ART231 : Introduction to 3-D Hard Surface Design

General Information

Author:	• Roger Dickes
Course Code (CB01) :	ART231
Course Title (CB02) :	Introduction to 3-D Hard Surface Design
Department:	ART
Proposal Start:	Spring 2025
TOP Code (CB03) :	(0614.40) Animation
CIP Code:	(10.0304) Animation, Interactive Technology, Video Graphics, and Special Effects.
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000335419
Curriculum Committee Approval Date:	02/28/2024
Board of Trustees Approval Date:	04/16/2024
Last Cyclical Review Date:	02/28/2024
Course Description and Course Note:	ART 231 teaches students to use industry-standard software (ZBrush) to build and digitally paint non-character elements for animation, visual effects and games, such as helmets, spaceships, shields, and armor. Students also learn about software sculpture tools, such as cutting and polishing, using a project-based approach which incorporates new tools as the project moves forward over the semester.
Justification:	Mandatory Revision
Academic Career:	• Credit

Academic Senate Discipline

Primary Discipline:	• Art
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

☐ Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

• Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

Transferability & Gen. Ed. Options

General Education Status (CB25)

Not Applicable

Transferability

Transferable to both UC and CSU

Transferability Status

Pending

Units and Hours

Summary

Minimum Credit Units (CB07)	3
Maximum Credit Units (CB06)	3
Total Course In-Class (Contact) Hours	72
Total Course Out-of-Class Hours	90
Total Student Learning Hours	162

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

☐ Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	2	4
Laboratory Hours	0	0
Studio Hours	2	1

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	0

Course In-Class (Contact) Hours

Lecture	36
Laboratory	0
Studio	36
Total	72

Course Out-of-Class Hours

Lecture	72
Laboratory	0
Studio	18
Total	90

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

No Value

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction	Lecture

Methods of Instruction	Laboratory

Methods of Instruction	Demonstrations

Methods of Instruction	Multimedia

Out of Class Assignments

- Use digital sculpture tools to create a hard surface form
- Use digital texturing tools to paint color and texture on form surface

Methods of Evaluation	Rationale
Project/Portfolio	Projects and assignments
Exam/Quiz/Test	Midterm Exam
Exam/Quiz/Test	Final Exam
Project/Portfolio	Final Project

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
No Value	No Value	No Value	No Value	No Value

Other Instructional Materials (i.e. OER, handouts)

Description	ZClassroom Channel
Author	Maxon/Pixologic
Citation	No value
Online Resource(s)	

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Design topology of a 3-d asset, such as a vehicle, device, or structure.

Use basic software tools to create hard-surface assets in design software application.

Create a hard surface asset, such as a helmet, armor, or spaceship.

Create surface textures and paint color on 3D digital object.

SLOs

Use software tools to create a hard surface asset, such as a helmet, armor, or spaceship.

Expected Outcome Performance: 70.0

Use software tools to create surface textures and paint color on 3D digital object.

Expected Outcome Performance: 70.0

Course Content

Lecture Content

Basic design concepts (9 hours)
- Silhouette
- Proportion
- Working with files and sub tools
- Using camera angle and brushes to interact with form
- Using dynamic mesh to edit form
- Working with 2-D concept art in a 3-D application

Hard Surface Design Tools (9 hours)
- The move brush
- The transpose brush
- The smooth brush
- The h-polish brush
- The clip curve tool
- The mirror and weld process
- The panel loops creation tool

Building Project Components (9 hours)
- Creating and arranging basic elements of object mass
- Increasing polygon density of object elements and adding formal detail
- Adding fine detail to elements of project design
- Combining object shapes

Texturing (9 hours)
- Selecting materials for object elements
- Using alphas to create small-scale texture
- Using the spotlight tool enhance realism of small scale texture
- Test rendering and refining texture and materials

Total hours: 36

Laboratory/Studio Content

Basic design concepts (9 hours)
- Silhouette
- Proportion
- Working with files and sub tools
- Using camera angle and brushes to interact with form
- Using dynamic mesh to edit form
- Working with 2-D concept art in a 3-D application

Hard Surface Design Tools (9 hours)
- The move brush
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Building Project Components (9 hours)
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Texturing (9 hours)
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Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources

Did you contact your departmental library liaison?

No

If yes, who is your departmental library liason?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No Value

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value

If additional resources are needed, add a brief description and cost in the box provided.

No Value