Name _____

Weber State University

CERAMICS II
ART 3310
Class meeting day/time _____

Instructor:	Stephen Wolochowicz
Office:	The Ethel Wattis Kimball Visual Arts Center: Rm 131 (inside ceramics studio)
Phone:	801.626.7066
E-mail:	Swolochowicz@Weber.edu
Office Hours:	Thursdays 11:30am-12pm & by appointment

Description of course:

The second class in a two-part introductory ceramics series. This course expands upon hand-building and covers wheel-thrown techniques in greater depth. Additional approaches to clay surfacing are explored. Students learn clay mixing, glaze testing and principl t.(n)-a, ln irin. sss32irsARd

For this class students should know:

- The basic properties of clay and clay bodies
- The potential and limitations of the material and process
- How to respond to the material according to their individual modes of expression
- Various techniques of applying color and glaze surface to clay and ceramic
- A working ceramic vocabulary
- How to conduct research
- How to communicate their concepts and content through class critiques

In this class, students will:

- Learn to mix large amounts of stoneware and earthenware clay
- Demonstrate more advanced technical skills and craftsmanship
- Demonstrate technical skills in basic wheel thrown methods – plates, bowls, mugs
- Demonstrate technical skills in hand building processes – slab, coil, etc.
- Learn to create and use ceramic decals
- Learn shellac resist techniques
- Resolve individual problems relating to form and content
- Understand the principles of firing – gas and electric kilns
- Load and unload kilns
-

Students will be evaluated on:

60% • Individual projects (completed/finished)
Craftsmanship, creativity, expression, concepts, thoughtfulness, etc.
• Ceramic vocabulary
• Thoughtful participation in class and critiques
• General interest and thoughtful effort
• Sketchbook – research, notes, handouts, ideas, etc.

40% • Test on materials, process, vocabulary
• Completion of low-fire research assignment
• Participation in clay making, kiln firings, high fire glaze making
• Completion of high-fire glaze making

Supplemental considerations to overall grade:

• Homework assignments (grade reductions)
• Attendance (grade reductions)

Please note that ceramics is a long process. Some projects can take all semester to complete. Therefore, grades are not distributed or calculated on a regular basis- it is not an accurate measure. Just remember that missing homework, deadlines and project requirements for critiques will a2 0 o

Out of class work time: Your EFFORT and time spent will not go unnoticed. Do the best job you can on your projects. Studio art classes require 3-6 hours a week of out of class work time. If you utilize your time efficiently, you should be able to complete most of your projects during class time.

Homework Assignments: Homework assignments are designed to maximize your hands on work time in the studio. Your research and preparedness for class is the best way to efficiently utilize your class time. Most homework I assign is gathering and collecting your ideas for you projects. Incomplete homework on its respective due date will result in a 1 point reduction to your overall grade. This deduction cannot be reversed.

Participation in clay making, kiln firing, glaze making: As an upper level student you are a representative of the studio and the beginning class will look up to you. Also, learning these are fundamentals in ceramics are key to our course objectives. You are part of the studio team and are required to help maintain the facility and proactively engage in these processes. Non-participation will result in a full letter grade reduction to your overall grade.

Materials and fees:

There is a lab fee for this course. Lab fees pay for the maintenance of equipment and for clay and glaze materials. Lab fees are kept as low as possible. Many of the materials we use are extremely expensive. All clay used in class MUST be made at Weber State University. All students are required to help make clay during the semester. I will demonstrate, coach and supervise all aspects of this activity. This is an in-class activity. Please use as much clay as you need but remember it is a chore to make more.

Attendance:

This course begins on the first scheduled day of the semester and has homework and assignments on that day. Students who enroll later in the semester are not excused from the attendance policy or homework policy due to late enrollment time. Class starts promptly at _____. **Attendance is mandatory**. It is important that you attend every class. The information through lecture and demonstration as well as receiving my help is invaluable to the process. This is ultimately reflected in your grade. Students are expected to be here and working during class time. You are late if you missed the morning announcements. After 20 minutes you are marked as absent. Not working on relevant class projects or leaving early is also a “late”. 2 lates equal an absence. Attendance will be taken via a sign-in sheet at the beginning of class. It is your responsibility to remember to sign-

Like all studio art classes, it will also be necessary to spend some time outside of class working on your projects and/or monitoring the drying of you projects. Ceramics is not like riding a bike,

Semester Calendar:

I have provided you with a tentative semester schedule that outlines key dates: critiques, last wet work, last bisque, the first 4 homework due dates, research project dates, etc. Because we are four classes in one meeting time, the content of demonstrations will be determined by student interest and therefore are not listed. However, glazing, decoration techniques, surfacing, the pottery wheel, and hand building techniques will be addressed. The typical class breakdown will be: the first hour of class (most days) will be reserved for demonstrations, lectures and presentations with the second half (most days) designated as work periods. Homework assignments are discussed assessed at the beginning of class. We will have at least 2 critiques and a final critique of all work (finished and complete) during exam week. I communicate primarily to the class via your Weber e-mail address and on the white board in class. However, be mindful that whiteboard notes can get erased. I communicate any schedule changes and additional information needed for our class through these channels. It is your responsibility to check your e-mail and all students are required to have an active WSU e-mail account. Since we are many classes in one, you will be on a group e-mail with the ability to “respond to all”. mo w-7(Sa-54r)-1(d-4( )-152y)

•As specified in PPM 6-22 IV D cheating and plagiarism violate the Student Code. Plagiarism is “the uncited use of any other person’s or group’s ideas or work” Students found guilty of cheating or plagiarism are subject to failure of a specific assignment, or in more serious cases, failure of the entire course. The WSU Student Code includes a more extensive list of prohibited behaviors; you should familiarize yourself with all aspects of the code. Students who commit infractions of the WSU Student Code will be dealt with according to procedures outlined
in the code.

•Weber State University recognizes that there are times when course content may differ from a student's core beliefs. Faculty, however, have a responsibility to teach content that is related to the discipline and that has a reasonable relationship to pedagogical goals. If you, as a student, believe that the content of the course conflicts with your ability to pursue a topic, you may request a resolution from the instructor. The instructor is not obliged to grant your request except in cases where a denial would be arbitrary and capricious. Your request must be made in writing and copies must be

Weber State University ART 3310, ART 3320, ART 4310, ART 4320 **M / W 2pm – 4:45pm**

Stephen Wolochowicz Swolochowicz@Weber.edu 801.626.7066	Monday	Wednesday
Week 1 8/29 & 8/31	Studio tour, syllabus, All semester handouts as one bunch ART 2310 re-hash HW#1, HW#2, HW#3, HW#4 tool making (rib and chamois)	Let's make some clay today! Slab making demo (roller & hand) Tile assignment clay 2
Week 2 **9/5** & 9/7	No Class- Labor Day	

General studio class structure:

- The first part of class (usually an hour) is reserved for demonstrations, lectures, discussions, etc.
- The second half of class (most days) will be work time
- As discussed from syllabus, we will fill in the blanks as a class according to our class interests and motivations.

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What you should already know from ART 2310

Ceramic processes and materials

Clay is a natural material that is created from the breakdown of igneous or granite rock. It is composed of alumina, silica and chemical water. Clay can be dried and reconstituted into a plastic state.

The chemical formula for clay is: $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$ + Physical H_2O

A **clay body** is a combination of clays and other ingredients formulated for specific workable properties. Color, fired temperature and plasticity are some examples of workability.

Rachel Bleil

Rachel Bleil

Rachel Bleil

Rachel Bleil

Rachel Bleil

Matthew Metz

Matthew Metz

Steve Lloyd

Steve Lloyd

Kathy King

Kathy King

Kathy King

Kathy King

Chris Theiss

Chris Theiss

Chris Theiss

Chris Theiss

Majolica

Karin Kraemer

Karin Kraemer

Karin Kraemer

Karin Kraemer

Linda Arbuckle

Linda Arbuckle

Linda Arbuckle

Posey Bacopoulos

Posey Bacopoulos

Posey Bacopoulos

Posey Bacopoulos

Courtney Murphy

Shellac Resist

Jim Gottuso

Jim Gottuso

Jim Gottuso

Andy Shaw

Andy Shaw

Andy Shaw

Steven Cheek

Ted Neal

Ted Neal

Ted Neal

Tim Compton

Steve Hanson

Ronan Peterson

Jessica Brandl

Sue Tirrell

Ashley Devitt

Scott Cameron Bell

Kip O’Krongly

Kelly Mckibben Harro

Weber State University

MASON STAINS

Ceramic Stains (brand name “Mason”) are fired blends of metallic oxides and fritted material that have been calcined (fired up to 2600°F) and reground into a fine powder. This creates stability when employed to achieve little change in original color. Stains containing otherwise toxic oxides can be employed without significant dangers. They can be used to color transparent or opaque glazes, slips, engobes or clay bodies. The stains may also be used effectively as colorants for direct brush decoration when mixed with water and a *flux. More flux is required at the lower temperatures to melt the stain. Color results will vary according to glaze composition, firing temperature and kiln atmosphere. The quantity of stain used will vary between 1%-20% depending on the depth of color required. Most of the stains will produce the color indicated and remain stable up to 2300°F in both oxidation and reduction atmospheres. Some of the colors such as pink, yellow and purple can be volatile at higher temperatures, and in reduction atmospheres. Testing is recommended to determine stability.

Advanced:

Calcium oxide may affect the color of many stains. For best color development, calcium carbonate (whiting) should be added to the base glaze where indicated. See reference chart for details.

Stephen Wolochowicz

Weber State University

A stain mixture is exactly that, a stain. It consists of; a mason stain, water, and a flux to enable it to adhere to your work in the kiln firing. It is NOT a glaze and does not work like one. Its primary purpose is to accent textured surfaces or create soft washes of color (much like diluted water color paint). It must be fired on or it will not adhere. Thick applications will flake-off as it must be used as its names suggests. Thin applications can be opaque or transparent depending on the amount of water used in the mixture. Must only be used on Bisqueware.

Use sparingly! A little goes a long way.

1) Choose a Mason Stain color you want as your accent.
2) Mix equal parts of stain color and Frit 3124 (low temperature melter).
   One tablespoon of each works well.
3) Add a small amount of water to achieve desired consistency
4) Done!

It can be brushed on and wiped away leaving stain in the groves and textures of your work. It can also be sponged onto bisqueware for added highlights adding new dimension to otherwise flat surfaces. Must be re-fired to adhere. Can repeat process numerous times. Please note that it will not adhere on top of previously glazed surfaces. Works well in conjunction with already fired terra sigalatta and slip applications. Clear glaze can be added, if desired, as the last firing.

Since a stain mixture only has enough fluxing power to adhere and not melt, it can be used at any temperature range. It is wise to test as some colors wash out or fade in reduction or stoneware temperatures.

Stephen Wolochowicz

Slip is a word that is used to mean different things depending on what it is used for. The common thread is that slip is a mixture of clay and water

There are three basic types of slip:

1) Adhesive or joining slip- slip and score. The clay body used makes the best slip for joining as is has all of the same properties. Slaking down some dry clay pieces in water and decanting the excess water will provide a good start. Mix or even blend into a paste for best results

2) decorating slip. Some clay bodies have grog or other coarse material and occasionally darker clays like Redart that do not contribute to a smoother whiter base slip color. Decorative slips are essentially a redesigned clay body for liquid application as decoration or to cover over a clay that fires to an unattractive color. They should be applied to leatherhard clay and have the same shrinkage to make a good fit. Decorative slips can be colored with metallic oxides (charts are available for percentages) or Mason stains up to 20% by weight to dry mix to achieve desired colors.

3) casting slip. A liquefied deflocculated clay body primarily used in plaster molds to extract complex shapes or multiples of the same object. restroom toilets are an example of slip cast ceramics.

What is an engobe?

Engobes are slips that have a broader range of application. Most engobes have more fluxes in them such as frit or feldspars to help melt and fuse to bone dry or even bisque ware. They are on the border of being classified as a dry glaze.

What is a Mason Stain?

Ceramic stains and brand names like Mason are commercially manufactured colorants for clays and glazes. A good way to think of them- They were once a glaze fired hotter than we can fire our kilns, then pulverized into a

!

2500 EPK
2500 Ball Clay
1200 Silica
1300 Gerstley Borate
1300 Nepheline Syenite
1200 Frit 3124
2500 Zircopax

!

10000 Redart
1000 Frit 3124

!

2500 EPK
2500 Ball
1200 Silica
1300 Gerstley Borate
1200 Frit 3124
2000 Black Mason Stain

Weber State University

How to Mix a Colored Slip

What is it?

Slip is a

Stephen Wolochowicz

!

Earthenware
(low fire)

!04 Red Sculpture Clay

!

!

Stoneware (high fire)

!10 Voulkos Clay

25	Fire Clay
20	Goldart
20	Ball Clay
20	Coarse Grog
15	Custer Feldspar

!10 Balistreri Sculpture Clay

60	Ball Clay
40	Feldspar
60	Goldart
60	Medium Grog
60	Fire Clay
1	* Bentonite

!10 Shop Stoneware

(Good for wheel, slab and small sculpture)

3	Goldart
2	Greenstripe Fire Clay
1	OM#4 Ball Clay
1	Custer Feldspar

For larger sculpture also add:

1	Fine Grog
1	Coarse Grog

Porcelain (high fire)

!10 25% mix Porcelain (#1)

25	Silica	
25	Feldspar	(Custer)
25	Kaolin	(EPK)
25	Ball Clay	(OM#4)

!10 WSU Porcelain #2

85	EPK
50	Custer Feldspar
15	OM#4 Ball Clay
15	Silica

!10 WSU Porcelain #3

50	Custer Feldspar
50	EPK
35	#6 Tile Kaolin
15	Silica
15	OM#4 Ball Clay
1.5	* Bentonite

!10 Anderson Ranch Porcelain

42	Grolleg
42	#6 Tile
30	Custer
20	Silica
20	Pyrax
3	Bentonite

LOW FIRE
1945°F

!04 Clear Glaze

5500 Gerstley Borate
1500 Silica
3000 EPK

!04 Majolica

6572 Frit 3124
1722 Soda Feldspar
1082 EPK
624 Nepheline Syenite
500 Tin Oxide
1000 Zircopax
200 Bentonite

(2 teaspoon EPSOM SALT per 5 gallon)

!04 Semi-Matte

800 Silica
700 Gerstley Borate
160 Lithium Carbonate
100 Nepheline Syenite
140 EPK
100 Tin Oxide
2 Magma (or CMC, Bentonite ,etc.)

!04 Anne Currier Matte

200 Gerstley Borate
100 Cryolite
150 Spodumene
300 Lithium Carbonate
250 Zircopax
2 Magma (or CMC, Bentonite, etc.)

!04 Peel / Crackle

120 Gerstley Borate
92 Magnesium Carbonate
20 Lithium Carbonate
40 EPK

!04 Lichens

100 Magnesium Carbonate
100 Borax
20 EPK
60 Gerstley Borate

!04 Bead

53.4 Borax
66.6 Gerstley Borate
66.6 Magnesium Carbonate
13.4 Silica
13.4 Zircopax

!04 Turquoise Semi-Matte

800 Silica
700 Gerstley Borate
160 Lithium Carbonate
100 Nepheline Syenite
140 EPK
100 Tin Oxide
60 Copper Carboate
2 Magma (or CMC, Bentonite ,etc.)

!04

!04

! _____

5000 Custer
2500 EPK
2000 Dolomite
500 Whiting
100 RIO
600 Rutile

! _____

6900 Nepheline Syenite
1500 Petalite
200 Gerstley Borate
600 Whiting
800 EPK
100 Cobalt Carbonate
200 Rutile

! _____

!

3850 Custer Feldspar
1250 Talc
1630 Whiting
2900 Bentonite
2900 EPK
2690 Silica
400 Cobalt Carbonate

!

1970 Dolomite
260 Whiting
3510 Custer Feldspar
2260 Ball Clay
2000 Silica
1000 Zircopax

!

2950 Custer Feldspar
2400 Silica
2100 Whiting
750 Talc
1200 EPK
100 Bone Ash
600 Copper Carbonate
500 Bentonite

!

6350 Custer Feldspar
1950 Whiting
1700 EPK
400 Rutile
75 Cobalt Carbonate
200 Bentonite

!

4000 Soda Feldspar
2000 Dolomite
2000 EPK
2000 Silica
250 Cobalt Oxide
250 Chromium Oxide
250 Manganese Dioxide
250 RIO

!

*runs when thick

3500 Custer Feldspar
3000 Silica
1500 EPK
2000 Whiting
300 Cobalt Carbonate

!

3300 Custer Feldspar
3300 EPK
1670 Dolomite
665 Whiting
330 Tin Oxide
535 Bone Ash
70 RIO
130 Rutile

!

6048 Nepheline Syenite
2015 Dolomite
1528 Zircopax
411 Ball Clay
96 RIO
382 Bentonite
15 Epsom Salt

!

2500 Custer Feldspar
2500 Whiting
650 EPK
2000 Ball Clay 10R EPK Custer Feldspar

!

NAME _____
Ceramics Level _____

What is clay?

What is a clay body?

What is the difference between earthenware and stoneware clay?

What is ceramic?

What are the stages of unfired clay?

What is unfired clay called?

What happens if you trap air inside a clay form?

Generally, we should limit the wall thickness to under an inch. Why?

What are 3 ways to help prevent cracking?

What is a Mason stain?

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56789$:::::::::::::::::::::::::::::::: $$$$$$$$$$$$$$$$+*'+;&$<=&$9$$$$%&'()*+,$$$>??@$$>???@$$>?A@$$>A@

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WSU Ceramics NAME: _____

CERAMICS II Ð V

Process Test

What is the chemical formula for clay?

Where does clay come from in nature?

What is primary clay?

Name a primary clay.

What is secondary clay?

What is plasticity in clay?

What are 2 things that determine clayÕs plasticity?

What is earthenware?

What is stoneware?

What is porcelain?

What is vitrification?

What is refractory?

What is a Eutectic relationship?

WSU Ceramics NAME: _____

What (multi) cone range is the first firing?

Typically what cone is considered:

Low fire

Midrange

High fire

What happens during a firing at the following temperature:

207F

650-950F

1050-1100F

Identify the following recipes as one of each:

1) Earthenware, Stoneware, or Porcelain
2) Throwing or Handbuilding

60 Ball Clay

WSU Ceramics NAME: _____

What is a pyrometric cone?

Draw and label a basic bisque fire cone pack (names and cone numbers)

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