GID 44A: FUNDAMENTALS OF 3-D ANIMATION

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2023
Units:	4
Hours:	3 lecture, 3 laboratory per week (72 total per quarter)
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- A successful student will be able to create conceptual digital art specific to digital 3D-Animation for film and animation visual storytelling and design using introductory levels of hardware, software combined with original student generated conceptual development sketches and stories, and research and written briefs based on existing live-action and feature animated films
- A successful student will be able to demonstrate beginner level digital 3D-animation methods and techniques specific to 3D-Animation for film and animation using appropriate hardware and software.
- A successful student will be able to discuss and critique digital 3D-animation using contemporary vocabulary and terminology specific to film and animation, combined with research and written briefs.

Description

Introduction on how to create believable movement by applying the traditional principles of animation to the 3-D digital environment, and using the computer as a tool to animate characters, creatures, and simple props related to live-action and animation film. A wide variety of current industry standard software and traditional principles of animation will be used to animate simple 3-D animation art assets and characters. Topics include an overview of the traditional principles of animation and how to apply them to basic 3-D digital animation. Emphasis on body mechanics, with attention on the building blocks of an animated scene, and the workflow from planning phase to final animation for live-action and animation film will also be explored.

Course Objectives

The student will be able to:

a. Digitally produce 3-D animation sequences, utilizing the traditional principles of animation
b. Employ emotional expression, clarity of ideas, and a definite point of view
c. Demonstrate facility with digitalizing modeling tools and rendering surface textures
d. Utilize contemporary and industry style animation trends
e. Display familiarity with 3-D animation tools and software
f. Show a sensitivity to multicultural populations responding to 3-D animation concepts, themes, and designs
g. Critically evaluate, define, and discuss their own projects and the projects of student peers

Course Content

a. Introduction
   i. Introduction to the principles of traditional animation (Lec)
   ii. 3-D animation occupations (Lec)
   iii. Animation storyboards (Lec)
   iv. Animation (Lec)
   v. Character development (Lec)
   vi. Culturally-diverse viewership (Lec)
b. Interface overview
   i. Establishing work routines (Lec)
   ii. Overview of digital animating software interface (Lec)
   iii. Interface tutorial (Lec)
   iv. Playing with shapes, colors, scaling, and moving things around; timing and spacing (Lec)
c. Animation interface
   i. Graphic editor and dope sheet (Lec)
   ii. Planning for animation (Lec)
   iii. Weight, gravity, speed, timing, and spacing in animation (Lec)
   iv. Curves and tangents in the graph editor: spline, flat, stepped, linear (Lec)
   v. Staging and design (Lec)
   vi. Pacing (Lec)
d. Digital 3-D animation
   i. Traditional principles of animation (Lec)
   ii. Staging and design (Lec)
   iii. Pacing (Lec)
   iv. Animating simple objects and props (Lab)
   v. Animating objects and props that employ emotional expression, clarity of ideas, and a definite point of view (Lab)
   vi. Animating simple objects and props that demonstrate facility with hand tools and rendering surfaces (Lab)
   vii. Animating simple objects and props that utilize contemporary style trends (Lab)
   viii. Animating Basic Walk Cycle (Lab)
   ix. Animating Personality Walk Cycle (Lab)
   x. Animating simple objects and props that show a sensitivity to multicultural populations responding to 3-D animations (Lab)
e. Critique and presentation (Lab)
f. Presenting digital 3-D animations for peer review (Lab)
g. Evaluation of content, context, form, and technique (Lab)

Lab Content

a. Assignments and exercises that explore a range of animation fundamentals, such as squash & stretch, anticipation, and secondary action
b. Assignments and exercises related to body physics, movement, and mechanics

Special Facilities and/or Equipment

1. A lecture room equipped with instructional computer, high resolution color monitor, software; projection system and lighting suitable for displaying projected media.
2. An integrated or separate facility with student workstation configurations, to include hard drives, color monitors, mice, keyboards, digitalizing drawing tablets and stylus, and software.
3. When taught via Foothill Global Access: on-going access to computer with JavaScript-enabled internet browsing software, media plug-ins, and relevant computer applications.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Evaluation of 3-D animations: each 3-D animation will be evaluated for technical ability, craftsmanship, and personal creative and conceptual approaches
Portfolio review: create a demo reel of all course projects and showcase to peers how projects fulfill the parameters and goals of the assignment throughout the academic term
Written or oral critiques
1. Reading, research, and writing assignments
2. Written participation in lectures of historical and contemporary 3-D animations
3. Revisions of 3-D animation assignments and projects

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Discussion
Electronic discussion forums
Laboratory
Live demonstrations
Face-to-face and online critiques

Representative Text(s) and Other Materials

Williams, Richard. The Animator's Survival Kit: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Internet Animators. 2012.

Watkins, Adam. Getting Started in 3D with Maya: Create a Project from Start to Finish - Model, Texture, Rig, Animate, and Render in Maya. 2012.

Although these texts are older than the suggested "5 years or newer" standard, they remain seminal texts in this area of study.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

a. Reading assignments:
   i. Assigned textbook
   ii. Handouts
   iii. Internet research sites
b. Writing assignments:
   i. Writing articles for 3-D animation
   ii. Writing portfolio and artist's statements
   iii. Writing research reports

Discipline(s)

Graphic Arts