ART 3715 Sculpture: Metals
SP 2014 3 credit hours
University of Florida School of Art + Art History
Celeste Roberge, Professor
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MW PERIODS 5,6,7
Room B-1 FAC and Metal Shop
Office: B-3 Office Tel: 273-3086
Office Hours: M 2:45-3:15pm, W 11:00-11:30 am, or by appt.

SYLLABUS

SCULPTURE: METALS is an introduction to materials, methods and concepts of fabrication in metals with a primary focus on steel along with an introduction to lost-wax bronze casting. You will explore the material properties and expressive potential of steel and many of the fabrication processes used in shaping metals. You will combine the use of materials and methods with ideas that trace the history of twentieth century sculpture in metals with a particular focus on early 20th century modernism, post-war abstraction, minimalism and post-minimalism.

Emphasis is placed on materiality, the formal properties of a sculpture, the technical processes used in the making of a metal sculpture, and the achievement of a reasonable level of mastery of the technical aspects of metal fabrication. You will be introduced to gas welding, brazing, arc welding, mig welding, tig welding, mechanical means of fabrication involving the use of the metal band saw, brake, roller, and cold methods of fabrication such as riveting and bolting. The final project will introduce you to the ancient process of lost-wax bronze casting using the contemporary technology of ceramic shell mold-making.

COURSE EXPECTATIONS:

CELL PHONE AND COMPUTER USE IN CLASS IS NOT ALLOWED UNLESS IT RELATES SPECIFICALLY TO THE PROJECT YOU ARE WORKING ON FOR THE METALS COURSE.

ATTENDANCE is required at all classes, critiques, and field trips. More than three absences over the semester will result in a grade reduction of 1/3 of one letter grade of your semester average for each accumulation of more than three absences. For example: if you have 4 absences and your semester grade is a B+, your grade will drop to a B; if you have 7 absences your grade will drop to a B-; and so on. Three significantly late arrivals/early departures (10 minutes or more) will constitute one absence. You are expected to work on projects during class time and outside of class during the times when the Metal Shop is open and under the supervision of either the Teaching Lab Specialist or a Shop Monitor. You are not allowed to work in the Metal Shop without supervision. You must always sign-in, both during class time and at all other times. Working at home is not considered attendance. Attendance at all **critiques** is absolutely **mandatory**. If you are not present for critiques your project will not be critiqued by the class as a whole. **Please be in class on time because all announcements, lectures, videos, demonstrations and presentations will take place at the beginning of class.**

PROJECTS must be completed by the due dates. Due dates will only be delayed for the class as a whole, not for individuals. Projects completed late will receive a grade reduction commensurate with the reason for the lateness and with the extent of the lateness. A schedule of due dates will be given out with each project.

CRITIQUES are an essential part of the practice of art and require a strong commitment on the part of all students and the professor. Critique is the educational equivalent of exhibition. Therefore, work must be ready for critique and you must be in attendance at critique. ACTIVE AND THOUGHTFUL participation is required. Physical attendance alone does not constitute participation in critique. You will be graded on the quality of your participation in critique.

READINGS and visual presentations are required with each project and responses to these activities are due in writing, for discussion, or for presentation on the date assigned. Since readings are selected because of their relationship to the concepts underlying each project, they must be completed at the beginning of each project and, for that reason, written responses must be completed in a timely fashion. Late responses will receive a reduced grade. In no case will late responses to readings be accepted **after** the project itself is due.

SUMMARY OF THE PROJECTS:
Sculpture: Metals consists of three projects, three sets of readings, and three critiques.
PROJECT #1: The Wall
PROJECT #2: The Tower
PROJECT #3: Lost-Wax Bronze Casting
In addition you are required to complete all the welding exercises assigned. You may not proceed with the projects until you pass the welding exercises. This requirement is pass/fail.

PROJECT EVALUATIONS:
Your work will be evaluated on the basis of the following criteria of requirements and expectations:

- Fulfillment of the project objectives as outlined with each project description
- Attention to materiality and craftsmanship.
- Mastery of welding and other techniques.
- Conceptual and material inventiveness
- Overall aesthetic and conceptual quality of the work
- Physical and mental investment: The sweat factor
- Due diligence in matters of safety. Repeated safety violations may result in dismissal from the course.

FINAL SEMESTER EVALUATIONS will be averaged as follows:

Project #1-The Wall	30%
Project #2-The Tower/The Column	30%
Project #3-Lost Wax Bronze Casting	20%
Technical Mastery: The application of your knowledge to each project and welding exercises	10%
Reading responses & discussions, critique participation & contribution to class	10%
Attendance	See above and below

GRADING FORMAT IS:

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	.67	0	0	0	0	0

SEE: http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html
***Please Note: A grade of C- or below will not count toward major requirements.**

HEALTH & SAFETY (SEE APPENDIX F TO THIS SYLLABUS)

SAFETY IS THE MOST IMPORTANT REQUIREMENT OF THIS COURSE. YOU MUST OBEY ALL SAFETY INSTRUCTIONS OR YOU WILL BE ASKED TO LEAVE THE CLASS.

RESPIRATOR POLICY: YOU MUST FOLLOW THE RESPIRATOR POLICY FOR THE SAAH. SEE BELOW AND APPLY FOR USE OF N95 RESPIRATOR that you will provide for yourselves.

YOU MUST review the SA+AH H&S policy and handbook
http://www.arts.ufl.edu/art/healthandsafety
YOU MUST complete a H&S STUDENT WAIVER FORM (available next to the copier in the SAAH office) and on-line (see address above). Waivers must be turned into the SAAH Director of
Operations before the end of the 2nd week of classes. YOU CAN process these through your instructor.
YOU MUST READ THE SECTION OF THE H&S POLICY MANUAL ATTACHED TO THIS SYLLABUS.

***PROPER DRESS IS REQUIRED WHENEVER YOU ARE IN THE METAL OR WOOD SHOP.**

***YOU MUST WEAR CLOSED TOE LEATHER SHOES IN ALL AREAS OF THE METAL SHOP.**

WHAT IS THE PROPER DRESS REQUIRED FOR THE USE OF THE METAL SHOP:

Leather boots, shoes, or leather sneakers are required whenever you are in the Metal Shop. You absolutely may not wear sandals or any open-toe shoes in the Metal Shop at any time. Leather sneakers are acceptable instead of leather shoes, however cloth/synthetic sneakers are not acceptable because they will burn. I strongly recommend that you leave an extra pair of denim pants, a denim or cotton shirt, and a pair of leather shoes in your locker in the sculpture area so that you will always have something appropriate to wear. If you cannot work because you do not have the proper clothing and shoes, that will be considered an absence.

Caution: The shop can be especially cold in January since it is not heated. Given this, you should also leave a warm jacket in your locker. Sweaters and fleece nay be worn under your denim or leather jacket but do not wear a sweater as an external garment while welding as it may burn.

Denim and leather are the most protective materials to wear in the shop. No knits allowed as outerwear.

Long sleeves and long pants: Your skin is susceptible to ultraviolet light produced by the Arc, Mig & TIG welders. Whenever welding, you must protect your skin from this cancer-causing light. Always wear **long sleeves and long pants** when arc, mig, and tig welding.

Always protect your eyes with **dark lenses** in the form of goggles for oxyacetylene welding and plasma cutting. Always use **full head gear** for arc, mig and tig welding. Use **clear full-face**

shield and goggles for grinding. Use **dust mask** when grinding and sanding metal and for any procedures related to ceramic shell.

Protect your head and hair with a **scarf or a cap**. Spatter could land in your hair and burn your hair or skin. Bits of molten slag can burn the skin as well as clothing.

Although some protective gear is available in the shop, I recommend that you buy your own welding goggles, clear protective eyewear and leather gloves **that fit**. Label these with your name and keep them in your locker.

TOOLS AND EQUIPMENT REQUIRED FOR THIS COURSE:
Leather gloves
Goggles with proper shade for gas welding and plasma cutting
Leather boots/shoes
Long sleeved denim jacket or denim shirt
Hat or headscarf
Tape Measure and Straight Edge
Soapstone marker
Sharpie marker (silver marker is more visible than black marker)
Sanding discs. The shop provides grinding discs but not necessarily sanding discs.

MATERIALS REQUIRED FOR THIS COURSE
Steel: You must provide your own steel for the projects in this course. For the welding exercises we have scrap steel that has been donated and you are welcome to use that until it runs out. You can buy steel locally at Boone Welding, Rogers Welding and Gainesville Welding, to name a few. You can buy recyled steel at Svinga Bros. in Ocala.

Wax and Ceramic Shell Mold making materials will be provided however you must provide your own small propane tank and tips for working the wax. You must provide your own rubber for moldmaking.

Bronze is **not** provided. Bronze must be purchased through the UF Bookstore. Market Price Per Pound.

Metal sealants, paints, and finishes: You will need to purchase your own as needed.

All other specialized materials must be purchased by the student.

TIME COMMITMENT: This course requires a high degree of technical mastery of all of the equipment and methods that, in turn, requires you to make a high degree of commitment to practice/practice/practice. If you make that commitment and put in the requisite time in the shop, you will succeed. Because of the high demand on a very limited amount of shop equipment, you will be required to put in a considerable amount of time outside of class during shop hours days, evenings, and weekends.

STORAGE: Your metals should be stored in a designated section of the Metal Shop.
Label all materials with your name. We are not responsible for lost or stolen materials.
Never leave your materials out on work surfaces if you are not actively working on them.

Your personal tools, footwear and clothing should be stored in your locker.

REMOVAL OF WORK: **Sculptures must be removed from the Sculpture Area at the completion of each project and after the critique unless otherwise instructed by the Professor or the Teaching Lab Specialist. Do not store completed projects in the classroom, in the courtyard, or in the metal shop. All final art works and materials related to this course must be removed after the critique and by Monday April 28th at midnight.**

NOTE: The School of Art + Art History and its faculty and employees assume no responsibility for any materials or projects left in the classrooms. It is each student's responsibility to remove all materials and projects from the classrooms after a project is completed and graded. If the student needs to make individual arrangements with the instructor to keep any materials after the course has ended, it is the student's responsibility to make these arrangements and only with the instructor's approval. Student grades may be withheld for failure to do so. Any artwork, supplies, or other materials left in the classroom after the final critique has **been completed, without prior specific arrangements with the responsible faculty, will be disposed of as needed.**

CLASSROOM ACCOMMODATION: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Calendar of Classes

Week 1 Introduction to the syllabus and metal shop procedures

Week 2 WALL Project Introduced.
Technical Demonstrations
Begin work on practice welds using mig and oxy-acetylene

Week 3 Jan 19 MLK Day. No classes. Shop closed.
Jan 21
Reading responses due.
Test Welds due with a required pass in order to proceed with the Wall Project.
Technical Demonstrations.

Week 4 Wall Project Proposals due including written description, drawings, specifications. Presentation and Discussion.
All Materials for Project due.
Ongoing Technical Demonstrations.

Week 5 Studio Work on Wall Project. Individual Meetings.

Week 6 Studio Work on Wall Project. Individual Meetings.

Week 7 Surface Treatment of Metals.
Demonstrations and discussion of techniques for finishing metals,

Installation of Sculptures: technical aspects of installing sculptures outdoors/indoors..

FEB 18, 2015 CRITIQUE: THE WALL PROJECT. DUE 11:45AM.

Sculptures must be installed in critique space, or outside WITH PERMISSION OF SAAH, prior to beginning of class.

Week 8 TOWER Project introduced. Readings assigned. Discussions.

Week 9 SPRING BREAK February 28 to March 8, 2015. No Classes.

Week 10 Tower Project Proposals due including written description, drawings, specifications. Presentation and Discussion.
All Materials for Project due.

Week 11 Studio Work on Tower Project. Individual Meetings.

Week 12 Studio Work on Tower Project. Individual Meetings.

Week 13 **APRIL 1, 2015 (NO JOKE) CRITIQUE: THE WALL PROJECT. DUE AT 11:45AM.**
Sculptures must be installed in critique space, or outside WITH PERMISSION OF SAAH, prior to beginning of class.

Week 14 Lost Wax Bronze Casting Introduced.
Begin work on waxes.

Week 15 Complete work on waxes.
Ceramic Shell moldmaking completed by April 15 at midnight.
Complete preparation of molds on April 16 by 5:00pm.

Week 16 Burnout, melt, bronze pour.
Chasing, finishing.
Studio cleanup.

Week 17 **Final Critique of Bronze Project Monday April 27, 2015. Time TBA.**

Appendix F
Health & Safety Area Specific Information: Sculpture
1. Hazards (inherent)

Welding
Welding produces toxic fumes and radiates UV light.

Sanding
Sanding produces toxic and/or irritating dust.

Spray Paint
Spray paint produces toxic fumes, generates liquid hazardous waste in excess paint and solvents used in cleaning (acetone, mineral spirits.)

Epoxy, Bondo, Polyester Resins
These produce toxic fumes and generate both toxic and liquid hazardous waste. Stones containing silica are also toxic when sanded.

Plaster, Cement
Both generate toxic, irritating dust when mixing. Cement is highly alkaline and can burn then skin when exposed.

Silver Soldering
Both electrical and structural soldering produces toxic fumes from flux (hydrochloric acid and phosphors). Solder may contain lead, which is toxic.

2. Best Practices

- All students must attend an orientation before using the wood and metal shops. During the orientation all shop rules and policies are presented as well as a discussion of the proper and safe use of shop tools.
- Work in a well-ventilated area while welding; cover all skin.
- Shield eyes with approved lens safety wear.
- Work in well-ventilated area while sanding wood.
- All spray painting must be done in spray booth.
- Resins may not be mixed indoors.
- Wear rubber gloves and use plastic drop cloth to contain chemicals when used.
- Silver soldering should be done in a well-ventilated area.

3. Links

http://www.ehs.ufl.edu/General/resppol.pdf
http://www.ehs.ufl.edu/General/Shop/shophome.htm

4. Area 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.

- Follow all SA+AH Health and Safety handbook guidelines (the handbook should be reviewed by your instructor and can be found at: www.arts.ufl.edu/art/healthandsafety)
- Follow the SA+AH Satellite Waste Management Chart in the classroom and other health & safety guidelines posted for your media.
- In case of emergency, call campus police at 392-1111
- File an incident report (forms may be found in the SAAH H&S handbook, the SAAH faculty handbook and in the main office.) Turn completed forms into the SAAH Director of Operations within 48 hours of the event.
- Get permission from shop supervisor before beginning work
- Sign in to use the wood shop **and the metal shop**
- Eye protection must be worn when using any power tools
- Long hair must be tied back
- Hearing protection is available
- Familiarize yourself with the closest eyewash unit
- Shirt tails must be tucked in and loose sleeves rolled up
- Shoes must cover toes
- No loose jewelry allowed in the shop areas
- Clean up your mess
- Students are prohibited from taking home any SA+AH property
- All painting and sanding must be done in the courtyard when weather permits.

- Newspaper or plastic must be used to protect table and floor surfaces from paint, glue and plaster
- Students are prohibited from storing materials or projects in the wood or metal shops
- Do not use stationary equipment to cut painted, recycled or pressure treated lumber
- Dust off tools, tables and sweep the floor when finished using wood tools
- Scrap material must be disposed of immediately
- Tools and shop equipment must be put away in its proper place
- The table saw, jointer and planer are to be used only under the supervision of Brad Smith and any unauthorized usage will result in expulsion from the shops
- No food or drink in the shops
- Only students enrolled in current SA+AH courses who have attended the orientations may use the shops. No visitors while you work.
- 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 if supplies are low.
- Locate the nearest eyewash unit and familiarize yourself with its functions.
- Report any safety issues IMMEDIATELY to your instructor.
- All courses must engage in an end of the semester clean up.
- Follow the **SA+AH CONTAINER POLICY** (see policy below)
  There are 2 types of labels used in the SA+AH-- yellow and white. Both labels are found at the red MSDS box and are supplied by the SA+AH. Each is used for a different purpose.

  White:
  All new and or used product in containers (hazardous or what might be perceived as hazardous -i.e. watered down gesso, graphite solutions, satellite containers of solvents, powders, spray paints, fixatives, oils, solvents, etc…) must be labeled within the SA+AH to identify their contents. Labels can be found at the MSDS box in each studio and work area. All containers must be marked with your name, contents and date opened. All secondary/satellite containers for hazardous materials must be marked with content, your name and the date opened. All unmarked containers will be disposed of with no notice.

  Yellow:
  WHEN HAZARDOUS ITEMS ARE DESIGNATED AS WASTE.
  All containers must have a yellow label identifying the contents that are designated as trash for weekly EHS pick up.
  - Flammable solid containers (red flip top) must have a yellow hazardous waste label on the outside (top).
  - 5 gallon jugs must have a yellow hazardous waste label on the outside.
  - Fibrous containers must have a yellow hazardous waste label on the outside (top).
  - Each item in the blue bin must have a yellow hazardous waste label.

  Note: Hazardous Waste labels should include all constituents in the waste mixture as well as an approximate percentage of the total for that item and must add up to 100%.
  Labels should also include the Bldg and room number of the shop generating the waste along with the Waste Manager for your area, this is located on the SWMA sign posted at the sink or at the Waste Management Area.