

<input checked="" type="checkbox"/>	REQUIRED COURSE
<input checked="" type="checkbox"/>	ELECTIVE COURSE

Business DIVISION
☐ NEW COURSE
☒ REVISION

Lake Land College

Course Information Form

COURSE NUMBER:		CIS-063		TITLE: (30 Characters Max)			3D Computer Animation						
SEM CR HRS:		3	Lecture:		2		Lab:	2			ECH:	4	
Course Level:		<input type="checkbox"/> Gen Ed / IAI <input type="checkbox"/> Baccalaureate /Non-IAI		<input checked="" type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/ Not in Degree Audit		Clinical Practicum:	0	Work-based Learning	0	WBL ECH:	0		
COURSE PCS #		12 - 50: 0401		IAI Code				Contact Hours Per Week					
Repeatable (Y/N):		Pass/Fail (Y/N):		Variable Credit (Y/N):		Min:		Max:		16 Wks	200	8 Wks	400
Prerequisites:													
Catalog Description: (40 Word Limit)		An overview and exploration of the different applications and techniques used in the development of 3D models for game, video and web animation. The course will explore a variety of commonly used tools and will identify their strengths and capacities.											

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Overview of 3D modeling techniques	4			
Overview of 3D modeling applications	5			
3D modeling and animation workflow	3			
Basic modeling with NURBS	3	5		
Basic modeling with polygons	3	5		
Animation basics	5	8		
Lighting and rendering	4	7		
Finalization and export of 3D model	3	5		
TOTAL	30	30	0	0

EVALUATION									
QUIZZES	<input checked="" type="checkbox"/>	EXAMS	<input checked="" type="checkbox"/>	ORAL PRES	<input type="checkbox"/>	PAPERS	<input type="checkbox"/>		
LAB WORK	<input checked="" type="checkbox"/>	PROJECTS	<input checked="" type="checkbox"/>	COMP FINAL	<input type="checkbox"/>	OTHER	<input type="checkbox"/>		

COURSE MATERIALS		
TITLE:	Maya 7 Revealed	
AUTHOR:	Murdock	
PUBLISHER:	Course Technology	
VOLUME/EDITION/URL:		
COPYRIGHT DATE:	2005	

TITLE:	Maya at a Glance	
AUTHOR:	Maestri	
PUBLISHER:	Sybex	
VOLUME/EDITION/URL:		
COPYRIGHT DATE:	2005	

TITLE:	Blender 3D Basics	
AUTHOR:	Gordon	
PUBLISHER:	Packt Publishing	
VOLUME/EDITION/URL:		
COPYRIGHT DATE:	2012	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>

Overview of 3D modeling techniques	4	Identify different techniques used in the creation of 3D models and understand when each is appropriate.
Overview of 3D modeling applications	5	Explore the wide range of modeling applications available including Maya, 3DS Max, Gmax, Blender Anim8or and others.
3D modeling and animation workflow	3	Discuss the process of model development through its various stages.
Basic modeling with NURBS	3	Explore and create different model examples using NURBS (Non-uniform rational B-splines).
Lab Exercises	5	Create basic NURBS models and develop and enhance them using both intermediate and advanced techniques.
Basic modeling with polygons	3	Explore and create different model examples using polygon-based methods.
Lab Exercises	5	Create basic polygonal models and develop and enhance them using both intermediate and advanced techniques.
Animation basics	5	Examine the basics of keyframes, skeletons and kinematics as used in model animation.
Lab Exercises	8	Animate a 3D model using standard forward kinematics on articulating limbs and trunks and enhance the realistic effect by also incorporating reverse kinematics on extremities.
Lighting and rendering	4	Explore the options for shadows, reflections and refractions in animation output.
Lab Exercises	7	Develop realism in a scene by adding proper lighting (both primary and supplemental) and environmental effects using a variety of raytracing and mental ray techniques.
Finalization and export of 3D model	3	Discuss the techniques used to add final dynamics to a 3D model animation and explore the options for exporting to destination media.
Lab Exercises	5	Prepare the animation project for a batch render, create an .iff sequence of the animation and render a final output file in .avi or other external format.
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		60

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
	<ul style="list-style-type: none"> Understand and use a simple 3D modeling program.

	<ul style="list-style-type: none"> • Understand and use a high-end 3D modeling program.
	<ul style="list-style-type: none"> • Create 3D animated models using an appropriate tool.

* Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.