

ART271 : 3D Game Level Design II

General Information

Author:	<ul style="list-style-type: none">Roger Dickes
Course Code (CB01) :	ART271
Course Title (CB02) :	3D Game Level Design II
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) :	CCC000626458
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 271 covers advanced subjects in 3D Game Level Design, such as material construction, volumes, physics objects, particle systems, and the game environment animation system. Students will be encouraged to incorporate externally generated content into the game environment. Current industry standard game development software will be used.
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

No Value

No Value

No Value

No Value

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

Prerequisite

ART270 - 3D Game Level Design I (in-development)

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.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction

Lecture

Methods of Instruction

Multimedia

Methods of Instruction

Collaborative Learning

Methods of Instruction

Demonstrations

Out of Class Assignments

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

Methods of Evaluation**Rationale**

Activity (answering journal prompt, group activity)

Peer review

Project/Portfolio

Final projects

Exam/Quiz/Test

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

Unity Online Learning - 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 advanced interactive systems within a game level.

Create a game level rendered to the standards of professional practice.

Incorporate self-authored content into a game using a game level editor.

SLOs

Create an advanced 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

Incorporate advanced 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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Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

Advanced Material Construction (5 hours)

- Material instancing and parameters
- Blending
- UV manipulation
- Normals
- Material attributes
- Custom lighting models

Volumes (5 hours)

- Types of volumes
- Blocking volumes
- Physics volumes
- Trigger volume
- Post process volume
- Level streaming volume
- Light volume
- Color scale volume
- Reverb volume

Physics Objects (5 hours)

- Rigid bodies
- Constraints
- Physics asset tool
- Cloth
- Impulse and force actors

Particle Systems (5 hours)

- Modules
- Particle systems editor
- Particle modules and emitters
- Detail levels
- Emitter actor

User Interfaces (4 hours)

- User interface components
- Design workflow overview
- Scene editor and widgets
- User inputs
- Data stores
- Styles and skins
- Functionality

Sounds (4 hours)

- Sound types
- Sounds and sound cues
- Ambient sound cues
- Sound cue editor and nodes
- Working with music and music track banks

Post-Process Effects (4 hours)

- Control methods, access, and assignment
- Types of post-process effects
- Post-process editor

Game Animation System (4 hours)

- Skeletal animation
- Morph animation
- Editing and blending animation
- Node types
- Facial animation
- Physical animation

Aesthetic and Technical Skills Development (36 hours)

- Complex level layout
- Asset integration
- Advanced game play

Total hours: 72

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 liaison?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No

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