign objects from the eye or body before seeking medical treatment. If you get chemicals in your eye use the eyewash for 15 minutes.
- First aid kits are located by the main desk, in the machine shop, and in the project room; eyewash stations are located by the main desk and by the sink in the project room.

Materials

- No toxic, flammable, or other dangerous materials are allowed in any of the fabrication areas: this includes the Wood Shop, Metal Shop, Digital Fabrication Shop, CNC Shop or Storage Room. These include liquids (solvents, acids, alcohols), aerosols (spray paint, spray adhesive), and solid materials (pressure treated lumber or plywood, MDF, many plastics).
- If you have doubts about the appropriateness of a material, please check with a technician.

- Use of certain dangerous/noxious liquids and aerosols is permitted, but only in the spray booth (room 477).
- All combustible materials must be stored in the yellow cabinet in the Spray Booth on the 4th floor. Combustible materials found on shelves will be reclaimed by studio technicians and may not be returned.
- Use only wood, foam or plexi-glass in the wood area. Use only metals in the metal area of the Tool Room.
- You may not use old, previously used wood in the table saw or chop saws: they may have rotten areas, nails, or screws in them. Please never put used wood in the scrap wood section that has or had any paint, nails or screws in it. Used wood that has or had any nails or screws in it, as well as any unsafe/uneven boards, should be placed in the trash bin.
- Absolutely no bio-hazardous material is permitted in the A+D Lab! This includes no use of animals in projects.

Tools

- Always use dust collection. When in the Wood Shop machine room, always use the central dust collection system. This includes opening the vent gate to the tool you are currently using. When you are finished, be sure to close the gate and turn off the collection system (if there is no one else working). When in the Wood Shop fabrication area, use the Festool dust collector when using power tools. Also, please turn on the hanging dust collection units when creating large quantities of airborne debris.
- Never use compressed air to blow dirt or chips from machinery. There are several reasons for this: it can blow debris and condensation into machines, it makes the shavings and particles airborne, and the debris can fly back at the operator and lodge in the skin or eyes. Clean up with a brush and dustpan, a push stick, or a vacuum after machine has come to a complete stop.
- Keep your fingers at least 6 inches away from the point of operation (saw blade, drill bit, etc.) of any machine. Use a push stick when appropriate. Never use a rag to clean a machine when it is running.
- Firmly secure materials with clamps that will be drilled or punched to prevent them from slipping or spinning out of control.
- Before working on a machine:
 - Check that it is correctly setup for use. Never assume a tool is properly adjusted.
 - Perform a physical inspection for wear on cords / hoses and other parts. If the tool needs repair, do not attempt to operate it. Bring the damage to the attention of a technician.
- If the blade or sanding disc/belt needs to be changed on a tool, ask a technician to change it.

Conduct

- Do not work in the shop if you:
 - Are hungry, tired, or in a hurry.
 - Have consumed drugs or alcohol.
 - Have not passed the orientation process.
- Do not use any tool if you do not feel completely knowledgeable and confident in its use. The technicians are here to help you learn, so be sure to ask if you have any questions.
- Be courteous to those around you:
 - Warn anyone standing or working near a tool before you turn it on.
 - Use visual signals to get the attention of someone working with a tool. Remember that they may not be able to hear you, and if you touch them to get their attention, you may startle them and cause them to hurt themselves.
- No horseplay is allowed anywhere in the A+D Lab. This includes running, jumping, wrestling, throwing objects, intentional loud noises, or anything else that could distract other people in the shop.
- All guards / shields must be in place while a machine is in operation.
- Do not prop open any of the doors in the A+D Lab. The doors are locked to restrict access to those without proper training. This is for your own safety.
- Never attach anything to the pipes, sprinklers, or lighting fixtures.
- Talk with a technician before starting any large-scale project. We will work with you to find an appropriate location for you to work.
- Do not bring any unapproved materials into the building. *See "Materials" above for more information.*
- Objects or installations that are themselves hazardous or contain any unapproved materials will be dismantled and disposed of.
- Absolutely no dangerous or violent activity will be tolerated in the shop, this includes the use of any shop resources/facilities to make weapons.