<u>COURSE OUTLINE</u>

Art 245
Digital Sculpture I

I.   <u>Catalog Statement</u>

Art 245 provides students with foundation instruction in digital character sculpture, enabling students to create a basic polygonal mesh in Maya, import this mesh into a digital sculpture software application, and then use the software to add sculptural and textural detail to it. The entire toolset of the digital sculpture software is covered, in addition to practical concerns involved in integrating digital sculptural content into movies or games.

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 (ZBrush or Mudbox) will be used.

II.   <u>Course Entry Expectations</u>

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. <u>**Course Exit Standards**</u>

Upon successful completion of the required course work, the student will be able to:
1. import a polygonal mesh from another three-dimensional (3-D) program into digital sculpture software;
2. operate the digital sculpture software user interface;
3. use 3-D editing tools to add sculptural and textural detail to polygonal mesh;
4. create a displacement map;
5. apply a displacement map to a low-resolution polygonal character.

IV. <u>**Course Content**</u>   **Total Faculty Contact Hours = 64**

A. Polygonal Mesh Creation in Maya   Lecture 6 hours
   1. Topology
   2. Optimization
   3. Quadrilaterals
   4. Cleanup and Troubleshooting
   5. Export

B. User Interface   Lecture 4 hours
   1. Palettes
   2. Tools
   3. Docking
   4. Editing
       a. sliders
       b. buttons
       c. switches
       d. curves

C. 3D Editing   Lecture 6 hours
   1. Mesh Import
   2. Subdividing Mesh
   3. Brushes
       a. Dot
       b. Inflate
       c. Layer
       d. Pinch
       e. Nudge
       f. Smooth
   4. Sizing Brushes

D. 3-D Texture Creation   8 hours
   1. UV surface mapping
       a. Adaptive mapping
       b. Group mapping
   2. Colors

        3. Alphas

    E. Displacement Maps   Lecture 8 hours
        1. Export
        2. Polygon Count
        3. Maya integration

    F. Projects 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 digital character sculpture;
2. painting color and bump detail on a digital character sculpture;
3. exporting and importing a digital character sculpture.

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. 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 course, the student will be able to:
1. use 3-D editing tools to add sculptural and textural detail to a polygonal mesh.