ART 330.01: Clay and Glazes

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CLAY AND GLAZES Fall 2007
Art 330, 3 cr. Prereq. Art 135A, 229A
Class hours: Tues. 4-7pm, plus kiln firing workshops
Professor Beth Lo
Office hours: M 1-2pm, Tu 3-4pm Thurs by appointment
Required Text:  Cushing’s Handbook by Val Cushing

Course Description: In depth study of the physical and chemical properties of clays and glazes. Hands on testing of various clay and glaze formulas and an introduction to kiln firing.

Course Objectives: This class is intended to give the student technical background necessary for most basic processes in ceramic artmaking. Clay and glaze chemistry is so rich and complex that it is impossible to cover these subjects completely in one semester, but I hope to give the student the background to know how to approach most problems he or she will encounter in ceramics. The following syllabus is a general outline of the class structure and the subjects that we will be covering.

YOU WILL BE EXPECTED TO SPEND AT LEAST 3-4 HOURS OUTSIDE OF CLASS TIME FOR HOMEWORK. DEADLINES FOR ASSIGNMENTS ARE CRITICAL! WE NEED TO FIRE TESTS AS A CLASS, AND THE ASSIGNMENTS BUILD ON EACH OTHER.

WE WILL BE SCHEDULING A ONE DAY MANDATORY KILN FIRING WORKSHOP FRIDAY, SEPTEMBER 14. THE FIRING WILL LAST FROM APPROX 8AM-10PM. PLEASE TRY TO ATTEND AS MUCH OF THIS WORKSHOP AS POSSIBLE.

ALL CLASSES ARE RESPONSIBLE FOR CLEAN UP. WE WILL CLEAN UP AFTER EVERY CLASS, AND ONCE A MONTH WE WILL DO A MAJOR STUDIO CLEAN UP.

YOU WILL ALSO BE REQUIRED TO ATTEND ALL VISITING CERAMICS ARTISTS LECTURES. DATES TBA.

Grades: Grading will be based on completion of each project on time (50%), attendance (20%), final exam (10%) final project, participation and clean up (20%).

Aug. 28 WEEK I
LECTURE: Ceramic materials and types of ceramic firings
HOMEWORK: Make 100 test tiles, by Friday Aug. 31. see picture. They need to be BONE DRY by Wed. Sept 4!
CUSHING: Read handout and Cushing p. 43, 70-73

Sept 4: WEEK II
DEMO: how to load and fire electric bisque kiln
DEMO: how to mix glaze and use the gram scale
LECTURE: Basic glaze info, high fire, cone 6-10

HOMEWORK: Mix ten “known glazes.” Dip two tiles, one for oxidation, one for reduction.
CUSHING: p. 133-164

Sept 11- WEEK III,
DEMO: Load Cone 10 test glazes
LECTURE: cone 10 firing process
HOMEWORK: Read handout and
CUSHING: p. 44-46, 89-91

SEPTEMBER 14: MANDATORY FIRING WORKSHOP FROM APPROX 8AM-10PM

Sept 18 WEEK IV NO CLASS, BFA REVIEW

Sept. 25 WEEK V.
DEMO: Unload kiln and go over firing results
LECTURE: Glaze composition lecture, oxidation and reduction
HOMEWORK: Mix 10 glazes with single colorants. Make an oxidation and reduction tile for every glaze (20 tiles)
CUSHING: p. 47-50, 74-80, 86-88
**** Firing group #1 fires cone 10 reduction kiln

Oct 2 WEEK VI
LECTURE: Go over firing results. Flux lecture
HOMEWORK: Mix 10 glazes using flux variations. Read handout
CUSHING p.66, 74-82
****Firing group #2

Oct 9 WEEK VII
LECTURE: Go over firing results. Soda lecture
HOMEWORK: Mix up soda clay bodies, slips and glazes for Cone 6 firing

Oct 16, 17 WEEK VIII
DEMO: Cone 6 Soda Firing with Visiting Artist: Mardis Nenno

OPTIONAL SODA FIRING WORKSHOP WEDNESDAY OCT. 17
*****Firing Group #3

Oct. 23 WEEK IX
LECTURE: Go over firing results. Colorant Blends, limit formulas, unity molecular formulas of glazes
HOMEWORK: Mix 8 glazes using colorant blends. Make up one glaze using limit formulas.
Oct. 31 WEEK X
LECTURE: Go over firing results. How to lower Cone 10 Glazes to Cone 5-6, More info about slips, terra sig
DEMO: make terra sigilata
HOMEWORK: Mix 10 glazes using various methods to lower Cone 10 to Cone 5-6 recipes
CUSHING: p. 55-56, 25-33, 32-33

Nov 6 WEEK X
LECTURE :Go over firing results. Clay lecture, absorption, shrinkage tests
DEMO: Clay digging field trip
HOMEWORK: Make up test clay bodies:
   -- one high fire porcelain-like clay body
   --one high fire red sculpture body
   -- one low fire clay white bodies, Make 10 tiles from one this clay body. Make absorption and shrinkage bars for all clay bodies
CUSHING: 8A-12, 15, 34-42
****Bisque clay shrinkage tests and tiles. Volunteer bisque firer.

Nov 6 WEEK XI
DEMO: burnishing clay, saggar firing
HOMEWORK: Build piece and saggar for saggar firing by Friday. Have it ready to bisque by MONDAY
**** Bisque saggar pieces. Volunteer firer.

Nov 13 WEEK XII
DEMO:Load and Fire saggar kiln
LECTURE: Low fire glaze lecture
HOMEWORK: Mix 10 low fire glaze test based on handout.
****Fire low fire glaze tests. Volunteer firer.

Nov. 20 Week XIII
LECTURE: Go over firing results from saggar and low fire glaze firing
LECTURE: Specialty clays, slip casting, wood soda and salt recipes
HOMEWORK: Final projects.
CUSHING: P.31, 13-24

Nov. 28 WEEK XIV
Work on final projects
LECTURES: Fixits, Glues, fillers, health hazards
Dec 5 WEEK XV
Final project presentations
prepare for SSCS show and sale

Finals week: Tues: Dec. There will be a test!!!!!!

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/VPSA/Index.cfm/page/1321