

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

 X Transfer course X A.A. degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: ART 247 - Computer Animation and Multimedia II

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 96

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: None

COREQUISITE: None

RECOMMENDED PREPARATION: Art 246

SCOPE OF COURSE: Concepts and techniques of 3-dimensional animation using ElectricImage software. This course will provide an understanding of the production, animation and postproduction process.

SPECIFIC COURSE OBJECTIVES:

The student will:

1. Create storyboards to propose concepts for animation.
2. Animate models to simulate physical behavior.
3. Modify camera attributes.
4. Create textures and apply them to models.
5. Use lighting to convey mood.
6. Render animated projects.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Storyboards
 - A. Development of ideas
 - B. Describing motion on paper
 - C. Camera moves
 - D. Sound notation
- II. Animation techniques

- A. Animation attributes
 - 1. World space
 - 2. Object space
 - 3. Position
 - 4. Rotation
- B. Implicit animation
 - 1. Key frames
 - 2. Animation paths
 - 3. Velocity path
- C. Explicit animation
 - 1. Function curves
 - 2. Adding animation channels
 - 3. Modifying attributes
 - 4. Velocity and acceleration
 - 5. Saving and loading data envelopes
- D. Specialized animation
 - 1. Effectors
 - 2. fill channels
 - 3. Bones
 - 4. Deforms
 - 5. Inverse kinematics
- III. Camera and world attributes
 - A. Camera settings
 - 1. Reference position
 - 2. Field of view
 - 3. Rotoscope
 - 4. Camera map projection
 - B. World attributes
 - 1. Fog
 - 2. Background
 - 3. Sky and Ground
 - 4. Global reflections
- IV. Object attributes
 - A. Transform attributes
 - 1. Position
 - 2. Center
 - 3. Rotation
 - 4. Scale
 - B. Shading attributes
 - 1. Shading type
 - 2. Fog
 - 3. Reflection
 - 4. Motion blur
 - 5. Shadow
 - C. Material attributes
 - 1. Geometry
 - 2. Diffuse
 - 3. Specular
 - 4. Ambient
 - 5. Reflectivity
 - 6. Transparency

- 7. Luminance and glow
- 8. Transmission
- D. Mapping attributes
 - 1. Alignment
 - 2. Projection
 - 3. Image
 - 4. Filter
 - 5. Blend modes
 - 6. Procedural attributes
- V. Lighting
 - A. Info window
 - B. Properties
 - C. Flare
 - D. Shadow
 - E. Glow and fog
 - F. Projection
- VI. Rendering
 - A. Render info
 - 1. Render type
 - 2. File format
 - 3. Render level
 - 4. Render flags
 - B. Resolution
 - 1. Aspect ratio
 - 2. Resolution level
 - 3. Cropping options
 - C. Anti-alias
 - 1. Anti-alias level
 - 2. Sampling settings
 - 3. Adaptive thresholds
- VII. Postproduction processes
 - A. Rendering in passes
 - B. Compositing in After Effects
 - C. Adding sound
 - D. Rendering composite animation

REQUIRED READING:

None

SUGGESTED READING:

Kerlow, Isaac Victor, The Art of 3-D Computer Animation and Imaging. New York: Wiley, 2000.
 Maestri, George, Digital Character Animation 2. Indianapolis, IN: New Riders, 1999.
 O'Rourke, Michael, Principles of Three-Dimensional Computer Animation. New York: W.W. Norton, 1999.
 Sledd, John. The ElectricImage Handbook, Rockland, MA: Charles River Media, 1999

REQUIRED WRITING:

The student will write a one to two page proposal prior to beginning each project.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

Preliminary research for projects will be completed at library and other off-campus locations. Students will complete projects during assigned computer time in class and during scheduled lab hours.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students): Evaluation is based on individual projects and a final project. Participation and personal growth are also factors. Projects: 50%; Creative progress in course: 20%; Participation: 10%; Final project: 20%.

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit: 3

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable: 58161(b)(1) and (2) – Skills or proficiencies are enhanced by supervised repetition and practice within class periods.

CONTACT PERSON: Jay Schultz

SIGNATURE ON FILE
