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ART 395.01: Special Topics - Sculpture Casting

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Sculpture Casting Art 395
Winter Session 2007

Instructor: Brad Allen, Assistant Professor in Sculpture
Course Hours: m-f 1:10-4:00pm
Office Hours: m-f 12-1:10pm
Office/Class: Art Annex 123
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bradley.allen@umontana.edu

Department of Art
The University of Montana

Course Outline

The Sculpture Casting course will focus on the process of reproducing artist created patterns in various metals. This is a focused introduction to the techniques of mold making, metal casting, and finish. The course is a balance of hands-on application, instructor demonstration, and process lectures. We will practice 3 very different molding techniques and have demonstrations on several additional methods. It will be our goal to embrace craftsmanship as it applies to completing the act of casting. Each student will be expected not only have a well-made casting, but also successful designs, appropriate finishes, and a safe approach to the tools in use.

It is very important that we realize 3 full credits are being offered within only 3 weeks of work. The level of participation, energy, and work ethic required to receive an "A" in this course is quite high. We will cover an amount of information that is right on the edge of what is "possible". Missing any class will be brutal to your final grade and experience. Should we fall behind in our schedule, I reserve the right to alter any part of the course requirements and schedule, with the student's best interests in mind. Please read the syllabus carefully and if you choose, sign the contract at the end, and place it in the box by my door. On the second day of class, only those who have signed a contract and placed it in my box will be permitted to stay.

Important: Scale

Given the short amount of time, the high number of students enrolled, and the high cost of casting materials, the following applies:

Each assignment will have a very specific physical requirement regarding its size. If your pattern does not meet these requirements, the Professor will adjust your pattern until it does. This may mean cutting it in half. So keep your patterns small and learn the process, then you can cast larger in future Sculpture courses. The assignments are very specific and reflect a focus on process and technique over idea and aesthetic. If you are taking this course for the second time, please see me after class to identify your goals. The scale in which we work will be small nonetheless.

Course Requirements and Procedure

1. Attendance is mandatory. Each absence results in the lowering of one letter grade per absence. Example: miss one = best grade possible "B"
2. Any work not turned in at the beginning of class on the due date will not be considered for credit.
3. This class takes the form of laboratory. In effect, this room is your studio. The studio is where art is made. This is where the tools you will need are kept.
4. Completing an assignment involves four steps: Making a pattern, Making a mold, Casting metal into mold, Finishing the metal piece. If you miss any of these steps, you have not "completed" your casting.
5. When we are discussing your ideas for a project it is mandatory that you have done preliminary sketches of the idea to aid in this dialogue. This will help you articulate the main characteristics of your piece and will allow me to foresee any construction problems not highlighted in a verbal discussion.
6. During class time you will work. If you come unprepared to do so, you will be asked to leave and an absence will be recorded.
7. We will be messy. The studio will clutter. But at the end of each work day the space must be prepared for those working tomorrow. CLEAN.

8. You will be required to solve problems in the form of sculptural projects throughout the course of the abbreviated semester to earn your grade.
9. For each assignment you will be given a handout that outlines the objectives and parameters. Process lectures will be given at the beginning of each assignment.
10. No extra credit. No casting outside of the assignments! Period. There is not enough material for us to get outside our objectives.
11. We meet everyday M-F 1-4pm. If you cannot be present for all of these hours you are responsible for contacting me in advance. Make-up work time will be assigned as it is convenient for the Professor.

Assessment & Grades

Grades will be recorded for your body of work upon finishing this course as they are balanced with your attitude, presence, and drive. In large, assessment hinge on accomplishing skilled objectives such as casting thicknesses, surface quality, and finish. Good design and thoughtful ideas will be leverage for even better grades. We will work until the 18th, which is reserved for cleaning. Then on the 19th we will have our critique.

Academic Misconduct and the Student Conduct Code

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at www.umt.edu/SA/VP/SA/Index.cfm/page/1321.

Required studio time outside of class per week:

I am asking that each student be in the studio for 6 hours of "homework time" in addition to the scheduled class time for this course.

Sculpture shop hours

Monday-Friday 12-1 pm, 4-6pm

Saturday 8am-12noon

Unless otherwise noted by Professor Brad Allen.

Safety

Before students use any power tools or equipment they must complete the safety seminar, which will be given at the beginning of the winter session.

Access to specialized equipment and tools will be addressed on an individual basis. Should anyone have special needs that require attention, please do not hesitate to inform your faculty member at the beginning of the course, or as soon as these needs arise. In addition to the safety seminar, there is a general sculpture shop rules list that will accompany this syllabus.

Additional Health and Safety Concerns:

No creatures or children will be allowed in studios during class time or open studio times.

No food or open beverage containers will be allowed in Art Department facilities when art making is in progress

Pick-up of artwork must take place prior to the scheduled exam day or the last class period. Pieces remaining after this time will be discarded. Art work also may not be left in the Art Office.

Before students use any power tools or equipment he/she must complete the safety seminar, which will be given at the beginning of the semester.

Access to specialized equipment and tools will be addressed on an individual basis.

In addition to the in-processes safety lectures, there is a Material Safety and Data Sheet folder in the kiosk between the sculpture offices. Please search through these lists of chemicals if you have any respiratory or allergic conditions.

Assignments Overview:

1. Foam Pattern, Aluminum group project, Texture and relief objectives
2. Clay Pattern, Small Iron Sculpture, 2-piece sand mold, Modeling and thickness consistency objectives
3. Wax Pattern, Detailed complex sculpture, ceramic shell mold, Architecture and Balance objectives

General Sculpture Lab Safety Rules

1. Only students currently enrolled in a sculpture or 3-D course are allowed to use the sculpture lab.
2. Any person outside of sculpture or ceramics must check in with either the sculpture professor or lab technician.
3. No visitors inside the tool areas
4. Know the location of the two first aid areas and two fire extinguishers.
5. No open toed shoes allowed in sculpture area.
6. While any work is in progress every student must wear approved safety eyewear and if appropriate, hearing protection.
7. Tools must be returned to the tool room immediately after use.
8. Condense all hoses and cords used during your session.
9. No tools leave the sculpture lab or yard, **period**.
10. All guards must remain on power tools exactly like they arrive from the factory.
11. Report any tool deficiencies or malfunctions immediately.
12. All hazardous or vaporous materials must be handled outdoors.
13. Each area is ventilated; make sure fans are on even for the smallest job.
14. Leave floors clean, tables clear, and sinks drained.
15. Should there be an injury, however small, immediately consult the sculpture professor or lab technician.
16. Never work when you are tired or if you have had a drop of alcohol.
17. Of course, there is absolutely no drinking, smoking, or eating in the building.
18. If you are injured at night during the open shop hours, first tell the work-study student that is on duty, and they will call the sculpture professor.
19. The work-study students are here at night for your safety, and they can help you work with tools safely, however, they will **not** do your project for you.

Campus Emergency	4000
Missoula City Emergency	9-911
Campus security	6131
General Facility Emergency	4181 or 5704

Phone located by entrance on wall. Anyone in violation of these rules can lose their lab privileges. Any questions contact Brad Allen at extension 5704.

Winter session 2007
Sculpture Casting Schedule:

Jan.

- 2 syllabus, safety, assignments
- 3 foam patterns, paper surfaces, One-part molding, green sand demo
- 4 ram-up molds, Metal Casting Safety Lecture, Pour aluminum
- 5 clay patterns, Two-part molding, resin-bonded sand mold demo
- 6 **Cleaning casting demo 8am, resin-bonded sand mold demo 10-12 noon**
- 8 Wax working demo, Wax patterns, Venting/Spruing Ceramic Shell Process
- 9 Ceramic Shell dipping demo, Japanese Paper-Clay mold demo
- 10 **Finishing castings**, de-spruing, patina, Iron Mold deadline 6pm
- 11 Iron Pour preparation, lecture of Iron process
- 12 Iron Pour Brunch 10am, Iron Pour Safety Lecture 1pm, **Iron Pour 2-7pm**
- 13 **Studio open 8-12 noon w/ Professor help**
- 15 No class.
- 16 PetroBond Two-part mold demo, ready shells
- 17 Ceramic Shell Burnouts, **Pour Aluminum/Bronze**, **4-10 pm open w/ Professor**
- 18 last minute finishes 8am-3pm, Final cleanup 3-6pm
- 19 no working, setup for crit at 12 noon, **Final Critique 1pm sharp.**

Yellow	Lectures
Red	Actual casting times
Grey	Discussion or work
Green	extra session/professor help
<u>Underline</u>	Demonstrations

Sculpture Casting
WINTER 2007

Student Contract

I, _____, have read this syllabus thoroughly. If there were any questions, I have now addressed them to Professor Brad Allen. I agree that the viewpoints and requirements stated in this document are legitimate, as I promise to adhere to them at all times.

If I miss any classes without notifying the instructor prior to missing, I expect my letter grade to be lowered automatically. I will show up on time, be ready to work, and have a positive attitude towards learning.

I will respond to three assignments with the material processes and work ethic mentioned within this document.

I understand the very rigorous safety guidelines involved with this course, as well as the very serious potential for injury should I not adhere to those guidelines.

I understand that Professor Allen is working on both web and hard-bound publications involving this sculpture studio and program. I give Professor Allen permission to photograph any part of the casting processes involved in this course, as well as my finished works. These may be reproduced at his discretion.

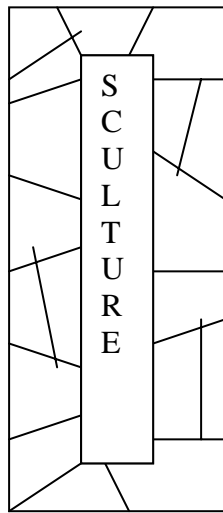
I will work an additional 6 hours per week outside of class time inside the studio. Failure to do this, as I understand it, will negatively influence my overall grade.

-Student

-Date

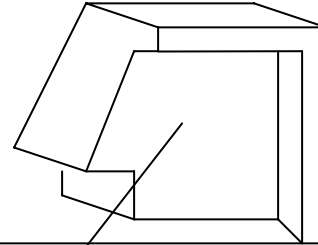
-Professor Allen

Foam Pattern, Surface Texture, Group Sign



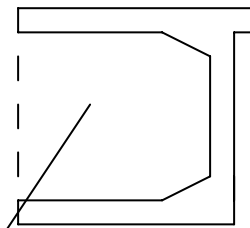
Sign finished front

Front $\frac{3}{4}$ view w/ border



Objective:
Create an interesting surface texture and relief on a pre cut block. Give casting thin side walls, and hollow back

Side-Cross section

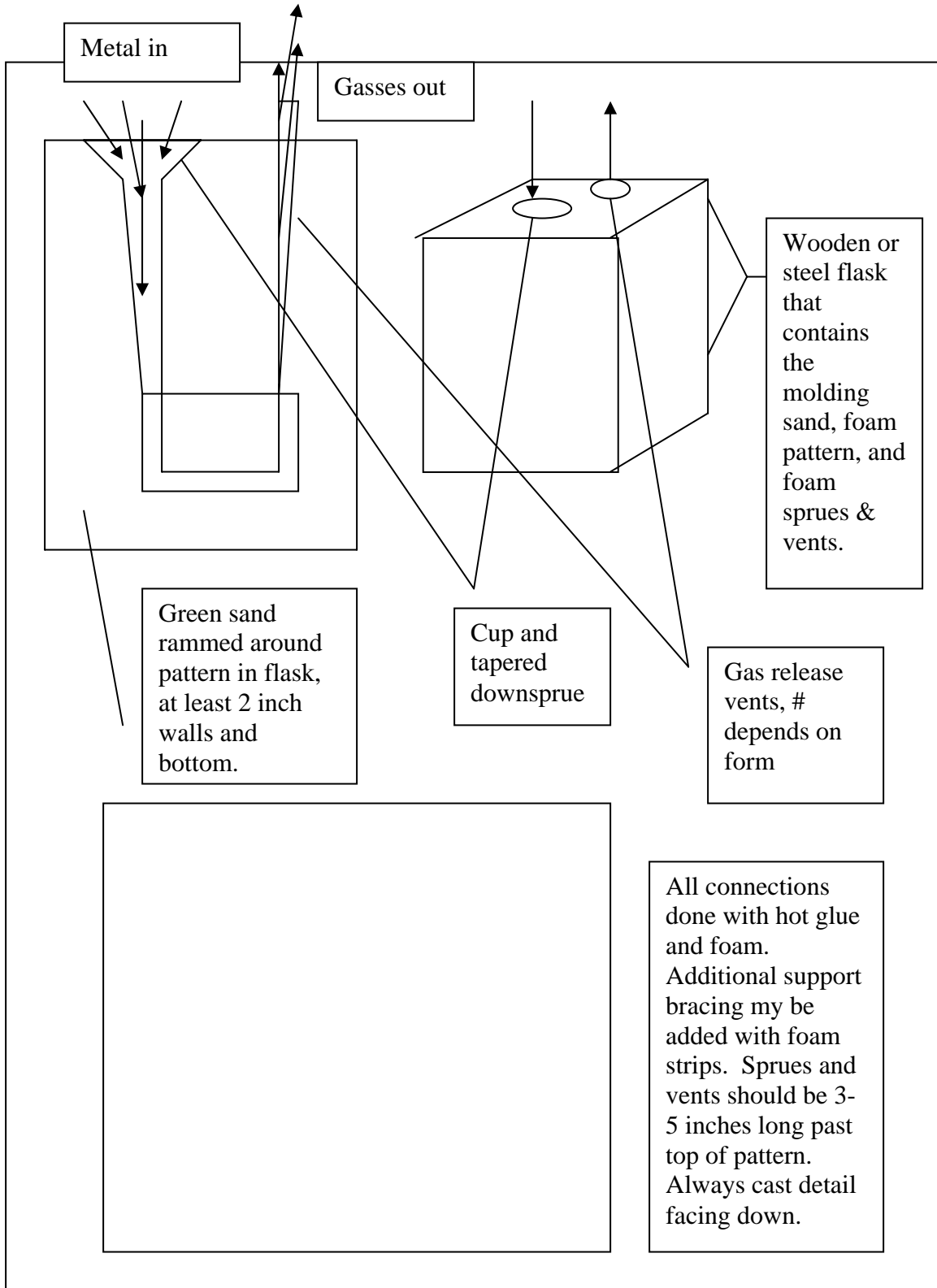


Texture of exterior can be altered in the following ways:

- Adding paper layers w/hot glue dots (cardboard, etc)
- Carving relief into foam (knives, razor, sandpaper, soldering iron)
- Cutting out interior, leaving exterior for fit, and rebuilding inside with foam strips and negative space
- Air tool carving (die grinder)
- Hot knife (torch, steel blade)
- Any method that involves paper and leaves original shape and size

Caution: No torch burning. Soldering irons used only when outside in casting shed and when wearing goggles and respirator!

Assignment #1 Aluminum, One-piece molds, Green Sand



Green sand molding, Sprues and Vents