

COURSE OUTLINE**Art 237
Creating Textures for 3-D Animation****I. Catalog Statement**

Art 237 provides introductory instruction in the theory and practice of texturing three dimensional (3-D) computer graphic objects. The course begins with a thorough general review of the Maya interface. Maya's rendering module is then discussed in depth so that students understand thoroughly how texturing functions within the overall rendering process. Students learn how to unwrap UV's on a polygon object and create a UV snapshot.

Total Lecture Units: 2.0

Total Studio Units: 1.0

Total Course Units: 3.0

Total Lecture Hours: 32.0

Total Studio Hours: 32.0

Total Faculty Contact Hours: 64.0

Recommended Preparation: ART 230 or equivalent.

*Note: Current industry standard digital animation software (Maya) will be used.

II. Course Entry Expectations

Prior to enrolling in this course, the student will be able to:

1. operate essential user interface devices, such as camera and transformation tools;
2. apply basic modeling tools and techniques;
3. apply basic rendering tools and techniques;
4. apply basic animation tools and techniques;
5. analyze and edit modeling, rendering, and animation data using designated spreadsheets/windows;
6. describe image output.

III. Course Exit Standards

Upon successful completion of the required course work, the student will be able to:

1. navigate the rendering module of Maya;
2. describe the difference between procedural and bitmap textures;
3. use procedural textures to create textures on nurbs objects;
4. unwrap UV's of an inorganic polygon model and create a UV snapshot;

5. unwrap UV's of an organic polygon model and create a UV snapshot;
6. evaluate the topology of a given model with respect to texturing;
7. correct UV parameterization;
8. create, assign and manage a bitmap texture file.

IV. <u>Course Content</u>	Total Faculty Contact Hours = 64
A. Maya's Rendering Module	Lecture 8 hours
1. The hypershade interface	
2. The render view window	
3. The attribute editor	
4. The UV texture editor	
5. In-depth coverage of rendering nodes: lights, materials, textures, utilities, cameras	
6. Procedural and bitmap textures	
7. Alpha channels	
B. Unwrapping UV's	Lecture 8 hours
1. Types of Projection	
2. Theory of UV parameterization	
3. UV parameterization tools	
4. UV snapshot creation	
5. Texture in Photoshop using the UV snapshot.	
C. Analyzing an Object Prior to Texturing	Lecture 8 hours
1. The organic object	
2. Projection use on a given topology	
D. Troubleshooting UV Parameterization	Lecture 4 hours
1. Texture stretching on a surface	
2. The UV map, texture, or projection to eliminate stretching	
3. 3-D procedural textures	
E. Creating a Bitmap Texture	Lecture 4 hours
1. Working between Maya and Photoshop	
Previewing textures in Maya using interactive photorealistic rendering (IPR) and the update .psd textures tool	
2. Constructing a texture using multiple bitmap sources	
F. Laboratories Emphasizing Technical and Aesthetic Development	Studio 32 hours

V. Methods of Instruction

The following methods of instruction may be used in this course:

1. lectures and demonstrations;
2. instructor critique of student work;
3. peer critique of student work;

4. individual instruction of students in a computer lab.

VI. Out of Class Assignments

The following out of class assignments may be used in this course

1. designing a 3-D texture;
2. assigning a 3-D texture to a 3-D digital surface.

VII. Methods of Evaluation

The following methods of evaluation may be used in this course:

1. evaluation of projects and assignments;
2. midterm and final examinations;
3. evaluation of final project.

VIII. Textbook

"Autodesk Maya." *Autodesk Knowledge Network*. Autodesk Inc., n.d. Web. 08 May 2014.

9th Grade Reading Level.

"Maya Learning Channel." *YouTube*. YouTube, n.d. Web. 08 May 2014.

9th Grade Reading Level.

IX. Student Learning Outcome

Upon successful completion of the required coursework, the student will be able to:

1. create, assign and manage a bitmap texture file.