

ART M74: GLAZE DESIGN I

Originator

gzucca

Co-Contributor(s)

Name(s)

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College

Moorpark College

Discipline (CB01A)

ART - Art

Course Number (CB01B)

M74

Course Title (CB02)

Glaze Design I

Banner/Short Title

Glaze Design I

Credit Type

Credit

Start Term

Fall 2023

Formerly

ART M60F - Topic/Glaze Chemistry

Catalog Course Description

Examines glaze formulation and ceramic technology, including clays and kiln firing. Continues work in all forms of clay construction, techniques and design.

Taxonomy of Programs (TOP) Code (CB03)

1009.00 - *Applied Design

Course Credit Status (CB04)

D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)

A (Transferable to both UC and CSU)

Course Basic Skills Status (CB08)

N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)

C - Clearly Occupational

Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)

Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)

Y - Not Applicable

Course Noncredit Category (CB22)

Y - Credit Course

Funding Agency Category (CB23)

Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)

1 - Program Applicable

General Education Status (CB25)

Y - Not Applicable

Support Course Status (CB26)

N - Course is not a support course

Field trips

May be required

Grading method

(L) Letter Graded

Alternate grading methods

(O) Student Option- Letter/Pass

(P) Pass/No Pass Grading

Does this course require an instructional materials fee?

No

Repeatable for Credit

No

Is this course part of a family?

No

Units and Hours

Carnegie Unit Override

No

In-Class

Lecture

Minimum Contact/In-Class Lecture Hours

17.5

Maximum Contact/In-Class Lecture Hours

17.5

Activity

Laboratory

Minimum Contact/In-Class Laboratory Hours

105

Maximum Contact/In-Class Laboratory Hours

105

Total in-Class**Total in-Class****Total Minimum Contact/In-Class Hours**

122.5

Total Maximum Contact/In-Class Hours

122.5

Outside-of-Class**Internship/Cooperative Work Experience**

Paid

Unpaid

Total Outside-of-Class**Total Outside-of-Class****Minimum Outside-of-Class Hours**

35

Maximum Outside-of-Class Hours

35

Total Student Learning**Total Student Learning****Total Minimum Student Learning Hours**

157.5

Total Maximum Student Learning Hours

157.5

Minimum Units (CB07)

3

Maximum Units (CB06)

3

Prerequisites

ART M72

Entrance Skills**Entrance Skills**

ART M72

Prerequisite Course Objectives

ART M72-demonstrate knowledge and experience in glaze mixing safety procedures.

ART M72-demonstrate knowledge and experience in glaze mixing for high and low fire processes.

ART M72-sketch project ideas to aid in the development and creation of ceramics art projects.

ART M72-complete a series of projects designed to expand technical skills and develop creative personal style utilizing a variety of clay bodies.

ART M72-analyze and critique glazes (utilize the Elements of Design to aid in the analysis).

ART M72-analyze and critique ceramic works of art (utilize the Elements and Principles of Design to aid in the analysis).

ART M72-present a portfolio display of finished works of art.

ART M72-demonstrate knowledge and experience in kiln loading and firing (bisque, high temperature glaze, raku, crystalline, pit fire, oxidation firing and reduction firing).

ART M72-demonstrate an understanding of a diverse range of artworks and artistic movements throughout historical and contemporary art, including those from the traditional western canon and those from underrepresented non-western cultures.

ART M72-demonstrate creativity and sensitivity as they research, produce, analyze and critique works of art, while maintaining an awareness of diversity, equity and inclusion.

Student Learning Outcomes (CSLOs)

Upon satisfactory completion of the course, students will be able to:

- | | |
|---|---|
| 1 | demonstrate knowledge and experience in glaze formulation ingredients and glaze test methodology. |
| 2 | identify the elements and principles of design and demonstrate their roles in relation to beginning level glaze design vocabulary and works of art. |
| 3 | demonstrate creative and critical thinking, with an awareness and sensitivity to individual and cultural differences, as they research, produce, analyze and evaluate glaze designs at a beginning level. |

Course Objectives

Upon satisfactory completion of the course, students will be able to:

- | | |
|----|---|
| 1 | demonstrate knowledge and experience in glaze mixing. |
| 2 | demonstrate knowledge of the most common oxides in glaze. |
| 3 | demonstrate understanding in glaze test methodology. |
| 4 | analyze and critique glazes. |
| 5 | test and adjust new glaze formula. |
| 6 | utilize glaze formulation software, understand and predict glaze characteristics. |
| 7 | demonstrate knowledge and experience in kiln loading and firing for bisque and glaze. |
| 8 | demonstrate knowledge and experience in glaze formulation ingredients and vocabulary. |
| 9 | create notebook with project ideas and sketches. |
| 10 | complete a series of clay projects that test and show the glazes that were developed in the course. |
| 11 | analyze and critique ceramic works of art. |
| 12 | demonstrate an understanding of a diverse range of artworks and artistic movements throughout historical and contemporary art, including those from the traditional western canon and those from underrepresented non-western cultures. |
| 13 | demonstrate an understanding of a diverse range of artworks and artistic movements throughout historical and contemporary art, including those from the traditional western canon and those from underrepresented non-western cultures. |

Course Content

Lecture/Course Content

3% Introduction, glaze mixing basics

2% Introduction, safety, cleanup, tools

5% Nature of clay

A. Where to find it

B. Properties

C. Molecular makeup of clays

D. Primary clays

E. Secondary clays

5% Nature of glaze

A. Characteristics

B. Chemical make up

C. Methods of applying

D. Physical changes during firing

5% Most common materials in glazes and their function (F,A,G)

A. Fluxes

B. Amphoteric

C. Glass formers

10% Oxides in glazes and the Unity Molecular Formula

A. Definition of Unity Molecular Formula

B. Oxides in the Unity Molecular Formula

- C. Silica alumina ratio
- D. Coefficient of expansion
- E. Utilizing glaze formulation software
- 10% Glaze colorants and opacifiers
 - A. Material that give color
 - B. Color and firing temperature
 - C. Methods of opacifying a glaze
- 5% Altering glazes
 - A. Matte
 - B. Glossy
 - C. Satin
 - D. Reticulated
- 20% Creation of ceramics projects to utilize developed glazes
 - A. Ideas
 - B. Sketches
 - C. Research related historic artworks
 - D. Refined sketches
 - E. Making the project
 - F. Glazing the projects
 - G. Firing the projects
 - H. Critique
- 5% Kiln loading and firing
 - A. Loading
 - B. Firing
 - C. Electric kilns
 - D. Gas kilns
 - E. Kiln atmosphere, Oxidation/Reduction
- 20% Glaze critique and analysis
- 10% Project presentation and critique

Laboratory or Activity Content

- 3% Test tiles
 - A. Types
 - B. Creating useful horizontal and vertical test tiles
- 55% Glaze mixing experiments, both low and high temperatures
 - A. Single material fusion test
 - B. Line blend test
 - C. Base glaze mixing
 - D. Base glaze plus most common glaze material (adding 10%, 20%, 30% to show effect of each material)
 - E. Overlapping glazes exploration
 - F. Researching and finding new glazes
 - G. Triaxial colorant test
 - H. Quadraxial colorant test
 - I. Creating a glaze from a unity formula
 - J. Altering a glaze, melt, glossy, matte, crazing
- 20% Clay construction projects
 - A. Series for testing glazes
 - B. Crystalline series
 - C. Tile project
- 2% Kiln loading
 - A. Loading and unloading electric kilns
 - B. Loading and unloading gas kilns
- 20% Glaze critiques
 - A. Weekly experiment critique and analysis
 - B. Project results critique and analysis
 - C. Final portfolio presentation

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

- Written expression
- Problem solving exercises
- Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Essay exams
 Group projects
 Individual projects
 Objective exams
 Oral presentations
 Portfolios
 Problem-solving exams
 Problem-solving homework
 Quizzes
 Reports/papers
 Research papers
 Skills demonstrations
 Written analyses
 Written compositions
 Written homework
 Classroom Discussion
 Projects
 Participation
 Reports/Papers/Journals

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Laboratory activities
 Lecture
 Other (specify)

Specify other method of instruction

Instructor-led group analysis and discussion of design issues

Describe specific examples of the methods the instructor will use:

the instructor will lecture, demonstrate and assign methods of altering glazes using the UMF formula and glaze calculation software.

the instructor will discuss the function of a variety of glaze material in glazes. Then students will perform experiments with the material in glazes. Thus they will see the effects of the material on the glazes.

weekly class critique/analysis of glaze experiment results.

instructor will show examples of historic and contemporary art that help inform and inspire the student's tile projects.

Representative Course Assignments

Writing Assignments

formulate a high fire glaze and a low fire glaze.

analysis of experiment results compared to theoretical expectations

write reports on museum or gallery visits.

convert a batch glaze formula to a unity glaze formula.

converting unity glaze formula to a batch glaze recipe.

Critical Thinking Assignments

create a series of ceramics works that are tied together visually and conceptually.

invent a Unity Molecular Formula for a high temperature glaze (Cone 6); use glaze formulation software to develop a batch recipe that represents the Unity Molecular Formula.

develop a glaze test methodology to be used to achieve a desired glaze.

Reading Assignments

reading articles about specific glazes and processes.

read article about a ceramics process from non-western cultures

read about the philosophy and function of the Japanese tea ceremony.

Skills Demonstrations

utilization of safe glaze mixing procedures.

creating glaze test tiles.
 mixing glaze recipe into larger batch recipe, then test firing glaze.

Problem-Solving and Other Assignments (if applicable)

analyze glaze formula, propose glaze recipe alteration to raise or lower glaze melting temperature. Then test proposed solution and re-analyze.
 develop a plan to alter a glaze from glossy to matt finish.

Outside Assignments

Representative Outside Assignments

photograph, collect and organize a digital personal portfolio.
 research visual resources and develop ideas for glaze projects.

Articulation

Comparable Courses within the VCCCD

ART V53A - Ceramic Glaze Theory I

Equivalent Courses at other CCCs

College	Course ID	Course Title	Units
Glendale Community College	ART 195	Glaze Calculation	3
Grossmont College	ART 136	Glaze Formation	3
College of San Mateo	ART 417	Ceramics Glaze	3

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

Course is CSU transferable

Yes

CSU Baccalaureate List effective term:

F1995

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

Area F: Ethnic Studies

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

UC TCA

UC TCA
Approved

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type
Textbook

Description

Hopper, Robin. *The Ceramic Spectrum: A Simplified Approach to Glaze and Color Development*. 2nd ed., American Ceramic Society, 2008.

Resource Type
Textbook

Description

Britt, John. *The Complete Guide to High-Fire Glazes: Glazing and Firing at Cone 10*. Lark Crafts, 2007.

Resource Type
Textbook

Description

Creber, Diane. *Crystalline Glazes (Ceramics Handbook)*. 2nd ed. , University of Pennsylvania, 2005.

Resource Type
Textbook

Description

Rhodes, Daniel. *Clay and Glazes for the Potter*. Martino Fine Books, 2015.

Resource Type

Websites

Description

<https://www.getty.edu>,
<https://digitalfire.com>

Resource Type

Software

Description

GlazeMaster
 PotteryNotes ListGizmo app

Library Resources**Assignments requiring library resources**

Research, using the Library's print and online resources.

Sufficient Library Resources exist

Yes

Example of Assignments Requiring Library Resources

Research, using the Library's print and online resources, on glazing techniques and their relationship to clay bodies and kiln firings.

Primary Minimum Qualification

ART

Review and Approval Dates**Department Chair**

11/08/2022

Dean

11/10/2022

Technical Review

2/2/2023

Curriculum Committee

2/7/2023

DTRW-I

MM/DD/YYYY

Curriculum Committee

MM/DD/YYYY

Board

MM/DD/YYYY

CCCCO

MM/DD/YYYY

Control Number

CCC000592720

DOE/accreditation approval date

MM/DD/YYYY