



COURSE OUTLINE : ART 271
D Credit – Degree Applicable
COURSE ID 010105
Cyclical Review: September 2020

COURSE DISCIPLINE : ART
COURSE NUMBER : 271
COURSE TITLE (FULL) : 3D Game Level Design II
COURSE TITLE (SHORT) : 3D Game Lev Des II

CATALOG DESCRIPTION

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.

Total Lecture Units: 4.00

Total Laboratory Units: 0.00

Total Course Units: 4.00

Total Lecture Hours: 72.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 72.00

Total Out-of-Class Hours: 144.00

Prerequisite: ART 270 or equivalent.



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ART	270	3D Game Level Design I	Create terrain using a game development toolset;	Yes
2	ART	270	3D Game Level Design I	import art assets into the game environment;	Yes
3	ART	270	3D Game Level Design I	light and texture the game level;	Yes
4	ART	270	3D Game Level Design I	create interactive features within the game level;	Yes
5	ART	270	3D Game Level Design I	design a basic 3D game level using a level editor;	Yes
6	ART	270	3D Game Level Design I	play-test a basic 3D game level.	Yes

EXIT STANDARDS

- 1 Create advanced interactive systems within a game level;
- 2 create a game level rendered to the standards of professional practice;
- 3 incorporate self-authored content into a game using a game level editor.

STUDENT LEARNING OUTCOMES

- 1 create an advanced playable game level using Unreal Engine
- 2 Use advanced game level design software tools

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Advanced Material Construction <ul style="list-style-type: none"> • Material instancing and parameters • Blending • UV manipulation • Normals • Material attributes • Custom lighting models 	5	0	5



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2	<p>Volumes</p> <ul style="list-style-type: none"> • Types of volumes • Blocking volumes • Physics volumes • Trigger volume • Post process volume • Level streaming volume • Light volume • Color scale volume • Reverb volume 	5	0	5
3	<p>Physics Objects</p> <ul style="list-style-type: none"> • Rigid bodies • Constraints • Physics asset tool • Cloth • Impulse and force actors 	5	0	5
4	<p>Particle Systems</p> <ul style="list-style-type: none"> • Modules • Particle systems editor • Particle modules and emitters • Detail levels • Emitter actor 	5	0	5
5	<p>User Interfaces</p> <ul style="list-style-type: none"> • User interface components • Design workflow overview • Scene editor and widgets • User inputs • Data stores • Styles and skins • Functionality 	4	0	4



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6	Sounds <ul style="list-style-type: none"> • Sound types • Sounds and sound cues • Ambient sound cues • Sound cue editor and nodes • Working with music and music track banks 	4	0	4
7	Post-Process Effects <ul style="list-style-type: none"> • Control methods, access, and assignment • Types of post-process effects • Post-process editor 	4	0	4
8	Game Animation System <ul style="list-style-type: none"> • Skeletal animation • Morph animation • Editing and blending animation • Node types • Facial animation • Physical animation 	4	0	4
9	Aesthetic and Technical Skills Development <ul style="list-style-type: none"> • Complex level layout • Asset integration • Advanced game play 	36		
				36

OUT OF CLASS ASSIGNMENTS

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



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METHODS OF EVALUATION

- 1 Peer review
- 2 Final projects
- 3 Final examination

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
class uses Unreal Academy - free resource				web	https://www.unrealengine.com/en-US/onlinelearning-courses		2020