COURSE OUTLINE

**Art 231
Inorganic Modeling**

I.   **Catalog Statement**

Art 231 provides foundation instruction in the modeling of inorganic objects, such as vehicles, furniture, or buildings. The course begins with a thorough review of the modeling interface. Students learn to apply polygonal modeling techniques to create game-ready or cinema-ready three-dimensional objects. Methods of optimizing geometries for output are covered.

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 should be able to:
1. use polygon modeling techniques to model a vehicle, building, or piece of furniture;
2. describe polygon modeling tools;
3. diagnose and correct problems within a given geometry;
4. design the topology of an inorganic object.

IV.   **Course Content**   **Total Faculty Contact Hours = 64**

A. Polygon Tools		Lecture 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		

A. Polygon Tools — Lecture 8 hours
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B. The Inorganic Object Prior to Modeling — Lecture 8 hours
1. Composite topologies
2. Polygons or nurbs
3. Optimal topologies

C. Project Preparation and Execution — Lecture 8 hours
1. Image planes
2. Management of nodes
3. Axial orientation

D. Troubleshooting Surfaces — Lecture 8 hours
1. Non-manifold geometry
2. Zero length
3. The polygons-cleanup tool
4. Rebuild geometry

E. 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 three-dimensional (3D) topology for a human head or body;
2. designing a 3D topology for an animal head or body;
3. designing a 3D topology for an inanimate object.

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*. n.d. Web. 8 May 2014.
9th Grade Reading Level.

"Maya Learning Channel." *YouTube*. YouTube. n.d. Web. 8 May 2014.
9th Grade Reading Level.

IX.   **Student Learning Outcome**

Upon successful completion of the required coursework, the student will be able to:
1. design an inorganic model.