

ART270 : 3D Game Level Design I

General Information

Author:	<ul style="list-style-type: none">Roger Dickes
Course Code (CB01) :	ART270
Course Title (CB02) :	3D Game Level Design I
Department:	ART
Proposal Start:	Fall 2024
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) :	CCC000626457
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 270 introduces students to the tools and concepts used to create levels for games and simulations using a level design editor. Students will apply basic principles of game design, including the design of rules, a core game mechanic, victory, and loss conditions using industry-standard game development toolsets and software.
Justification:	Mandatory Revision
Academic Career:	<ul style="list-style-type: none">Credit

Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none">Art
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08) Course is not a basic skills course. <input type="checkbox"/> 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 <ul style="list-style-type: none">Grade with Pass / No-Pass Option Course Support Course Status (CB26) Course is not a support course
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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)	4
Maximum Credit Units (CB06)	4
Total Course In-Class (Contact) Hours	72
Total Course Out-of-Class Hours	144
Total Student Learning Hours	216

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	4	8
Laboratory Hours	0	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks) 18

Hours per unit divisor 0

Course In-Class (Contact) Hours

Lecture 72

Laboratory 0

Studio 0

Total 72

Course Out-of-Class Hours

Lecture 144

Laboratory 0

Studio 0

Total 144

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
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No Value	No Value	No Value	No Value
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Pre-requisites, Co-requisites, Anti-requisites and Advisories

Prerequisite: None.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction	Lecture
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Methods of Instruction	Laboratory
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Methods of Instruction	Demonstrations
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Methods of Instruction	Collaborative Learning
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Methods of Instruction	Multimedia
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Out of Class Assignments

- Projects (e.g. creating a game environment/virtual space)

Methods of Evaluation

Activity (answering journal prompt, group activity)

Project/Portfolio

Exam/Quiz/Test

Rationale

Peer and instructor review

Final projects

Final examination

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

Unreal Academy - free resource

Author

No value

Citation

<https://www.unrealengine.com/en-US/onlinelearning-courses>

Online Resource(s)

No value

Description

clasUnity Learning Online - free resource

Author

No value

Citation

<https://unity.com/learn>

Online Resource(s)

No value

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Create terrain using a game development toolset.

Incorporate art assets into the game environment.

Prepare lighting and texture of a game level.

Create interactive features within the game level.

Design a basic 3D game level using a level editor.

Complete a play-test of a basic 3D game level.

SLOs

Create a basic playable game level using Unreal Developer Toolkit.

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.
	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
<i>ART</i> Animation - A.S. Degree Major (NAS)	Gain skills allowing for transfer to 4-year colleges or entry into the workplace.
	Retrain themselves to diversify their work options within animation, gaming, or visual effects

Use basic game level design software tools.

Expected Outcome Performance: 70.0

<i>ILOs</i> Core ILOs	Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.
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Course Content

Lecture Content

The Basic Level (8 hours)

- The game editor
- The anatomy of a level
- The game editor user interface
- 3D directionality and space
- Creating a room
- Adding detail using static meshes

Brush Techniques (8 hours)

- Binary space partitioning
- Brushes and brush derivation
- Using brushes
- Polygon creation
- Editing 2D shapes

Terrain (7 hours)

- Terrain overview and componentry
- Using layers
- Editing and light terrain
- Texture layer editing tools

Lighting (8 hours)

- Lighting overview
- Light types
- Common properties of lights

- Working with lights
- Surface lighting
- Projectors

Materials (8 hours)

- In-game textures
- In-game shaders
- Real-time render modifiers

Interactive Elements (8 hours)

- Movers
- Triggers
- Real-time render modifiers
- Jump pads and teleporters

Integration of External Content (9 hours)

- Polygon models
- Textures
- Animation curves
- Characters vs. levels
- Importing characters into the game environment

Aesthetic and Technical Skills Development (16 hours)

- Level layout
- Asset integration
- Game play

Total hours: 72

Laboratory/Studio Content

No value

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