

Course Code: CSC 187

Course Title: 3D Computer Animation I

Department: Business/Computer Science and Technologies

Effective Date: Summer 2026

PCS Code: 1.1 - Baccalaureate/Transfer

CIP Code: 10.0304

Repeatability: 0

Credit Hours

Catalog Notation: 3-2-4

Credit Hour Distribution:

Lecture: 3

Lab: 2

Clinical: 0

Total: 4

General Course Information

Catalog Description

Fundamental topics in 3D design, modeling, lighting, and rendering for 3D applications including gaming, film, visual effects, virtual and augmented reality, and related disciplines.

General Course Objectives

Equip students with the fundamental knowledge and skills in creating 3D computer-generated images and content for digital media areas including gaming, film, and interactive applications. Become proficient with techniques in standard, professional 3D content creation software packages. Apply basic visual design considerations in 3D content development.

Minimum Placement Levels

English	Reading	Math
Placement into ENG 098	Placement into CCS 098	None

Prerequisites

None

Methods of Evaluation

8-10 Small-scale studies will be given to introduce and develop the student's understanding and proficiency of course concepts and skills. 3-5 Large-scale projects will be regularly assigned to apply the concepts introduced in the studies. Project assignments form the basis of the student's portfolio work in 3D computer animation.

Instructional Materials and Additional Supplies

Taught in lab environment with specialized software and hardware. Regular upgrades of software and hardware expected annually.

Students are required to have a USB flash drive or use OneDrive cloud storage.

Course Content

General Learning Outcomes (GLOs)

- Creativity and Innovative Thinking: Students will design, present, and interpret materials, information, and ideas in innovative ways.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Class Introduction	1. Identify course requirements and expectations; use lab accounts.	1	1	0
3D Computer Animation	1. Summarize industry, processes, applications, and software. 2. Describe industry, processes, applications, and software.	1	1	0
Modeling Basics	1. Describe methods for working with scene elements and modeling basics. 2. Apply methods for working with scene elements and modeling basics.	4	3	0
Polygonal Modeling	1. Describe techniques for modeling polygonal objects and environments. 2. Apply basic techniques for modeling polygonal objects and environments.	4	3	0
Lighting and Shadows	1. Describe techniques for lighting polygonal objects and environments. 2. Apply techniques for lighting polygonal objects and environments.	5	3	0
NURBS Curves	1. Describe techniques for modeling polygonal objects using NURBS Curves. 2. Apply techniques for modeling polygonal objects using NURBS Curves.	4	3	0
Surface Mapping	1. Describe color and shading methods for procedural surface texturing. 2. Apply color and shading methods for procedural surface texturing.	4	3	0
Advanced Polygonal Modeling	1. Describe advanced techniques for creating Polygonal Objects. 2. Apply advanced techniques for modeling polygonal objects and environments.	4	3	0
Cinematography Basics	1. Describe basic digital lighting/camera principles for effective cinematography. 2. Apply basic digital lighting/camera principles for effective cinematography.	4	2	0
Texture Mapping	1. Describe basic fundamental texturing concepts, layering, UVs, and file textures. 2. Apply basic fundamental texturing concepts, layering, UVs, and file textures.	6	4	0
Surface Treatment	1. Describe surfacing methods (reflections, painting) for material design. 2. Apply surfacing methods (reflections, painting) for material design.	4	2	0
Visual Design	1. Describe basic visual design principles for creating effective compositions. 2. Apply basic visual design principles for creating effective compositions.	4	2	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	30	0