

# **JEWELRY/METALS PROGRAM INTRODUCTION**

## **MISSION STATEMENT**

The Jewelry/Metal Arts Program is an active and robust part of the San Francisco campus. The program encourages personal expression through the creation of jewelry, functional objects, and sculpture.

Students have the opportunity to explore a variety of processes and materials through courses taught by nationally and internationally known faculty. The program builds on a foundation of traditional and contemporary metalsmithing techniques. The curriculum emphasizes skilled craftsmanship, conceptual issues, design, aesthetics, and history.

The undergraduate curriculum covers the full range of techniques for production of jewelry, holloware, and small metal sculpture, including soldering, cold connections, forging, casting, enameling, stone-setting, hinges, mechanisms, and production methods.

Internships are available with professional metal artists in the San Francisco Bay Area. The program regularly hosts leading artists in the field for lectures and/or workshops.

Our students have received Society of North American Goldsmiths (SNAG) student and minority grants and Women's Jewelry Association Student Scholarships. Students and alumni have also shown their work in national juried and invitational venues.

## **CURRICULUM**

The mandate to encourage interdisciplinary study across the campus is supported by the jewelry/metals program. The central methodology of the program is fine art through the practices of sculpture and design with emphasis on craftsmanship. The program's primary focus is fine art while encouraging the investigation of alternative concepts, methods and materials. Specifically, it is the program's function to encourage creative and critical thinking in alliance with fine art practices.

## **CRITIQUE**

The critique is the essential element of art education. Art is communication at the highest aesthetic level. Therefore, students must be able to articulate the thoughts and conceptions behind their work. The structured forum in which to assess and evaluate work is critical. The critique measures the effectiveness with which you have communicated your ideas to your viewers. The critique is an appraisal of a student's progress of concept, communication and craftsmanship. A critique hammers out the important details and refines the quality of the work.

The personal goal of every student should be to become self-motivated, self-disciplined and self-directed. These qualities combined with the acquisition of skills and historical knowledge of their craft will enable the student to be autonomous and free to follow their own path. Beyond these qualities, students also need to develop their ability to be self-critical and to be their own

best critic. They need to be able to separate from their work, out of the persona of artist as maker and into that of artist as a critical observer.

The students' ability to recognize quality work is determined greatly by the breadth of their experience, knowledge and exposure to superlative works, all of which increase understanding and the ability to make value judgments.

### **STUDENT WIDE LEARNING OUTCOME**

**Every graduating CCA Fine Arts student must demonstrate the following:**

1. Creation of a coherent and insightful body of work that gives evidence of a focused exploration. This might take the form of a single work or a series of works that reflect a vision/concept, set of ideas, and/or exploration of a medium.
2. Technical mastery in at least one medium.
3. Ability to organize and publicly present work in exhibition or other appropriate format.
4. Ability to articulate in both oral and written forms the ideas within the body of work.
5. Ability to demonstrate or articulate a work in progress that is appropriate to the medium.
6. Ability to conduct research in the development of an artwork.
7. Ability to document their work in an appropriate medium, including but not necessarily limited to photography.
8. Elementary knowledge of professional practices, including compiling a resume, artist statement and portfolio.
9. Familiarity with current practices and issues in the medium, which may be fulfilled through an appropriate internship.
10. Working knowledge of the traditions and history of the medium.
11. Ability to self-critique and use appropriate criticism in the further development of one's work.
12. Successful development of a work ethic that includes self-discipline, self-motivation, and studio/safety skills.

## **CURRICULUM OVERVIEW**

### **DRAWINGS**

Preliminary or working drawings are central to the disciplines practiced in the jewelry/metals program and are required before a project. It is strongly recommended that students take drawing classes to complement the metals curriculum. As an integral element of the metals program, students are required to develop an articulate working portfolio/sketchbook of drawings of ongoing class projects as an implement for work development, technical refinement, general discussion and critiques. Drawings are the first step in conveying concepts to others as well as an ongoing record for future reference and reflection.

## **THE PORTFOLIO**

Graduating Jewelry/Metals seniors are required to assemble a portfolio to be left with the department as an alumni work reference. Included within: resume, artist statement, slides of senior works, slide list and any other pertinent information. All portfolios are to be created within a prescribed folder issued by the jewelry/metals department.

## **STUDIO ETIQUETTE AND RULES**

Proper studio etiquette is mandatory to ensure that everyone using the studio facility will be operating it in a safe and healthy manner. Adherence to studio rules is required and enforced at all times. Failure to adhere to the rules may result in personal injury or injury to others. Therefore, the misuse of the studio facilities and its contents, or general misconduct, may have consequences leading to restrictive or disciplinary actions.

## **STUDENT IDENTIFICATION**

While on campus, students are required to carry a current CCA student identification card with them at all times. This allows students, faculty, staff and public safety to identify our CCA community and deter crime on and around campus. A student may be asked by faculty, staff, or public safety to show their student ID card at any time. Individuals may be asked to leave the campus if no ID is presented. We rely on each other as a community to maintain a safe college campus. Please immediately report suspicious activities or people to public safety.

## **PERSONAL ITEMS**

Faculty and/or staff are not responsible for lost, stolen or damaged personal items. Students are required to take full responsibility for their own things. Faculty and/or staff are not responsible for lost, stolen or damaged artwork outside their possession. Be aware of your belongings and do not leave personal items unattended.

## **GENERAL SAFETY**

Safety and common sense go together. Safety protocols change with every tool and process used, please stay aware and focused in the studio at all times. Remember, safety is no accident!

1. You must wear safety glasses while working in the studio.
2. You must clean off your workbench, tray, equipment and/or work area each day.
3. Consume meals, food and drink outside the work studio.
4. Do not operate any equipment until approved by an instructor or studio manager.
5. Know how to operate the tools (turn off) before operation.
6. Do not talk to, startle or disrupt anyone while they are operating equipment.
7. No open toe shoes in the studio. Secure loose clothing and tie back long hair.
8. Remove loose jewelry, such as bracelets, long necklaces and long earrings.
9. Make all necessary tool adjustments before beginning to work.
10. Clamp or hold work securely while working at the drill press.

11. Turn off and inform an instructor if any power tool begins to act or smell unusual.
12. You may NOT remove any safety guards or devices installed on power tools.
13. Never leave torches, power tools or devices ON and unattended at any time.
14. Do not use any hand tools or power tools in ways other than their intended use.
15. During class-time, visit with guests/take calls outside the operating studio.

## **PERSONAL SAFETY**

Eye protection will be provided to all students at the beginning of the semester and is required at all times while working in the studio.

Hearing protection and breathing respirators are also required while operating certain equipment. Do not spend too much time in the studio. Working with little rest leads to poor craftsmanship, causes injury/accidents, and the possible destruction of your hard work. It takes less time to complete work when well rested and clear minded.

If an instructor or studio manager finds a student to be under the influence of non-prescribed substances or alcohol, overly fatigued, or in a state that could cause harm to themselves and others, the student will be refused access to the studio.

## **HEALTH SAFETY**

**SMOKING** is prohibited in public places by California State law. Smoking is therefore prohibited within CCA campus buildings and all studios/shops.

**ALCOHOL AND DRUGS** are not part of the teaching and learning process at CCA, and it is inappropriate to serve or consume alcoholic beverages as part of an official class or studio activity. Alcoholic beverages may be served to those 21 years of age or older at approved campus events. No working in the studio after alcohol has been consumed.

Consumption or possession of alcohol and/or illicit drugs is strictly forbidden in the J/MA studio. Students engaged in such activities will be reported to the administration for disciplinary action. The proper function of the J/MA studio and equipment cannot tolerate those under the influence of any drugs or alcohol. Please notify faculty and studio managers if you are taking any prescribed drugs that may hinder your ability to operate studio equipment or machinery.

Violation of the Jewelry/Metal Arts department policy on alcohol and drugs when attending class, lectures, functions, and operating equipment can result in students being denied recommendation or reference.

## **EMERGENCIES PROCEDURES**

### **RAVE**

Rave is the campus wide emergency response network that quickly informs the community about any situation that poses a threat to safety. In the event of a campus emergency, email alerts will be automatically sent to all CCA email addresses. All CCA Community Members (Students, Staff and Faculty) are automatically enrolled to receive

Texts and Email messages via their personal contact information on file in their "Workday" profile.

### **NON-EMERGENCY PHONE NUMBERS:**

The following numbers are provided for non-emergency situations. Use of these numbers will still provide a prompt response.

#### **CCA Public Safety:**

- SF Public Safety Patrol (24/7) & After Hours Cell: 415-726-2061
- CCA Public Safety : 415-703-9510 (Phone Tree & Directory)
- 450 Irwin Desk: 415-703-9512
- 80 Carolina Desk: 415-551-9320
- Hooper Ramp Desk: 510-594-3713
- CCA Facilities 415-551-9300

#### **Other Local Agencies:**

- SFPD Non-Emergency: 415-553-0123
- SF Fire Non-Emergency: 415-553-0123
- Poison Control: 800-222-1222
- PG&E: 800-743-5000

### **EMERGENCY NUMBERS:**

Call 911 for any emergency requiring an immediate response.

### **INJURY / FIRST-AID**

In the event of an injury, accident, or illness in the studio, implement the following guidelines.

1. Stay calm and composed.
2. Assess the injury for severity and decide what actions should be taken.
3. For MINOR INJURY or illness, notify studio manager or public safety.
4. For SERIOUS INJURY CALL 911, then inform public safety, an instructor, or studio manager.
5. Monitor the injured person until public safety/emergency responders arrive.
6. Secure the injured person's belongings so they can be returned to them at a later time.

### **MENTAL HEALTH RESPONSE**

For urgent, non emergency mental health issues requiring immediate attention:  
Call CCA's mental health crisis hotline number: (415)-551-9344

In the event of a mental health emergency, dial 911.

### **SMALL FIRE**

NOTE\* A small fire is no larger than a standard sized garbage can. If the fire is larger than a standard sized garbage can do not try to put it out. Evacuate the building then dial 911 immediately. After reporting the fire to a 911 dispatcher, report the fire to CCA public safety.

In the event of a small fire, put it out with the fire extinguisher located by the JMA A2 Studio entrance.

#### **How to use an extinguisher:**

- P** - Pull pin
- A** - Aim hose at base of flame
- S** - Squeeze handle
- S** - Sweep from side to side

If your and/or someone's clothes are on fire:  
Smother small fires with fire resistant blankets found in two locations in the Jewelry/Metal Arts studio.  
Call 911 for any needed medical attention and inform public safety.

### **LARGE FIRE**

IMMEDIATELY EVACUATE the building and CALL 911. Once in a safe location, inform public safety of the fire and its location.

### **EARTHQUAKE**

1. If you are in the building, hide under a jeweler's bench or other sturdy table/structure, cover your neck and eyes, and wait for the shaking to stop.
2. If you are outside, stay outside. Move to an open area away from buildings, trees and power lines.
3. Visually assess safety before moving. Aftershocks may occur.
4. Avoid overhead fixtures, windows, and bookcases.
5. Help others who are in need and evacuate to a designated assembly area. Designated assembly areas will be discussed and identified during studio orientations.

### **ACTIVE SHOOTER**

1. Lock doors and windows.
2. Fortify and/or barricade glass doors & windows.
3. Hide from plain sight behind large items (if possible).
4. Turn off lighting, electronics, silence cell phones and other sources of noise.
5. Remain calm and quiet.
6. Call 911 from a landline if one is available (leave line open).
7. If a landline is not available Call 911 from a cell phone and explain the situation including the location of the shooter. The Jewelry/Metal Arts studio is located at 1111 8th Street, San Francisco, CA.

## **STUDIO ACCESS**

Access to the studio varies depending on the level of the student. No one student is allowed in the studio alone; there must be a minimum of two students to remain working in the studio, and one of the two must be an approved studio monitor. To become an approved monitor, students must complete J/MA-1 or equivalent and have taken the *Safety Test*. Completion of the test gives a student the ability to work and monitor outside of class time. Beginning students are only allowed in the studio after class hours if accompanied by at least one qualified monitor. If two students remain in the studio and one wishes to leave, both students must close down and leave the studio at the same time.

### **ACCESS HOURS**

Access hours are subject to change at any given time. Please refer to the Jewelry/Metal Arts CCA portal page for up-to-date access hours.

Week 1 to 12	8:00am to 12:00am
Week 13, 14, 15	8:00am to 2:00am
Spring/Summer break	Closed

## **STUDENT STUDIO MONITORS**

Studio monitors are upper level students who have completed J/MA-1 or equivalent and have passed the *Safety Test*. All students who have met these qualifications automatically become a studio monitor to those in the beginning classes. Studio monitor responsibilities include: opening and/or closing the studio, helping beginning students, and monitoring the wellbeing of the studio and its occupants. If a studio monitor is going to leave, all beginning level students must also clean up and leave the studio.

## **CLOSING THE STUDIO**

When leaving the J/MA Studio at night, always clean your workbench and any equipment used. Survey the studio for any problems, then shut down the studio.

### **JEWELRY/METAL ARTS STUDIO SHUT DOWN PROCEDURES**

- **Turn off the natural gas boosters**
  1. Turn off the power on the gas booster
  2. “Bleed” the line to remove natural gas from the red hose
  3. Turn the T-handle screw on the regulator counterclockwise until it is easy to turn

4. Shut off the main gas valves making sure the lever is perpendicular + to the gas pipe and hose.
- **Turn off the oxygen generator by switching the power off and closing the lever valve on the oxygen line.**
  - **Turn off the oxygen cylinders**
    1. Turn the valve on the oxygen cylinder clockwise until it stops turning.
    2. “Bleed” the line to remove oxygen from the green hose
    3. Turn the T-handle screw on the regulator counterclockwise until it is easy to turn
  - **Turn off the pickle pots using the main switch on the power strip marked “PICKLE ON/OFF SWITCH”**
  - **Turn off all ultrasonic cleaners**
  - **Turn off the steamer by toggling both switches down into the off “O” position.**
  - **Check to make sure the power strip to the etching equipment is off.**
  - **Make sure the blue enameling kilns are OFF. \*The kiln in the casting area can remain ON during a programmed burnout**
  - **Turn off the lights**
  - **Shut the doors**

## **TOOL BOXES**

Toolboxes with basic essential tools and a saw frame are provided for beginning classes only. Students who have completed JMA-1 or equivalent are expected to acquire their own basic tools. Students who borrow tool boxes are fully responsible for any lost, stolen, or damaged tools. In the event a tool is lost, stolen, or damaged, the student will be required to pay the studio manager for the replacement of the items. Any tools left unsecured in the studio are at risk of theft or damage. Students are responsible for locking and securing borrowed tools.

## **BENCHES**

All the jeweler’s benches are community benches and should be treated as such. While using a bench, treat it with respect. Avoid causing damage to the bench, flex-shaft, light, drawers and chair. Do not cut, file or sand into the bench. Avoid excessively cutting into the bench pin. Do not drill holes in the bench. When done working, clean off the surface of the bench and chair, empty the bench tray into the sweeps bin, and return the light and flex-shaft to an orderly placement.

The benches are for everyone to use. No student has exclusive rights to any one bench and cannot make another student move. If a student is going to be away from the studio for more than thirty minutes they must clean up and vacate their bench.



## **BENCH CHAIRS**

The rolling classroom chairs are for the classroom benches only. Do not move them from the Jewelry/Metal Arts A2 classroom. Do not stand on a rolling chair; find a step ladder. Do not move classroom chairs to any other studio in the building. This includes the JMA Annex and Senior Studio.

## **DRAWERS AND LOCKERS**

The studio has limited storage but allows one bench drawer per student. Upper division students are included in a lottery for upper cabinet space, but a student with an upper cabinet may be denied a drawer in cases of limited space. Drawers and lockers are to be labeled with name and semester and will be emptied at the end of each semester unless the occupant is registered as a returning J/MA student. Never put holes with screws or nails in or on lockers. Never put tape on the face of a drawer or cabinet. If a student needs additional or larger space, a locker in the hall may be available from the J/MA manager. DO NOT leave random items stored around the studio in corners, above cabinets, under desks, etc. They may not be there when you return. Faculty and staff are not responsible for lost or stolen items.

## **SINKS AND COUNTERS**

The sinks and counters are community spaces that everyone is responsible for. These areas are to be kept clean and free of debris and residual chemicals. Never put anything in the sink that may clog the drain. **Never** pour pickle, copper nitrate etching solution, or investment into the sink. Many of these chemicals are managed under strict hazardous waste disposal protocols and cannot be disposed of anywhere in the Jewelry/Metal Arts studio.

## **TORCHES**

Turning the torches ON and OFF is the responsibility of faculty, studio managers, and student monitors. However, **ALL** students are responsible for correctly operating the torches at each jeweler's bench.

### **TORCH SAFETY**

1. Before lighting a torch, clear the bench of any combustible materials, tie back long hair, and secure loose clothing.
2. When lighting a torch always use hand strikers or electronic strikers in the JMA studio. Light the natural gas first, then turn on the oxygen to adjust the flame. When turning the torch off do this in reverse, oxygen off, then turn off the natural gas.

### **ANNEALING TORCH**

The natural gas and compressed air annealing torch (located in the Hammer Room) is for annealing large non-ferrous metal sheets, bars, and wire. When turning the torch on, set the natural gas pressure to 3 psi or lower. Setting the natural gas higher than 3 psi will cause the gas booster to shut off.

## **SOLDERING TORCHES**

Each torch has an oxygen and natural gas shutoff valve located underneath the bench. Students are responsible for opening the valves before operating the torch and closing the valves when finished. Each torch uses compressed oxygen and compressed natural gas and the regulators are equipped with flashback arrestors.

### **Regulator settings for the soldering torches:**

**Oxygen** (green hose) 8-10 PSI

**Natural gas** (red hose) 8 PSI

## **CASTING TORCH**

The casting torch is oxygen and natural gas and generally used for melting quantities of metal for centrifugal or vacuum casting.

### **Regulator settings for the 55-1 MFN heating nozzle:**

**Oxygen** (green hose) 40 PSI

**Natural gas** (red hose) 10 PSI

## **PICKLE POTS**

J/MA currently has two heated pickle pots. We use a bath that consists of 20% concentrated citric acid and 80% tap water which removes oxides from the metal before or after soldering and annealing. The citric acid pickle is maintained by the studio manager and part of JMA's hazardous waste disposal.

1. When mixing acid, always add the dry acid to the water. NEVER add water to dry acid this could cause a chemical reaction and explosion.
2. Never put any steel binding wire or steel wool into the acid bath. Steel causes electrolysis with the copper that has leached into the bath and will electro-plate your work which is very difficult to remove.
3. Avoid getting acid on clothing. It can bleach and burn holes through certain fabrics.
4. Never leave the pickle pots on and unattended. The contents can evaporate, destroying the pickle pot. If the acid solution levels are low, add more water.
5. When adding dry pickle to the water, stir the water until the acid crystals are completely dissolved. This prevents a sludgy build up on the bottom of the pickle pot.

## **ETCHING**

J/MA uses a copper nitrate etching solution to etch copper, brass, nickel and silver. The copper nitrate solution consists of 20% copper nitrate and 80% distilled water and is maintained by the studio manager as part of JMA's hazardous waste stream. NEVER pour copper nitrate into the sink and NEVER dispose of paper towels, gloves, tape, or anything contaminated with copper nitrate solution in the trash. Students must complete an in class orientation before using the etching equipment.

## **FERROUS AND NONFERROUS METAL**

Ferrous metal contains iron; nonferrous metals do not contain iron. J/MA primarily uses nonferrous metal such as copper, brass, nickel, silver and gold. Much of our equipment is designed only for nonferrous metal.

1. Never use ferrous metal in the rolling mill. NO STEEL!
2. Never cut any ferrous metal with the step-shear, guillotine shear, bench shear, or Beverly shear.

## **POWER SANDERS**

The power sanders in the studio are used for metal only. Take special care to pay attention when using these machines. While they will allow for the quick removal of material, they are quick to damage your piece and/or injure the user. At no time may a student remove any safety guards or modify. Take care to avoid work getting caught in the machine or damaging the sanding belt. Do not ever press sharp points into the sanding surface in order to avoid cutting or ripping the belt. Do not operate sanders with frayed belts. If belts look damaged, inform the Studio Manager or instructor immediately. If water is used to cool the object being sanded, make sure to dry the wet area using a shop rag or paper towel after each use to prevent severe rusting.

## **ROLLING MILL**

The rolling mill is an essential metalsmithing tool. It is used for milling sheet, half round wire, square wire, roller-printing, embossing, and mokume gane. Take precautions to tie back loose hair and clothing. Keep hands well clear of moving rollers.

1. No steel! The rolling mill is for nonferrous metals only.
2. No wet metal! Make sure metal is clean and dry.
3. Do not roll metal with pickle on the surface, the acid will destroy the rollers.

## **HYDRAULIC PRESS**

The hydraulic press is primarily used for making small metal hollow forms using acrylic matrix dies and urethane. There are many other techniques such as blanking dies and conforming dies that are useful for production. Avoid damage to acrylic spacer blocks provided with the press. Also, the hydraulic press is the preferred method for using circle cutters with thick gauge metal. Your professors will instruct you in the uses of the press and the studio manager can assist you.

## **DRILL PRESSES AND FLEX-SHAFTS**

J/MA is equipped with a bench model press and 2 precision drill presses. Studio benches are equipped with individual flexible shaft units.

1. Always wear eye protection and have hair tied back, no loose clothing.
2. Have items to be drilled, supported, clamped, or secured properly.
3. Before you turn on the machine, focus and concentrate on what you're doing.
4. Do not run flex-shafts at top speeds for long periods of time. Most burs, cutting discs, sand papers etc. are designed to work at medium speeds. Rarely is there a reason for high speeds. The flex-shafts should be allowed to rest and cool down periodically.

## **SHEARS**

We have four shears in the J/MA studio. The step shear is located in A2. . There is also a large manual shear appropriate for cutting heavy gauge sheets in the Maker's Yard shipping container.. There is one bench shear in A2 that has a hole for cutting wire (this is the only shear that can be used to cut wire). The final shear is called a throatless shear or Beverly shear and is configured in a way that enables you to cut curves into a metal sheet.

1. Never cut steel or other materials with the J/MA shears. Non Ferrous metal only!
2. The step shear is rated up to 18-gauge thicknesses.
3. Never cut wire or sprues on any shear. This will damage the blades.

## **POLISHING MACHINE**

J/MA has a free standing polishing unit used for finishing and buffing jewelry. It is used with polishing compounds and cloth buffing wheels. Polishing compounds are abrasive and have different cutting levels. Generally we use Tripoli compound (moderate abrasive), White Diamond (fine abrasive) and Rouge as the final polish. The polishing machine is equipped with a HEPA filtration exhaust hood but students are still encouraged to wear an N95 mask when polishing.

1. Always have hair tied back and secure loose clothing.
2. Never attempt to polish wire or chain with the polishing wheel. VERY DANGEROUS!
3. Polishing compounds contain silica; wear a respirator when using buffing compounds.
4. Safety glasses or face shields are required when using the polishing machine.

## **HAMMERS, STAKES AND CIRCLE CUTTER**

J/MA has a sizable inventory of hammers and forming stakes. Hammers and stakes are for nonferrous metals only. The surface of these tools is polished so that the surface of your work will not be marred. Hammers should never come in contact with the polished surface of a forming stake. This will cause damage to both tools. There should always be non ferrous metal between the hammer and the stake.

There are also nylon tools that can be used to minimize the scarring of your metal. Additionally, A brass mallet should be used when using the circle cutters and dapping tools.

1. Never hit metal to metal (steel to steel).
2. No wet metal; keep steel surfaces free of water
3. Clean the surface of the tool and put all tools away when you are done.
4. Use a brass mallet for hammering out circles with the circle cutter or hitting dapping tools.

## **KILNS AND CASTING**

**Burnout Kilns** are used for burning out a wax medium and firing plaster investment. They are provided to students cleared by an instructor or Studio Manager. The programmable kilns are provided with written instructions and a logbook (clipboard) for logging cast information on the wall nearby. Burnout kilns operated by students are programmed and monitored by the students burning out. Do not expect another student, faculty or staff to act as a substitute for you without prior arrangements. Kiln log books should be labeled with burnout schedules and names of participating students. Do not leave kilns turned on when not in use. Avoid contact with fragile internal heating elements. The heating elements may cause electric shock or burns so thermal insulating gloves must **ALWAYS** be worn when operating the kilns. As soon as casting is complete, turn off the kiln.

**Enameling Kilns** are provided to students cleared by an instructor or Studio Manager. They are to be used for enameling purposes only. It is the student/s responsibility to program, monitor and shut down the kiln for each use. Kilns are to be logged/labeled with names of those responsible for the operation. Avoid contact with fragile internal heating elements. The heating elements may cause electric shock or burns so thermal insulating gloves must **ALWAYS** be worn when operating the kilns. Never leave an enameling kiln unattended for an extended period of time.

**Centrifugal Casting Machines** are used to cast molten metal into a fired investment flask using centrifugal force. They are provided to students approved by an instructor or studio manager. Safety with these tools is paramount. If improperly used, molten metal or parts may be flung from the machine causing severe injury or burns. It is important to use the proper crucible depending on which metal is being cast and to make sure the flask is installed securely and in the correct position before releasing. No student may operate a casting machine alone. As soon as all casting is complete, the centrifuge must be vacuumed and cleaned.

**Investment Vacuum/Vacuum Caster** is a machine used to both extract air from wet investment and/or vacuum molten metal into a fired investment flask. Using the vacuum to remove air from the investment can be messy and potentially cause damage to the machine. To avoid investment from overflowing the flask into the machine's vacuum port (causing damage) simply wrap a band of tape around the top of the flask to extend its height. This will contain the rising investment when vacuumed. If the investment gets down into the port the machine will have to be repaired. Be sure to clean up any residual investment from the machine after each use. It is important to take great care not to damage the tool, subsequently preventing others from investing. It is the student/s responsibility to leave equipment ready for the next operation. Any equipment damage must be reported to the Studio Manager or instructor for prompt repair.

## **BEAD BLASTER**

The bead blaster is located in the sanding/finishing room and is intended for nonferrous material only. Check with the studio manager if blasting anything other than clean, nonferrous metal. The bead blaster is filled with a fine abrasive garnet media that should not be inhaled. It is important to secure the access doors to keep dust from escaping. Turn on the light/filter switch before operation. It is required to wear a respirator if the door will be opened and closed excessively. Never put wet metal or materials into the blaster, as it will clog the circulation of the abrasive medium. Never point the nozzle towards the glass window to avoid etching the glass. Please keep hands clean, as many people will be putting their hands in the same gloves. Clean hands will also extend the life of the rubber. When finished be sure to turn off the air compressor and turn off the light/filter switch.

## **LAPIDARY EQUIPMENT**

Lapidary equipment allows students to cut and polish cabochons using precious and semiprecious gemstone materials. The lapidary equipment requires a unique orientation conducted by the Jewelry/Metal Arts Studio Manager. Orientations can be scheduled by appointment via email beginning week 3 of the semester.

## **PITCH**

This is a processed sap like medium used for chasing and repousse. When heating pitch use the heat gun at the annealing station in the Maker's Yard shipping container. It is important to avoid getting pitch all over the workstation (which is easy to do). Pitch should be completely removed from the piece using the heat gun before heating the metal with a torch. This is to prevent the pitch from dripping onto the soldering stones and pumice.

Certain tools have been designated for pitch in an attempt to reduce contamination. Avoid getting pitch on the heat guns by setting them down in an area free of hot pitch. Do not heat or burn this material without ventilation. Please take care to control this messy material.

## **WAX INJECTOR**

The wax injector is a tool used to heat and inject wax into a mold. Injecting wax into a mold can be messy and cause burns. It is the student's responsibility to monitor this tool until the process is complete. Do not leave unattended for extended periods of time. Turn off the power as soon as the work is complete.

## **J/MA GENERAL TOOLS**

All the tools and equipment of the studio (hand tools, power tools, etc.) are to be treated responsibly and with respect. J/MA tools can not be taken from the studio without approval from an instructor or studio manager. Additionally, certain tools require check out from the studio manager but are not to leave the J/MA studio. If a student wishes to take any tools home they must first have the approval of an instructor or studio manager. If there is a tool you find you need

a lot, this is the time to consider buying your own. While the studio offers many resources for the development of work in the studio, it is the student's obligation to acquire the tools and equipment necessary to create work outside and beyond their academic experience.

## **LASER WELDER, PULSE ARC WELDER, 3D PRINTERS**

The laser welder, pulse arc welder, and 3D printers are only accessible to upper level Jewelry/Metal Art students. Students must pass the safety test and complete a semester of JMA 2A or 2B to gain access to these tools. The laser welder, pulse arc welder and 3D printers require a unique orientation conducted by the Jewelry/Metal Arts Studio Manager. Orientations can be scheduled by appointment via email beginning week 3 of the semester.

## **MUSIC POLICY**

Though music is allowed in the studio, it is important to recognize the dangers involved in mixing music with machinery. The music allowed in the studio should never be above a comfortable speaking level. Loud music may prevent a student from hearing another student's warning, the potential warning sounds of equipment and machinery, fire alarms, etc. All music is not allowed during class time unless approved by the instructor. Outside class time music is allowed with the consent of all others present. Personal music is allowed outside class time but should not prevent a student from hearing studio activity and/or safety warnings.

## **BICYCLES**

Bicycles are not prohibited inside the J/MA studio. This is to ensure clear passage and to maintain a working environment free of hazards. Bicycles found in the department will be removed and placed outside the building. The J/MA department is not responsible for lost, stolen or relocated bicycles. All bicycles should be locked to one of the many designated bike racks located throughout the campus but never obstructing a pathway or stairway.

## **GRAFFITI AND VANDALISM**

Any student observed vandalizing school property, will be disciplined by the school, which may result in suspension or expulsion.

## **END OF SEMESTER**

All students must clean out their storage drawers or lockers by the end of classes unless approved by the studio manager. Graduating seniors must remove all their things no later than one week following the end of classes.

## **FUNCTION OF FACULTY, STAFF, AND STUDENTS**

**JMA PROGRAM CHAIR** is responsible for developing and maintaining the department curriculum and syllabi, monitoring assessments and grades, overseeing the department, faculty, staff and students and representing the department's interest on various councils and committees within CCA and the arts community at large. The Program Chair is also expected to demonstrate a sustained record of professional practice both nationally and internationally.

**JMA FACULTY** are responsible for their individual classes, designing projects or syllabi that function within the J/MA curriculum, assessments and grading. Faculty is expected to demonstrate a record of professional practice.

**JMA STUDIO MANAGER** is responsible for the day-to-day running of the department, maintaining classrooms, equipment and studios in order for classes to take place in a clean and safe environment. The studio manager coordinates operations within the department and the CCA community and is responsible for maintaining equipment and tools and in matters of safety has total authority. The studio manager has full responsibility over equipment and therefore has ultimate authority over use of equipment. The studio manager can teach non-academic subjects especially in areas of engineering and technical skills.

**STUDENTS (UNDERGRADUATE)** in the Jewelry/Metals program are required to participate in all educational activities pertaining to their area of study, adhere to the J/MA department curriculum, and be punctual to classes and lectures.

## **CONTRACT WITH JEWELRY/METAL ARTS DEPARTMENT**

To ensure that all students are aware of the Jewelry/Metal Arts Program guidelines and operations we require a signed copy of the J/MA Program contract. This document states that the signer has read the J/MA handbook and pledges to follow the principals stated within it. As a standard this contract will ensure the faculty and staff that all students in the department are aware and understand all the rules and regulations of the J/MA studio and program completely and equally. **The contract must be signed before a student can use any of the J/MA program facilities.**



**CALIFORNIA COLLEGE OF THE ARTS**  
**JEWELRY/METAL ARTS PROGRAM CONTRACT**

I have read and understand all the information, rules, regulations and guidelines in the CCA Jewelry/Metal Arts Program Handbook. Furthermore, as a participant in the J/MA Program I agree to uphold all rules outlined in the handbook and to respect its guidelines. I understand that faculty and staff have the right to restrict or take away my access to certain department privileges, areas, or equipment for any behavior that I may demonstrate that is contradictory to what is outlined in this document.

Signature \_\_\_\_\_ Date \_\_\_\_\_

(PRINT CLEARLY)

Full Name \_\_\_\_\_

Class \_\_\_\_\_ Phone # \_\_\_\_\_

Email \_\_\_\_\_