

COURSE OUTLINE

Art 232 Organic Modeling

I. Catalog Statement

Art 232 provides instruction in the modeling of organic objects, such as the human body, the body of an animal, or a fantasy character. Students learn to apply polygon and non uniform rational b-spline (NURBS) modeling techniques to create game-ready or cinema-ready three-dimensional computer graphic (CG) characters.

Units – 3.0

Lecture Hours – 2.0

Total Studio Hours – 4.0

(Faculty Studio Hours 2.0 + Student Studio Hours 2.0 = Total Studio Hours 4.0)

Prerequisite: Art 231 or equivalent.

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

II. Course Entry Expectations

Skills Level Ranges: Reading 5; Writing 5; Listening-Speaking 5; Math 3

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

1. use polygon and nurbs modeling techniques to model a vehicle, building, or piece of furniture;
2. describe polygon modeling tools;
3. describe nurbs modeling tools;
4. diagnose and correct problems within a given geometry;
5. design an inorganic model.

III. Course Exit Standards

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

1. use polygon and nurbs modeling techniques to model a 3-d character from head to toe;
2. evaluate the topology of a given model with respect to texturing and animation;
3. identify topological problems or errors in the construction of a model;
4. evaluate and enhance a model created by someone else.

IV. Course Content

A. Nurbs Tools	8 hours
1. Surface tools	
2. Editing tools	
3. Nurbs theory	
B. Polygon Tools	8 hours
1. The plane	
2. The extrude edge tool	
3. The extrude face tool	
4. The merge edge and merge multiple edge tool	
5. The sculpt geometry tool	
6. The split polygon tool	
7. The split edge ring tool	
8. Triangle count	
C. The Organic Object Prior to Modeling	8 hours
1. Composite topologies	
2. Polygons or nurbs	
3. Optimal topologies	
D. Project Preparation and Execution	4 hours
1. Image planes	
2. Management of nodes	
4. Axial orientation	
E. Troubleshooting Surfaces	4 hours
1. Non-manifold geometry	
2. Zero length	
3. The polygons-cleanup tool	
4. Rebuild geometry	
F. Projects Emphasizing Technical and Aesthetic Development	32 hours

V. Methods of Presentation

The following instructional methodologies may be used in the 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. Assignments and Methods of Evaluation

1. Projects.
2. Peer and instructor review.
3. Review of final projects.
4. Final examination.

VII. Textbook

Alias-Wavefront Company. Learning Maya: Modeling.
Toronto: Sybex Press, Edition 2007.
12th Grade Textbook Reading Level. ISBN 1894893719.