ASTU 3405.501  
Tuesday/Thursday 11:00 am – 1:50 pm  
Ana M. Lopez  (she/her/hers)  
Office: Art 209  
Office hours: Tuesday/Thursday 10 am - 11am  
Studio art office phone (940) 369-7671  
Email: ana.lopez@unt.edu

Course Description:

Design in metal using intermediate processes with an emphasis on industrial technologies. Prerequisites: Successful completion of ASTU 2401 and ASTU 2402.

Required Textbook:

Tim McCreight's *The Complete Metalsmith*, any edition

Recommended Textbooks:

*Jewelry Concepts and Technology* by Oppi Untracht  
*Silversmithing–A Contemporary Guide to Making* Brian Hill & Andrew Putnam  
*Electroplating and Electroforming for Artists and Craftsmen*, Lee Scott and Jay Hartley

Tools:

Students are required to procure the tools below as well as consumable materials needed for each demonstration and finished project to be determined in conjunction with their professor.  
- earbuds/headphones for watching video tutorials in class  
- 5" jeweler's saw frame  
- flat nose pliers  
- round nose pliers
• a whole whopping bunch of jeweler’s saw blades (size is your choice)
• wax for saw blade (beeswax preferred, candle will work)
• 8” half round file
• set of five needle files (round, flat, beret, square, triangular)
• scribe we will be making scribes!
• steel tweezers
• Rubber finishing wheels
• 2 cheap brushes for flux and yellow ochre
• dust mask
• eye protection/safety glasses if you do not wear glasses
• copper, brass, bronze, silver (as needed)
• silver solder - hard, medium, easy
• white paste flux
• fine steel wool - #0000
• abrasive paper - #220, #320, #400, #600 (a few sheets each)
• soft cloth for drying (like old dish towel)
• rubber cement
• sketch book
• Two reusable rigid plastic storage containers for turning in work

These supplies are recommended but not required:
• chain nose pliers
• ring clamp
• good-quality steel dividers that stay at the distance you set them
• duct tape

Additional suppliers and details may be found on Canvas.
There are a few extra kits containing what the beginners get in their drawers. If this is your first intermediate course you may inquire about these with Sarah. They will be distributed on a first come, first served basis.

Class Materials for Remote Instruction
Remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to the
following at the location in which they self-isolate to participate in fully remote portions of the class:

- Internet access
- A computer that can access and work with Linkedin Learning, Zoom and Tinkercad and that meets Canvas specifications: https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Canvas/ta-p/66
- A digital camera with which you can upload photos to Canvas. Phone camera is fine.
- You should also make every effort to have the required hand tools for this class with you while you are self-isolating

Information on how to be successful in a remote learning environment can be found at https://online.unt.edu/learn.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Objectives</th>
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<tbody>
<tr>
<td>Knowledge: What students should know</td>
<td></td>
</tr>
<tr>
<td>Understand the history, current issues, and</td>
<td>Acquire increasingly sophisticated knowledge of the history, current issues,</td>
</tr>
<tr>
<td>direction of the artistic discipline</td>
<td>and direction of metal art media, including functional knowledge of metals</td>
</tr>
<tr>
<td></td>
<td>techniques.</td>
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<tr>
<td>Place works in the historical, cultural,</td>
<td>Increased ability to place works in historical, cultural, and stylistic</td>
</tr>
<tr>
<td>and stylistic contexts of the artistic</td>
<td>contexts of metals art media.</td>
</tr>
<tr>
<td>discipline</td>
<td></td>
</tr>
<tr>
<td>Use the technology and equipment of the</td>
<td>Develop advanced knowledge of raw materials and technical procedures.</td>
</tr>
<tr>
<td>artistic discipline</td>
<td></td>
</tr>
<tr>
<td>Skills: What students should be able to do</td>
<td></td>
</tr>
<tr>
<td>Use the elements and principles of art to</td>
<td>Utilize the tools, techniques, and processes of metals to create work</td>
</tr>
<tr>
<td>create artworks in the artistic discipline</td>
<td>from concept to finished object.</td>
</tr>
<tr>
<td>Create artwork that demonstrates perceptual</td>
<td>Create works of metal art that demonstrate advanced perceptual acuity,</td>
</tr>
<tr>
<td>acuity, conceptual understanding, and technical skill</td>
<td>conceptual understanding, and technical skill.</td>
</tr>
<tr>
<td>Analyze and evaluate works of art in the</td>
<td>Participate in analysis and evaluation of works of metal art.</td>
</tr>
<tr>
<td>artistic discipline</td>
<td></td>
</tr>
<tr>
<td>Synthesis: How students will combine</td>
<td></td>
</tr>
<tr>
<td>knowledge and skill to demonstrate learning</td>
<td></td>
</tr>
<tr>
<td>Produce artworks demonstrating technical</td>
<td>Produce metal art objects demonstrating advanced technical skill and</td>
</tr>
<tr>
<td>skill and disciplinary knowledge</td>
<td>disciplinary knowledge.</td>
</tr>
<tr>
<td>Use knowledge of art and disciplinary</td>
<td>Participate in critique of own works and the works of others using the</td>
</tr>
<tr>
<td>vocabulary to analyze artworks</td>
<td>vocabulary of metals</td>
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</tbody>
</table>
Course Structure:

This class will meet two days a week for three hours. Projects will be presented with some or all of the following: image-based lectures, written directions, and technical demonstrations. Some videos from last year are available on Canvas to help refresh your memory of in-class demonstrations. There will be assigned due dates for samples, design work and finished projects. On project due dates, there will be an in-class critique in which all students are required to participate. Participation in group critiques includes the presentation of one’s own work, discussion of one’s own work, and giving constructive feedback about the projects of other classmates. Projects must be handed in at the start of the class during which they are due.

Course Requirements

Research Inspiration Presentation - students will read one randomly assigned chapter from How We Got to Now” and complete an inspirational presentation to share in class.

Machined Demonstration Piece - students will develop the skill of subtractive machining and produce their own scribe.

Electroforming piece - inspired by your How We Got to Now chapter, this will be executed in wax, electroformed and brought to conclusion through an additional process of your choosing.

Spun Piece - Students will develop the skill of metal spinning and produce a finished bowl which will be completed through a secondary process of their choice.

Threaded Piece - Students will produce a custom threaded connection (bolt and nut) that references what it binds.

*Digital 2D project - Utilizing 2d digital design and fabrication skills, students will produce one or more elements that take advantage of the 2D rapid prototyping
offerings of the fab lab, which will be completed through additional processes of their choice. This will result in a conceptual “Statement Necklace.”

*3D Transformation Project - Students will create an original physical form, generate a 3d digital file from it, alter it within a 3d digital program and cast this element in metal. The resultant cast element will have at least one additional process incorporated into its makeup and result in a thoughtfully finished piece.

Contemporary maker - Students will research a contemporary practitioner who utilizes one or more of the processes being demonstrated in this class. They will share what they have learned by writing a one-page summary and giving a five-minute in-class presentation.

Final exam - will be based on technical terminology and procedures covered over the course of the semester.

*The digital project grades will be determined by the following four criteria:

- Craftsmanship/Functionality
- Composition
- Creativity/Concept
- Complexity

Rubrics for the evaluation of all projects are available on Canvas.

**Student Evaluation**

The final grade will be composed of the following elements in these percentages:

- Research Inspiration Presentation 5%
- Machined Piece 10%
- Electroformed Piece 15%
- Spun Piece 10%
- Threaded Piece 10%
- Digital 2D Project 20%
- Digital 3D Project 20%
- Contemporary maker presentation 5%
- Final Exam 5%
Written or recorded feedback will be given to each student after pieces have been evaluated if the piece was turned in on time. It is important that assignments are present for the class discussion in order that we may all benefit from one another’s different perspectives. Samples will be evaluated by the degree to which they achieve the technical prescriptions.

Proposed Semester Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Planned activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 8/26</td>
<td>Oral presentation demonstration. <strong>10 electroforming sketches due.</strong> Students watch Illustrator tutorials with earbud while faculty discusses sketches individually. Machining demonstration if time permits.</td>
</tr>
<tr>
<td>F 8/27</td>
<td>Closing reception <em>Wall of Air</em>, Fort Worth Community Art Center 6-8pm</td>
</tr>
<tr>
<td>T 8/31</td>
<td><strong>Students give oral presentations.</strong> Machining demonstration if not completed previously. Begin work on first demonstration rotation: Group 1 models wax for electroforming. Group 2 begins to machine scribes. Unoccupied individuals should continue watching Illustrator training videos.</td>
</tr>
<tr>
<td>R 9/2</td>
<td>Assign FabLab safety training. Assign statement necklace. Group 1 models wax for electroforming. Group 2 begins to machine scribes. Unoccupied individuals should continue watching Illustrator training videos or (if training complete) begin their sketches for the Statement Necklace.</td>
</tr>
<tr>
<td>T 9/7</td>
<td><strong>Meet in FabLab Demonstration Room ART 366 for laser cutting demo. Sketches for Statement Necklace due for in-class discussion.</strong> Continue work on first round of demonstrations.</td>
</tr>
<tr>
<td>R 9/9</td>
<td><em>(Fab lab is open from today)</em> Students work on electroforming, machining or vector design.</td>
</tr>
<tr>
<td>T 9/14</td>
<td><strong>Students should be done with vector creation</strong> and making appointments for the FabLab. Continue with electroforming, machining and Statement Necklace.</td>
</tr>
<tr>
<td>R 9/16</td>
<td>Work day. Skill Teams will meet briefly to confer.</td>
</tr>
<tr>
<td>Date</td>
<td>Planned activities</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------------</td>
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</tbody>
</table>
| T 9/21  | Group 1 - Electroformed piece due.  
          | Group 2 - Machined scribe due.                                                     |
| R 9/23  | Statement Necklace prototype due for in-class group feedback.                      |
| T 9/28  | Work day.                                                                           |
| R 9/30  | Group 1 - Machined scribe due  
          | Group 2 - Electroformed piece due                                                   |
| T 10/5  | Work day.                                                                           |
| R 10/7  | Statement Necklace due.                                                            |
| T 10/12 | Demonstration of spinning, tap and die, and 3d scanning.                            |
| R 10/14 | Work day.                                                                           |
| T 10/19 | Work day.                                                                           |
| R 10/21 | Contemporary Maker presentation assignment introduced. Sign up for one or          
          | contact Ana about an alternative choice.                                            
<pre><code>      | Work day.                                                                           |
</code></pre>
<p>| T 10/26 | Work day. You should be printing your digitally altered 3d element.                |</p>
<table>
<thead>
<tr>
<th>Date</th>
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</tr>
</thead>
<tbody>
<tr>
<td>R 10/28</td>
<td>Work day. You should be printing your digitally altered 3d element.</td>
</tr>
</tbody>
</table>
| T 11/2 | Group 1: Spinning project due  
Group 2: Threaded project due  
You should be printing your digitally altered 3d element. |
| R 11/4 | Work day. You should be printing your digitally altered 3d element.                |
| T 11/9 | Sprued 3D print due. Invest.                                                       |
| R 11/11| Ana casts the 3d prints. Students give presentations on Contemporary Makers.       |
| T 11/16| Group 1: Threaded project due  
Group 2: Spinning project due                                                        |
| R 11/18| Work day.                                                                           |
| T 11/23| Individual, out of class research                                                   |
| R 11/25| Thanksgiving - No class                                                             |
| T 11/30|                                                                                   |
| R 12/2 | 3D Transformation piece due for in-class discussion.  
Review for final exam.                                                             |
Class Participation Expectations

You are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that everyone has an opportunity to gain from time spent in class, unless otherwise approved by the instructor, you are prohibited from using cellular phones or beepers, checking your email or surfing the internet, updating your social networking sites, eating or drinking in class, making offensive remarks, reading newspapers or magazines, sleeping or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in, minimally, a request to leave class, which will be counted as an unexcused absence.

Attendance and Late Work Policies:

Attendance is mandatory for all class times unless otherwise announced by the instructor. Attendance will be taken at 11:05. Students who arrive after 11:05 will be counted tardy, which is the equivalent of 1/3 of an absence. Students who arrive after 11:05 must ensure that the instructor has noted their arrival for the purpose of attendance taking. Students who miss more than an hour of class will be counted as absent for that day. Each student is allowed no more than three unexcused absences. Each additional unexcused absence will result in the student’s final grade for the course being lowered by one third of a letter grade.

When absent, students are still responsible for material covered, announcements made, handouts given, and amendments made to course requirements. Late work must be turned in at the next class the student attends. Late work may be subject to a penalty of 10% deducted from the assignment’s value per class day the work is late if the reason for its tardy delivery has not been excused.

It is important that you communicate with the professor prior to being absent, so we can discuss and mitigate the impact of the absence on your attainment of course
learning goals. Please inform the professor if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community.

If you are experiencing any symptoms of COVID-19 please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Team at COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.

Excused absences for temporary illnesses or extenuating circumstances will be processed through the Dean of Students office. The following is from the Dean of Students website:
https://deanofstudents.unt.edu/resources/temporary-illness

Students may request temporary illness/disability assistance by completing the following steps:

• Provide the Dean of Students Office with a letter from a medical doctor, or other qualified professional, which must contain the following:
  • A diagnosis and how the diagnosis impacts your academic pursuits
  • Duration of illness, from the time it began to impact you academically and until the expected recovery
  • Documentation may also include recommendations for academic adjustments (e.g. excuse absences, tardiness leniency, extend time for tests)

• After receiving the medical documentation, the Dean of Students Office will send an email to your professors or provide you with an absence verification slip to take to your professors.

• It is your responsibility to discuss your absence with your professors and work out the details of the adjustments.

Remember, your professors have no obligation to make temporary adjustments. If they decline to allow adjustments you may need to drop the course, ask for an incomplete (i) (if allowed), or repeat the class in the future.

The UNT Policy on attendance may be found here:
While attendance is an important part of succeeding in this class, your own health, and those of others in the community, is more important.

Face Coverings
UNT encourages everyone to wear a face covering when indoors, regardless of vaccination status, to protect yourself and others from COVID infection, as recommended by current CDC guidelines. Face covering guidelines could change based on community health conditions.

Class Recordings & Student Likenesses
Synchronous (live) sessions in this course may be recorded for students enrolled in this class section to refer to throughout the semester. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

Academic Integrity
According to UNT Policy 18.1.16, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, falsification, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

Course Content
Content in the arts can sometimes include works, situations, actions, and language that can be personally challenging or offensive to some students on the grounds, for example, of sexual explicitness, violence, or blasphemy. As the College of Visual Arts and Design is devoted to the principle of freedom of expression, artistic and otherwise, and it is not the college’s practice to censor these works or ideas on any of these
grounds. Students who might feel unduly distressed or made uncomfortable by such expressions should withdraw at the start of the term and seek another course.

ADA Accommodation

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one’s specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website at disability.unt.edu.

Health & Safety Area Specific Information: Metalsmithing & Jewelry

1. Hazards of Media (inherent)

Chemicals, Metal Etching and Plating
Chemicals used for patinas and plating are toxic and corrosive. There are mild acids and chemicals that are not compatible. Electrical currents are used in some etching/plating processes.

Enamels
Enamels contain silica and heavy metals. Enameling kilns can damage eyes over prolonged unprotected use (IR 3 glasses are recommended for enameling and are available in the studio). High temperatures are used for enameling, be cautious of hot surfaces and objects.

Epoxy, Natural and Synthetic Polymers, Resins
Epoxyes, resins, glues, plastics/acrylics and body fillers produce toxic fumes, skin irritants and generate both toxic and liquid hazardous waste. All of these (including some stones) can contain silica causing toxic fumes when sanded. Some polyester resins, plastics, urethane rubbers, and silicon rubbers are used in mold making and can be even more toxic and irritating to the skin when in liquid form.

Metalworking
Metalworking produces toxic and/or irritating dust and fumes. Welding produces toxic fumes and radiates UV light. Soldering produces toxic, carcinogenic fumes from flux. Be cautious of hot objects. Soldering bricks and pumice rocks can create irritating dust. Corrosion products used in patinas (oxides, carbonates, sulfides, or sulfates) produce toxic fumes and irritating dust. Pickle is corrosive and toxic. Flammable gases are used for soldering and annealing metal. Buffing and grinding equipment involve high speed rotating disks/wheels that are dangerous if not used properly. Lifting heavy equipment and repetitive processes can lead to strain injuries. Electric tools cause vibrations, which can also lead to strain on the muscles. Noise from percussive equipment and tools can damage hearing.

Metal Casting Techniques
Metal casting produces toxic fumes. Investment contains silica and produces irritating dust when mixed. Casting torch will damage eyes if proper IR glasses/goggles aren’t worn. Be cautious of hot surfaces and objects.

Stones, Plaster, and other Dusts, Clays and Powders
Minerals in stone, ceramics, glass, and abrasives (e.g. flint, steatite, dolomite, fluorspar stone, silica, garnet) produce toxic and irritating dust. Plaster is calcium sulfate, which produces toxic, irritating dust during mixing.

Spray Lacquer, Paint, Stains, Solvents, Paint Stripper and other Aerosol Sprays
Spray paint, stains, paint strippers and other aerosol sprays produce toxic fumes, skin irritants and generates liquid hazardous waste in excess paint and solvents used in cleaning (acetone, mineral spirits).

Solvents
Solvents are flammable and toxic. All solvents can cause defatting of the skin and dermatitis from prolonged or repeated exposure. Turpentine can also cause skin allergies and can be absorbed through the skin. Acute inhalation of high concentrations of turpentine or mineral spirits can cause narcosis (dizziness, nausea, fatigue, loss of coordination, coma, etc.) and respiratory irritation. Chronic inhalation of turpentine can cause kidney damage and possible respiratory allergies. Chronic inhalation of large amounts of mineral spirits could cause brain damage. Odorless mineral spirits or turpenoid, which have had the aromatic hydrocarbons removed, are less hazardous.

Pitch, Wax
Pitch is flammable. Overheating pitch degrades it and releases toxic fumes. Never use a torch to heat pitch. Wear eye protection and gloves when heating or breaking pitch. Overheating wax can release flammable vapors and irritating, toxic fumes. Boiling wax is dangerous and can cause burns.

2. Best Practices

• Only use tools and equipment that instructors have demonstrated during class time.
• If you are ever unsure or uncomfortable using a tool or machine please talk to an instructor or technician. Plan ahead and ask your instructor to demonstrate the tool/machine during class time so that you are properly trained and comfortable to use it on your own during open studio hours.
• Wear the proper safety equipment for each process.
• Wear appropriate personal protection while working at your bench. Eye protection should be worn while using a jeweler’s saw, files or flex shaft (prescription glasses are suitable). Dust masks should be worn when using abrasives in flex shaft.
• Wear appropriate gloves when using any type of solvent, acid or chemical. (Long chemical gloves are in the Chemical Room; disposable nitrile gloves are provided throughout the studio.)
• Read and follow posted signs about equipment usage, safety gear and clean-up.
• ALWAYS clean up messes produced by any material or practice to prevent from exposing others to the hazards of that material and/or practice. Use alcohol to clean up resin/mold making materials. Use a wet sponge to clean up enameling areas.
• Use yellow sorbent pads or spill kit to soak up liquid/chemical spills. If chemical is considered hazardous, place soaked pads in plastic bag or bucket, label and notify area technician. Area of spill should be cleaned with mild detergent and water.
• Ear protection is advised when forging, raising, etc. Foam earplugs are provided by the studio.
• Wearing a dust mask when enameling is advised. Enamels contain silica and heavy metals.
• Avoid contaminating enamels and powder coat with other colors, firescale, other debris.
• The powder coat oven should not be used for any other purpose.
• Do not change programs of Casting or Enameling Kilns. Alert an instructor or technician if a program has been changed.
• Denatured Alcohol, solvents, spray lacquer and finishing wax must be stored in the Flammable Cabinet. Never store alcohol lamps with alcohol in them. When pouring Denatured Alcohol, place lamp or container in sink and use a funnel to minimize spills.
• Flammable gases are located at soldering and annealing stations. Only use gases through the control of torch handles. Torches may only be used at designated soldering/annealing stations.
• Flammable items, including paper towels, pitch and wax, may not be used at soldering/annealing stations.
• Use ventilation for tasks that create fumes, including soldering, pickling and enameling.
• There are many hazardous chemicals stored in the Chemical Room as well as equipment that can cause you harm if used improperly. Return chemicals to the proper storage place. Notify area technician of missing labels or damaged containers. All containers and funnels should be thoroughly rinsed and dried before and after use. If a container or other item has a dedicated chemical use, do not use it for any other purpose.
• Label patina containers with your name, type of patina, date and class. Store container in Blue Corrosive cabinet. See area technician about proper disposal of chemicals.
• Do not leave hot plates unattended, unplug when finished using. Never allow patina or wax to boil. Use heat guns to heat pitch.
• Use copper tongs for taking work in and out of pickle solution. Avoid getting pickle on skin or clothing, avoid splashes and spills. Use baking soda to neutralize pickle spilled on clothing.
• Do not pour pickle solution down sink drains. Dispose of used pickle by carefully pouring into collection container (labeled ‘Spent Pickle’). Use a funnel to pour and wipe up any spilt liquid.
• Do not leave Liver of Sulfur out. If the solution can still be used, pour into the labeled brown bottle. If the solution is spent, pour in collection container (labeled ‘Spent Liver of Sulfur’).
• Sharp objects, including X-acto and saw blades, should be disposed of in approved ‘Sharps’ container. Metal should be disposed of by placing into scrap bins, never regular trash.
• Skin and eye irritation can occur when using mild acids. If acid (including pickle) come in contact with skin, wash the area with soap and water. If acids come in contact with eyes, rinse eyes at an eyewash station for 15 minutes. Eyewash stations are located at the sinks in room 170 and 172. If irritation persists, seek medical attention.
• When working in the studio outside of class time, be aware of other students in other areas of the metals studio. Identify the monitor on duty in case you have a question or emergency. If you are the last to leave the studio, turn off all equipment (the only exception is kilns being used for casting). Properly turn off soldering torches and bleed hoses.
• Monitors will unlock studio rooms 174-178 during their shifts. Rooms should be locked at the end of the night or if no monitor is available.
• Monitors and graduate students are not to not share lock combinations with other students.
• Put away tools when you are done using them so that they are available for other students.
• Use sign-in sheets for processes including electroforming, etching, and forging. This allows other students to use the equipment in shifts. Failure to sign-in and follow rules may result in loss of privileges to use that equipment.
• Do not use spray lacquer or paint in spray booth only, never in the Metals studio.
• Do not use damaged tools or equipment. Report damages immediately to an instructor or technician. If damages occur outside of class time, place a visible sign on the damaged equipment.
• Drink containers must have lids. Food is not allowed in the studios, go to designated area to eat.

3. Links to more information on Health & Safety for the discipline

https://info.risd.edu/environmental-health-safety/#environmental-health-safety
https://www.ganoksin.com/article/potentially-harmful-metalsmithing-substances/
http://www.silversmithing.com/1safety.htm
https://www.depts.ttu.edu/art/Programs/graduate/studio_art/jewelry/includes/jewelry_studio.pdf

Chemical Safety:
https://ehs.princeton.edu/laboratory-research/chemical-safety

4. Area Health & Safety Rules
All users of the studio classrooms are expected to follow studio area rules at all times. If you have any questions, ask your instructor or area technician.

• Follow all CVAD Health and Safety handbook guidelines (the handbook should be reviewed by your instructor and can be found here: https://art.unt.edu/healthandsafety).
Follow the CVAD Waste Management Chart in the classroom and other health & safety guidelines posted.

- In case of emergency, call campus police at (940)565-3000 or call 911.
- File an incident report (forms may be found in the CVAD H&S handbook and in the main office) within 48 hours of the event.
- Do not prop classroom doors. Doors are to remain closed to ensure the building HVAC and ventilation work properly.
- No food or drink in the studio
- Practice best practices for material handling. If you have questions about a material, ask your instructor for guidance.
- Do not spray any aerosols in any CVAD classroom/studio/doorway or exterior wall/floor. Use the spray booths provided.
- No consumption of alcohol or smoking is permitted in the studios.
- Clean up after yourself- wipe down counters and benches with a wet sponge, sweep or vacuum floors.
- Do not block doorways or block access to lights.
- Do not remove furniture from rooms or borrow furniture from rooms without permission from the area coordinators.
- Do not create “daisy chains” with multiple electric cords.
- No hazardous materials should be poured down sinks.
- Store all flammables in the flammable cabinet. Keep flammable cabinet closed at all times.
- First aid kits are found in each studio. Notify your instructor or area technician if supplies are low.
- Report any safety issues IMMEDIATELY to your instructor or area technician.
- All courses must engage in an end of the semester clean up.
- Children, pets and non-enrolled persons are not allowed in the studio for their own safety.
- Follow all appropriate safety procedures as demonstrated by instructor. Do not use any tools or equipment that you have not been trained on.
- Always wear closed-toe shoes. Tie long hair back and avoid wearing loose clothing or dangling jewelry (hazardous with power tools and soldering).
- Studio Monitors are not allowed to teach new techniques or supervise casting.
- Follow proper safety procedures for turning gas on and off at soldering and annealing stations.
- Wear a dust mask when appropriate (enameling, sand blasting, powder coating, etc.).
- Eye protection should be worn during most processes. Safety glasses, face shields, tinted kiln and casting goggles are available throughout the studio.
- If you are the last person to leave the studio, turn off any equipment. If you are unsure about anything ask your instructor, technician or a studio monitor.
- Do not use Chemical Room unless under special instruction. Refer to posted signs for proper procedures, safety and clean-up.
- Turn ventilation hoods and snorkels on for processes such as soldering, pickling, enameling, casting, etc.
- Only use Buffing Room equipment if you have been trained by an instructor. Follow posted directions on safety and clean-up.
- Do not enter the Graduate Studio without permission.
- Safety Data Sheets (SDS) for studio materials are maintained by area technician.
- Follow the CVAD CONTAINER POLICY (see below)

There are 3 types of labels used in CVAD.

**All containers must have a label identifying the contents at all times.**

**UNIVERSAL LABELS (while chemical is in use):** All secondary/satellite containers for hazardous materials (or what might be perceived as hazardous - i.e. watered-down gesso, graphite solutions, satellite containers of solvents, powders, spray paints, fixatives, oils, solvents) must be marked with content, your name and the date opened. All unmarked containers will be disposed of with no notice. Labels can be found in the studios. All containers must be marked with your name, contents and date opened.

**UNIVERSAL WASTE LABELS (when material is designated as waste):**
All containers solely containing a universal waste must have a universal waste label identifying the contents as “Universal Waste - (type of universal waste)” that are designated as waste for proper disposal. The label must also include the date the first item of universal waste entered the container.

**HAZARDOUS WASTE LABELS**
All hazardous waste containers must have a label identifying the contents as hazardous. Labels should include all constituents in the waste mixture as well as an approximate percentage of the total for that item. All constituents should equal 100%.

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**Emergency Notifications and Procedures**

UNT Emergency Guide: http://guidebook.com/app/emergency/guide/unteitmerge...

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to the course management system for contingency plans for covering course materials.

**Sexual Discrimination, Harassment and Assault**

UNT is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) has experienced or experiences any of these acts of aggression, please know that you are not alone. The federal Title IX law makes it clear that violence and harassment based on sex and gender are Civil Rights offenses. UNT has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more.

UNT’s Dean of Students’ website offers a range of on-campus and off-campus resources to help support survivors, depending on their unique needs: http://deanofstudents.unt.edu/resources_0. UNT’s Student Advocate she can be reached through e-mail at SurvivorAdvocate@unt.edu or by calling the Dean of Students’ office at 940-565-2648. You are not alone. We are here to help.

**Course Risk Factor**

According to University Policy, this course is classified as a category three course. Students enrolled in this course are exposed to significant hazards which have the potential to cause serious bodily injury or death. In this class, those risks are related to the use of power tools, chemical substances, open flames and similar metalworking equipment. Students enrolled in this class will be informed of potential health hazards or potential
bodily injury connected with the use of materials and/or processes and will be instructed about how to proceed safely.

Students who are pregnant or will become pregnant during the course of the semester are advised to check with their doctor immediately to determine if any additional risks are reason to postpone this course until a later semester. Upon request, your professor will provide a list of chemicals and safety issues for your doctor to review. Material Safety Data Sheets are available on all chemicals. It will be up to you and your doctor to determine what course of action to take.

Financial Aid Satisfactory Academic Progress

A student must maintain Satisfactory Academic Progress (SAP) to continue to receive financial aid. Students must maintain a minimum 2.0 cumulative GPA in addition to successfully completing a required number of credit hours based on total registered hours per term. Students cannot exceed attempted credit hours above 150% of their required degree plan. If a student does not maintain the required standards, the student may lose their financial aid eligibility.

If at any point you consider dropping this or any other course, please be advised that the decision to do so may have the potential to affect your current and future financial aid eligibility. Please visit http://financialaid.unt.edu/satisfactory-academic-progress-requirements for more information about financial aid Satisfactory Academic Progress. It may be wise for you to schedule a meeting with an academic advisor in your college or visit the Student Financial Aid and Scholarships office to discuss dropping a course before doing so.

The instructor retains the right to change the syllabus at any time with or without notice.
Course Contract

I ___________________________(print) acknowledge that I have read the course syllabus. I understand the course structure, grading and attendance policies as well as the risk factor rating. I hereby agree to the syllabus and its provisions.

Course number and section : ART 3405.501
Risk Rating: 3

Student e-mail address that you check regularly:

________________________________________________________________________

Signature

________________________________________________________________________

Date

________________________________________________________________________

Faculty Name: Ana M. Lopez

Signature

________________________________________________________________________

Date
PERMISSION TO USE STUDENT ARTWORK

We would like to use your work to spread the news about the amazing art made at CVAD! Please help us put your talent on display by allowing us to photograph and exhibit your art on CVAD’s social media, websites and paper advertising. Thank you!

I hereby grant permission to UNT and CVAD to use, copy, reproduce, publish, distribute or display any and all works created in my classes while at UNT. Additionally, I consent to the use of my name to coincide with images of my artwork.

1. Scope of Permission. This permission extends to the use of the described work and images of such work: (1) for academic purposes in order to demonstrate examples of student work to current and future UNT students; (2) for public display in the galleries or on the campus of the UNT or on the UNT website; (3) for promotional materials created by UNT in all forms of media now known or later developed, including but not limited to exhibition catalogues, direct mail, websites, advertising, social media, and classroom presentations. My permission is on-going, but can be revoked by giving the professor of record for this course written notice of my wish to revoke permission and use of any images of my artwork. UNT will have three months from the date of my notice to stop all use agreed with this permission.

2. Certificate of Ownership. I am the owner of all work submitted and the work is not subject to any restriction that would prevent its use consistent with this permission. All aspects of the work are original to me and have not been copied. I understand that as owner of the work I have the right to control all reproduction, copying and use of the work in accordance with U.S. copyright laws.

3. Privacy Release. I hereby authorize and consent to the release, maintenance and display of my name if necessary and any other personally identifiable information that I have provided in connection with the work and its use described in this Agreement.

4. Signature. By signing below I hereby grant the permissions indicated above. I understand that this grant of permission relates only to the use of the described work. This is not an exclusive right and I may sell, give or otherwise transfer the rights to such work to others on a non-exclusive or exclusive basis. However, in the event that I do sell, give or otherwise transfer ownership or the exclusive right to use my work to another party, I will notify UNT immediately in writing through the professor of record for this course. UNT will have three months from the date of my notice to stop all use in accordance with this permission.

Printed name: __________________________________________________________

Signature: _____________________________________________________________

Date: ________________________________

Name of Course: ________________________________________________________