APTE 64 Course Outline as of Fall 2025

CATALOG INFORMATION

Dept and Nbr: APTE 64 Title: 3D ANIM: CHARACTER ANIM
Full Title: 3D Animation: Character Animation
Last Reviewed: 9/23/2024

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	4.00	Lecture Scheduled	3.50	17.5	Lecture Scheduled	61.25
Minimum	4.00	Lab Scheduled	1.50	8	Lab Scheduled	26.25
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 122.50 Total Student Learning Hours: 210.00

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	APTECH 64

Catalog Description:
Students will learn to animate digital characters using three-dimensional (3D) animation software. Through both pantomine and facial lip-sync animation, students will apply the fundamental mechanics of motion to create believable movements and expressive performances.

Prerequisites/Corequisites:
Course Completion of APTE 43

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Students will learn to animate digital characters using three-dimensional (3D) animation software. Through both pantomine and facial lip-sync animation, students will apply the fundamental mechanics of motion to create believable movements and expressive performances. (Grade Only)
Prerequisites/Corequisites: Course Completion of APTE 43
Recommended:

Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**			Effective:	Inactive:
CSU GE:	**Transfer Area**			Effective:	Inactive:
IGETC:	**Transfer Area**			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Spring 2011	Inactive:	
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Create realistic and expressive animated performances with 3D digital characters.
2. Develop and apply effective animation production workflows.

Objectives:
At the conclusion of this course, the student should be able to:
1. Develop animation pre-production documents.
2. Apply traditional animation principles to 3D digital characters.
3. Follow production schedules and adhere to deadlines.
4. Participate in constructive critique of peer work.

Topics and Scope:

I. Project Development and File Management
   A. Project design, organization, and scheduling
   B. Story structure
   C. Storyboards
   D. Reference footage
   E. Selecting and/or recording dialogue tracks
II. Assets
   A. Rig library overview
   B. Rig functions, limitations, and workarounds
   C. Props
III. Principles of Character Animation
   A. Basic mechanics of motion
   B. Newton's laws of motion
   C. Twelve Principles of Animation
      1. Squash and stretch

2. Anticipation
3. Staging
4. Secondary action
5. Line of action (solid drawing)
6. Arcs, posing, and silhouettes
7. Exaggeration
8. Overlapping action and follow-through
9. Timing versus spacing
10. Pose-to-pose versus straight-ahead animation
11. Appeal
12. Slow-in and slow-out

D. Pantomime and voice acting

IV. Character Animation Techniques

A. Keyframe basics
1. Auto key versus set key
2. The Dope Sheet and Graph Editor

B. Using reference footage

C. Blocking and polishing passes
1. Key poses and attitude poses
2. Breakdown poses
3. In-betweens
4. Expression and mood changes
5. Finishing touches

D. Simple animation tests: weight and balance

E. Lip-syncing
1. Phonemes
2. Visemes

F. Using props and constraint systems

G. Transferring animation between scenes

V. Rendering Techniques

A. Efficient rendering

B. Distributed rendering

VI. Critiquing

A. Clear and concise actionable notes

B. Courtesy and respect

The above topics and scope apply to both lecture and lab course components in an integrated format.

Assignment:

Lecture Related Assignments:
1. Weekly readings
2. Short scripts and storyboards (2-3)
3. Production schedules for short animations (2-3)
4. Quizzes (2-3)

Lab Related Assignments:
1. Reference video for short animations (2-3)
2. Pantomime animation(s) (1-2)
3. Lip-sync animation(s) (1-2)
4. Final character animation project

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Short scripts, storyboards, production schedules, reference video, and animation exercises	Problem solving 65 - 80%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes	Exams 10 - 15%

Other: Includes any assessment tools that do not logically fit into the above categories.

Final character animation project	Other Category 10 - 20%

Representative Textbooks and Materials:
Acting for Animators: A Complete Guide to Performance Animation. 4th ed. Hooks, Ed. Routledge. 2017. (classic).
The Animator's Survival Kit. Expanded ed. Williams, Richard. Faber & Faber. 2012. (classic).
Instructor prepared materials