APTECH 64 Course Outline as of Fall 2018

CATALOG INFORMATION

Dept and Nbr: APTECH 64 Title: 3D ANIM: CHARACTER ANIM
Full Title: 3D Animation: Character Animation
Last Reviewed: 11/13/2017

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	6	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:	

Catalog Description:
This course focuses on the animation of three-dimensional (3D) digital characters using Autodesk 3ds Max software. Through both pantomime and facial lip-sync animation, students apply the fundamental mechanics of motion to create believable movements and expressive performances.

Prerequisites/Corequisites:
Course Completion of APTECH 43

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: This course focuses on the animation of three-dimensional (3D) digital characters using Autodesk 3ds Max software. Through both pantomime and facial lip-sync animation, students apply the fundamental mechanics of motion to create believable movements and expressive performances. (Grade Only)
Prerequisites/Corequisites: Course Completion of APTECH 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. Use 3ds Max software to create realistic and expressive animated performances with 3D 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 concepts and planning documents.
2. Apply production schedules and adhere to deadlines.
3. Render animations in specific digital formats.
4. Compile audio and video tracks into final output formats.
5. Participate in class critiques of student work.

Topics and Scope:

I. Project Development and File Management
   A. Project design and organization - Production scheduling
   B. Story structure
   C. Storyboards
   D. Reference footage
   E. Selecting and/or recording dialogue
II. Assets
   A. Rig library overview
   B. Rig 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 out
- D. Pantomime and non-verbal 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. Expression and mood changes
  2. Breakdown poses
  3. Finishing touches
- D. Simple animation tests: weight and force
- 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. Editing and Compiling Techniques
- A. Editing basics
- B. Using image sequences
- C. Working with audio tracks
- D. Final output

VII. 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. Quizzes (2-3)

Lecture and Lab Related Assignments:
1. Short scripts and storyboards (2-3)

2. Production schedules for short animations (2-3)
3. Video reference for short animations (2-3)
4. Pantomime animations (1-2)
5. Lip-sync animations (1-2)
6. 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.

Scripts	Writing 5 - 10%

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

Production schedules, reference and animation exercises and projects	Problem solving 35 - 50%

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

Storyboards	Skill Demonstrations 5 - 20%

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 Project	Other Category 10 - 20%

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