ART A024N: BEGINNING BRONZE CASTING NONCREDIT

Item	Value
Curriculum Committee Approval Date	12/08/2021
Top Code	100220 - Sculpture
Units	0 Total Units
Hours	108 Total Hours (Lecture Hours 27; Lab Hours 81)
Total Outside of Class Hours	0
Course Credit Status	Noncredit (N)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	Yes; Repeat Limit 99
Grading Policy	P/NP/SP Non-Credit (D)

Course Description

A lifelong learning course, this is an introduction to various processes in metalworking for sculpture and industry. Activities will include direct and indirect techniques of developing wax models to be used in the lost wax metal casting process. Students will design unique sculptural forms which will be cast in metal using either plaster investment or ceramic shell molds. Students will fabricate metal forms using techniques of forging and forming. Course emphasis will be placed on the safe and proper use of hand and power tools and upon a variety of foundry and metal-forming practices such as: mold making, sprue and gating systems, mold dewaxing, metal pouring procedures, forging, fastening, cold finishing, metal finishing, and coloring techniques. NOT DEGREE APPLICABLE. Not Transferable. PREREQUISITE: ART A141. ADVISORY: ART A241.

Course Level Student Learning Outcome(s)

1. Analyze visual concepts and technical maneuvers presented in metal casting.
2. Synthesize ideas in order to solve novel visual problems in metal casting.
3. Critically assess the progress of one's own work and that of others.
4. Analyze visual concepts and technical maneuvers presented in metal forging and fabrication.

Course Objectives

- 1. Analyze concepts and technical maneuvers necessary in metal casting and apply the same to create finished cast metal objects.
- 2. Synthesize ideas in order to solve novel visual problems in metal casting.
- 3. Critically assess the progress of ones own work and that of others.
- 4. Create a successful cast metal object from the students own pattern and mold.
- 5. Understand the procedures necessary to forge a metal object and various methods of joinery.

Lecture Content

1. Introduction to class, safety information, safety test, slides, projects, tools, and materials 2. History of metal casting and forming globally 3. Careers in metal casting and forming and new technologies in metalworking 4. Chemistry of metals and changes of same through casting or forming 5 Casting A. Wax modeling, tools, construction, and techniques B. Mold making to produce a wax model or wax element for construction C. Gate and vent systems I. direct pour system II. indirect pour system D. Methods of investing I. ceramic shell method II. plaster investment E. Investment procedures F. wax preparation G. flask construction H. face coat application I. investment mixing and pouring J. Burnout procedures K. Melting metal and pouring procedures L. Cooling and de-vesting procedures M. De-gating and finishing 6. Forging and Forming A. Cold and hot methods of metal forming B. Chemical changes of metal during forging C. Forging tools and techniques D. Cold forming and joinery 7. Recycling and Metal Work 8. Historic and third world methods and uses of metalworking 9. Patinas and finishes 10. Presentation

Method(s) of Instruction

- Regular NC Lect (NC3)
- Regular NC Lab (NC4)

Instructional Techniques

Subject is learned through lecture, physical demonstrations, and direct experience.

Reading Assignments

Reading assignments iclude instructional handouts and mothod based excerpts from technical manuals.

Writing Assignments

Students keep a journel/sketch book. This includes method description and reference notes.

Out-of-class Assignments

Visitations to other founderies and art studios/galleries.

Demonstration of Critical Thinking

In the strictest sense, critical thinking is demonstrated by the successful completion of a cast object in which certain steps must be followed (are therefore true) in order for the object to be created. The cast or fabricated object is, then, the proof.

Required Writing, Problem Solving, Skills Demonstration

Writing is minimal for this class. Successful problem solving and skills demonstration is evident in the completion of the physical object (the final sculpture(s).

Eligible Disciplines

Art: Masters degree in fine arts, art, or art history OR bachelors degree in any of the above AND masters degree in humanities OR the equivalent. Note: “masters degree in fine arts” as used here refers to any masters degree in the subject matter of fine arts, which is defined to include visual studio arts such as drawing, painting, sculpture, printmaking, ceramics, textiles, and metal and jewelry art; and also, art education and art therapy. It does not refer to the “Master of Fine Arts” (MFA) degree when that degree is based on specialization in performing arts or dance, film, video, photography, creative writing, or other non-plastic arts. Masters degree required.

Other Resources

1. Handouts created by and distributed by instructor.