Course Description

Introduces students to advanced concepts in 3D virtual visualizations, such as physical simulations, inverse kinematics, and rotoscoping. Lecture 2 hours per week. Laboratory 4 hours per week. Total 6 hours per week.

General Course Purpose

To allow the student to work with more advanced and sophisticated computer technologies intended for character creation. Organic metaballs and metaforms and inverse kinematics for smooth life-like articulated motion (not to be confused with forward kinematics) will be used extensively. Physical simulations will allow the student to apply gravity, centrifugal force, collision detection, wind, acceleration, as well as controllable mass densities such as that of paper, rubber, steel, and foam to any given object. Rotoscoping will allow the student to create animated backgrounds or to simulate moving images on a given surface such as those visible on a television or movie screen.

Course Prerequisites/Corequisites

Prerequisite: ART 278

Course Objectives

Upon completion of this course, the student should:

- Have a firm grasp of the role that application related presets have in creating life-like or supernatural effects in computer animation (such as negative light, for instance) in a given scene
- Be able to demonstrate the ability to apply presets or envelopes to an object or scene creatively
- Ensure that quality work suitable for a portfolio is produced
- Be able to create numerous short animation sequences consisting of 120 to 400 frames in order to develop the ability to test and refine ideas or products before they are finalized