



Syllabus

CSC 242 Introduction to 3D Computer Animation

General Information

Date

July 23rd, 2018

Author

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Department

Computing Sciences

Course Prefix

CSC

Course Number

242

Course Title

Introduction to 3D Computer Animation

Course Information

Credit Hours

3

Lecture Contact Hours

3

Lab Contact Hours

0

Other Contact Hours**Catalog Description**

This course is designed for the AS Game Programming and Design student, or a student who has a strong interest in 3D asset development for animations or games. This course will cover the concepts, principles, and techniques used for designing, creating and manipulating 3D computer models, images and animations. Topics include 3D modeling, texturing, rendering, rigging, animation, lighting, cinematography, and a study of motion. Students will develop their skills in working with a 3D creation suite to develop assets and animations needed in games and films.

Key Assessment

This course does not contain a Key Assessment for any programs

Prerequisites

None

Co-requisites

None

Grading Scheme

Letter

First Year Experience/Capstone Designation

This course **DOES NOT** satisfy the outcomes applicable for status as a FYE or Capstone.

SUNY General Education

This course is designated as satisfying a requirement in the following SUNY Gen Ed category

None

FLCC Values

Institutional Learning Outcomes Addressed by the Course

Vitality

Inquiry

Perseverance

Course Learning Outcomes

Course Learning Outcomes

1. Produce still and animated objects using the entire pipeline of 3D asset development (i.e. concept art, design, modeling, texturing, rigging, animation, and rendering).
2. Produce real-time game assets satisfying specialized requirements (e.g. reducing an object's polygon count while maintaining quality visuals).
3. Design and produce a 3D animated video with appropriate lighting, camera movement, particle systems, physics modifiers and character animations.
4. Import, manipulate, and export standard 3D file formats to share across software environments.

Outline of Topics Covered

I. Introduction to 3D Modeling & Texturing

a. Using Primitives

- b. Polygonal Modeling
- c. NURBS Modeling
- d. "Box" Modeling
- e. Creating a 3D Environment
- f. Prop Development
- g. Character Development
- h. Character Rigging
- i. Cameras & Lights

II. The Principles of Animation

- a. The Principles of Animation
- b. Timing
- c. Anamorphic Animation
- d. Camera Animation
- e. Vehicle Simulations
- f. Camera Animation
- g. Study of Human/Realistic Motions
- h. Character Animation
- i. Animation Concepts & the Review of Technical Tools used in the Game Industry