**NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY
ART 207 – 3D MODEL RENDERING (3 CR.)**

Course Description

Provides the student with an advanced understanding of the principles of building three-dimensional objects, characters, and interior and exterior environments with current industry software. Lecture 2 hours. Studio instruction 2 hours. Total hours per week.

General Course Purpose

Develop technical skills for the construction of three-dimensional models and their application with other modules such as animation in current industry 3D software programs.

Course Prerequisites/Co-requisites

Prerequisites are ART 130 Multimedia I and ART 131 Fundamentals of Design I.

Course Objectives

Upon successful completion of this course, students will be able to:

- ➢ Build three-dimensional objects and environments
- ➢ Explore the relationship between an object and its environment
- ➢ Understand three-dimensional models and their use in multimedia design and animation
- ➢ Apply forward and inverse kinematics
- ➢ Work with particles and dynamics
- ➢ Set keyframes and motion paths
- ➢ Understand and the vocabulary associated with three-dimensional modeling, animation and rendering

Major Topics to be Included

- • Strategies for building and modeling three-dimensional forms
- • 3D modeling tools
- • Lighting techniques and mapping
- • Texture and color mapping
- • Rendering techniques
- • Model with polygons
- • Familiarity with current software, hardware and operating systems