College of San Mateo
Official Course Outline

1. **COURSE ID:** ARCH 146   **TITLE:** Introduction to Advanced 3D Digital Modeling
   Units: 1.0 units **Hours/Semester:** 16.0-18.0 Lecture hours; and 32.0-36.0 Homework hours
   Method of Grading: Letter Grade Only
   Prerequisite: ARCH 120

2. **COURSE DESIGNATION:**
   Degree Credit
   Transfer credit: CSU

3. **COURSE DESCRIPTIONS:**
   Catalog Description:
   > This course provides the beginning architecture student with an elementary exposure to the use of advanced digital 3D modeling software currently being widely utilized by architecture & design students at the university level. At the present time this software is "Rhino 3D". This skill is necessary and critical in order to further our students' effectiveness and facility with the process of designing, thus increasing their transfer success. Students will use a free downloadable student version of the software to complete homework assignments.

4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**
   Upon successful completion of this course, a student will meet the following outcomes:
   1. Use the basic features of the program interface.
   2. Use software to create basic graphic objects-lines, circles, arcs, curves, solids & surfaces.
   3. Model basic objects with software tools & modify curves & surfaces.
   4. Perform elementary rendering of models.
   5. Export/import models from different file formats.

5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**
   Upon successful completion of this course, a student will be able to:
   1. Use the basic features of the program interface.
   2. Use software to create basic graphic objects-lines, circles, arcs, curves, solids & surfaces.
   3. Model basic objects with software tools & modify curves & surfaces.
   4. Perform elementary rendering of models.
   5. Import and export models from different file formats.

6. **COURSE CONTENT:**
   Lecture Content:
   Introduction
   Software Interface (SLO/objective 1)
   Panning & Zooming (SLO/objective 1)
   Creating Geometry (SLO/objective 1, 2)
   Editing (SLO/objective 2, 3)
   Modeling with Solids (SLO/objectives 2, 3)
   Surfacing (SLO/objectives 2, 3)
   Modeling Practice (SLO/objective 3)
   Import-Export (SLO/objective 5)
   Basic Rendering (SLO/objective 4)
   Printing (SLO/objective 5)

7. **REPRESENTATIVE METHODS OF INSTRUCTION:**
   Typical methods of instruction may include:
   A. Lecture
   B. Critique
   C. Discussion
   D. Observation and Demonstration
   E. Other (Specify): Topical drawing exercises

8. **REPRESENTATIVE ASSIGNMENTS**
Representative assignments in this course may include, but are not limited to the following:
Writing Assignments:
   Regularly scheduled brief writing assignments describing strategies used and problems encountered in completing drawing/modeling exercises.
Reading Assignments:
   Regularly scheduled reading assignments from manual and online sources.
Other Outside Assignments:
   Regularly scheduled topical drawing / modeling exercises based upon subject matter presented during lectures.

9. **REPRESENTATIVE METHODS OF EVALUATION**
Representative methods of evaluation may include:
   A. Class Participation
   B. Exams/Tests
   C. Homework

10. **REPRESENTATIVE TEXT(S):**
Possible manuals include:
   A. (corporate). <u>Rhinoceros 3D V5,Training Manual, Level 1</u>, Robert McNeel Associates, 09-30-2013

Origination Date: October 2020
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Effective Term: Fall 2021
Course Originator: Alena Reyes