ARTS-244: KILN DESIGN

BOT Approval
12/12/2012

SECTION A - Course Data Elements

Send Workflow to Initiator
No

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
Review

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.	Present kiln designs for peer and instructor review while utilizing proper technical and conceptual terminology.
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 culturaldeterminers 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

The above topics will be covered each semester. The student repeating Kiln Design will be expected to demonstrate increased knowledge and facility in kiln design through more in-depth study. Further, the major group project undertaken will differ each semester.

Lab Content (Lab activities need to be detailed and compliment the lecture content of the course):

1. Skills:
   a. Primitive refractory 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 culturaldeterminers 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 refractory
   d. Applied geometry

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Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Discussion	
Field Trips	Students in this course will view kilns in the professional contexts of working ceramics studios.
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.
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 studio arts. Image and video-enhanced lectures covering core concepts, terminology, and historic development of ceramics followed by all-class or small-group discussions on the same topics.

Observation and Demonstration	Kiln design and construction demonstrations covering techniques, concepts, and material applications.
Critique	Oral or written group critiques analyzing finished examples of student work related to specific course assignments. Peer critiques reinforcing students? capacity to think critically about course assignments.
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	Final Exam Midterm Midterm and final, objective and/or essay.
Oral Presentations	Presentation: a. For example, students will present research they have conducted on a specific kiln style that interests them. b. For example, presentation of kiln plans which meet instructor's criteria for 1st or 2nd semester (stated in goals and performance objectives).
Class Participation	Kiln-loading and firing. a. Instructor evaluation of students' participation in the major studio kiln project. b. Instructor evaluation of students' participation in loading firing and record keeping of various firings.

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 an historic Kiln style.

Writing Assignments

1. Written critical self-analysis.

a. For example, write a three-paragraph essay analyzing the strengths and weaknesses of your kiln design.

b. For example, a written self-evaluation of course work presented to the instructor at the end of the term.

Performance:

1. Completion of ongoing group and individual work.

a. For example, participate in the ongoing creative process of designing and building a kiln for the studio.

b. Present research that has been done on a chosen kiln style in an organized and articulate manner.

SECTION F - Textbooks and Instructional Materials

Material Type

Textbook

Author

Olsen, Frederick L

Title

The Kiln Book

Edition/Version

2nd

Publisher

Chilton

Year
2006

Proposed General Education/Transfer Agreement

Do you wish to propose this course for a Local General Education Area?
No

Do you wish to propose this course for a CSU General Education Area?
No

Do you wish to propose this course for a UC Transferable Course Agreement (UC-TCA)?
No

Course Codes (Admin Only)

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)