

# ARTS-244: KILN DESIGN

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## Effective Term

Fall 2025

## SECTION A - Course Data Elements

### CB04 Credit Status

Credit - Degree Applicable

### Discipline

Minimum Qualifications	And/Or
Art (Master's Degree)	

### Subject Code

ARTS - Arts

### Course Number

244

### Department

Arts (ARTS)

### Division

Arts and Humanities (ARAH)

### Full Course Title

Kiln Design

### Short Title

Kiln Design

### CB03 TOP Code

1002.30 - Ceramics

### CB08 Basic Skills Status

NBS - Not Basic Skills

### CB09 SAM Code

E - Non-Occupational

### Rationale

Non-substantive update.

## SECTION B - Course Description

### Catalog Course Description

A course for the student who wishes to gain knowledge and experience in the principles, design, and construction of kilns. Historic and contemporary kiln styles, firing methods and theories will be explored. Instruction on loading and firing the wide variety of existing studio kilns is included.

## SECTION C - Conditions on Enrollment

### Open Entry/Open Exit

No

### Repeatability

Not Repeatable

### Grading Options

Letter Grade or Pass/No Pass

**Allow Audit**

Yes

**Requisites**

**Advisory Prerequisite(s)**

Completion of ARTS-141 with a minimum grade of C.

**SECTION D - Course Standards**

**Is this course variable unit?**

No

**Units**

3.00

**Activity Hours**

108

**Outside of Class Hours**

54

**Total Contact Hours**

108

**Total Student Hours**

162

**Distance Education Approval**

**Is this course offered through Distance Education?**

No

**SECTION E - Course Content**

**Student Learning Outcomes**

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

1. Create kiln designs and actual kilns that focus on function and economy while utilizing historic and contemporary references, theories and materials.
2. Evaluate kiln designs utilizing proper technical and conceptual terminology while engage in discussions about kilns.
3. Safely handle, maintain and identify materials, studio facilities and equipment while working with others.

**Course Objectives**

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

1. Appreciate the development and styles of ceramic kilns.
2. Understand the principles and terminology of kiln design in order to present a design and carry out its construction.
3. Analyze available work in order to successfully load and fire ceramic kilns.
4. Participate in the studio kiln project undertaken in the course.
5. Goal for students repeating Kiln Design: Students, will accomplish first semester goals at an increased level of understanding. Further, they will focus on the design of a different kiln. Lastly, studio construction project will be different each time the course is offered; students will analyze needs, location, cost and other factors, and design and prepare plans for construction of a studio kiln.

**Course Content**

1. Skills:
  - a. Primitive refractory (high temperature material) construction
  - b. Modern refractory construction
  - c. Arch construction
  - d. Recognizing different types of kilns
  - e. Creating usable scaled kiln designs

- f. Calculating BTUs required for kilns
- g. Calculating fuel and air volumes needed for kilns
- 2. History of kilns; including geographical and cultural determiners for types of kilns.
  - a. Primitive kilns
  - b. Kilns of Asia
  - c. Kilns of the Mediterranean and the Middle East
  - d. Specialty kilns and industrial kilns
- 3. Concepts
  - a. Principles of kiln design
  - b. Applied physics (the Bernoulli principle)
  - c. Proper and inventive uses of various refractories
  - d. Applied geometry

## Methods of Instruction

### Methods of Instruction

Types	Examples of learning activities
Lecture	This Studio Arts Class will be taught with ongoing integrated lab and lecture. Students will receive hands-on group demonstrations as well as one-on-one instruction, demonstration and direction.  Lectures and demonstrations will often if not always be accompanied by visual aids and/or real hands-on experience. Further, students will learn by interacting with the materials and process inherent in kiln building and the ceramic process in general
Lab	Instructor-guided lab time to apply concepts and skills to course content through guided exercises. Lab time will include both one-on-one and group instruction.
Observation and Demonstration	Kiln design and construction demonstrations covering techniques, concepts, and material applications.
Field Trips	Students in this course will view kilns in the professional contexts of working ceramics studios.
Other	Student presentations on historic and contemporary kilns from a diverse range of cultures.

## Methods of Evaluation

### Methods of Evaluation

Types	Examples of classroom assessments
Exams/Tests	Tests and exams may be used to ensure each student is able to identify, understand and practically apply specific processes and techniques relevant to kiln building and firing.
Projects	Student self evaluations, peer evaluations and instructor critique will be used to evaluate each project. Class participants may be given the opportunity to improve, elements and or redo each project before the end of the term and the final review of all projects as a whole within the "course portfolio."
Class Participation	The instructor will evaluate each student's participation in the major studio kiln project. Further each student's participation in loading firing and record keeping of various firings will be evaluated.

## Assignments

### Reading Assignments

Selected readings from student proposals, textbook, class handouts, periodicals or library collections.

For example:

1. Students will read instructor-provided handouts (from "The Kiln Book") on kiln formats, concepts and terminology relative to different firing needs and desires.
2. Students will research a historic Kiln style.

**Writing Assignments**

Written critical self-analysis.

For example:

1. Write write a three-paragraph essay analyzing the strengths and weaknesses of a kiln we are building or that already exists at the studio.
2. A written self-evaluation of course work with an emphasis on how the work was fired presented to the instructor at the end of the term.

**Other Assignments**

Completion of ongoing group and individual work.

For example:

1. Participate in the ongoing creative process of designing and building a kiln and or repairing an existing kiln.
2. Create work that shows improvement in craft and creativity while using this body of work to experiment with different types of kilns and kiln firings.

**SECTION F - Textbooks and Instructional Materials**

**Material Type**

Textbook

**Author**

Olsen, Frederick L

**Title**

The Kiln Book

**Edition/Version**

4th

**Publisher**

Dorrance Publishing Company

**Year**

2023

**ISBN #**

979-8887294520

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**Course Codes (Admin Only)**

**ASSIST Update**

No

**CB00 State ID**

CCC000207252

**CB10 Cooperative Work Experience Status**

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

**CB11 Course Classification Status**

Y - Credit Course

**CB13 Special Class Status**

N - The Course is Not an Approved Special Class

**CB23 Funding Agency Category**

Y - Not Applicable (Funding Not Used)

**CB24 Program Course Status**

Program Applicable

**Allow Pass/No Pass**

Yes

**Only Pass/No Pass**

No