

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

Transfer course A.A. degree applicable course

(check all that apply)

COURSE NUMBER AND TITLE: Art 243 - Digital 3-D Design & Modeling

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 240

SCOPE OF COURSE: Fundamentals of computerized 3-D modeling and design using form-Z software. Hands of experience with modeling, lighting, developing texture maps and rendering.

SPECIFIC COURSE OBJECTIVES:

The successful student will:

1. Analyze 3-D coordinate systems;
2. Design forms using modeling tools;
3. Design lighting systems in 3-D space;
4. Develop material systems for shapes;
5. Develop material systems for render scenes.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

1. Navigating in 3-D
 - A. Coordinate systems
 - B. Perspective
 - C. Orientation
 - a. Pitch
 - b. Yaw
 - c. Roll
2. Modeling
 - A. Additive modeling
 - B. Constructive modeling
 - C. Extrusion
3. Materials
 - A. Surface texture
 - a. Color maps
 - b. Procedural shaders
 - c. Texture maps
 - d. Bump maps
 - e. Labels
 - B. Environment maps
 - C. Backgrounds
4. Lighting
 - A. Basic lights
 - a. Ambient
 - b. Spotlight
 - c. Distant
 - d. Point
 - B. Studio lighting
 - a. Key light
 - b. Fill light
 - c. Back light
5. Scene Building
 - A. Backgrounds
 - B. Terrain generators
 - C. Perspective matching
 - D. Cameras
 - E. Atmosphere
6. Rendering
 - A. Wire frame
 - B. Hidden-line
 - C. Flat shading
 - D. Gouraud
 - E. Phong
 - F. Ray tracing

REQUIRED READING:

Muir, Eden. Inside form.Z, Santa Fe, NM, Onword Press, 1998.

SUGGESTED READING: None

REQUIRED WRITING: The student will write one - 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

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380. Yes No

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS: Projects: 50%, Creative progress in course: 20%, Participation: 10% and 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, C (2) (A)

CONTACT PERSON: Jay Schultz, ext. 2305

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| SIGNATURES ON FILE |
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