A. TITLE: 3-D DESIGN

B. COURSE NUMBER: GMMD 301

C. CREDIT HOURS: 3

D. WRITING INTENSIVE COURSE (OPTIONAL): N/A

E. COURSE LENGTH: 15 Weeks

F. SEMESTER(S) OFFERED: SPRING or FALL

G. HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:

two hours lecture, two hours studio/lab each week

H. CATALOG DESCRIPTION:

3-D design bridges the concepts of design with the basic methodologies and concepts of three dimensional fabrication and composition. The course will challenge students to further develop and employ problem solving methodology to a variety of basic conceptual and practical problems in 3-Dimensional space. The course emphasizes the basic sculptural methodologies, including subtractive and additive processes, assemblage, construction, carving, casting, molding, armature, and kinetics/mechanics. The ability to move between 2-dimensional and 3-dimensional conceptualization/realization is the primary focus of this class.

I. PRE-REQUISITES/CO-COURSES:

Introduction to Design (GMMD 102)

J. GOALS (STUDENT LEARNING OUTCOMES):

By the end of this course, the student will:

<table>
<thead>
<tr>
<th>Course Objective</th>
<th>Institutional SLO</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Demonstrate a comprehension and application of visual design theory towards</td>
<td>1. Communication Skills</td>
</tr>
<tr>
<td>theoretical and practical solutions in three dimensional space by thorough and</td>
<td></td>
</tr>
<tr>
<td>successful completion of design problems</td>
<td></td>
</tr>
<tr>
<td>b. Develop and expand creative problem solving ability through application of the</td>
<td>1. Communication Skills</td>
</tr>
<tr>
<td>Design Process (for convergent and divergent development)</td>
<td>2. Critical Thinking</td>
</tr>
<tr>
<td>c. Demonstrate competency of instructions, neatness, and versatility in all</td>
<td>1. Communication Skills</td>
</tr>
<tr>
<td>projects</td>
<td>3. Professional Competence</td>
</tr>
<tr>
<td>d. Demonstrate proficiency of the basic sculptural approaches (Casting, Molding,</td>
<td>1. Communication Skills</td>
</tr>
<tr>
<td></td>
<td>3. Professional Competence</td>
</tr>
</tbody>
</table>
K. TEXTS:


(Example: Textbooks are optional as per instructor. Accompanying instruction manual for any particular 3/D modeling software used within course strongly suggested.)

L. REFERENCES:


M. EQUIPMENT:

Materials

<table>
<thead>
<tr>
<th>Materials</th>
<th>Bristol Board</th>
<th>Construction Paper</th>
<th>Sculptimold/Paper Mache</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracing Paper</td>
<td></td>
<td>Black Ink Pen</td>
<td>Exacto Knife</td>
</tr>
<tr>
<td>Ruler</td>
<td></td>
<td>Pencil box/bag</td>
<td>Sketch Book</td>
</tr>
<tr>
<td>Scissors</td>
<td></td>
<td>Brush</td>
<td>Masking tape</td>
</tr>
<tr>
<td>Gluestick</td>
<td></td>
<td>Portable Memory</td>
<td>Carbon Paper</td>
</tr>
<tr>
<td>Drafting/Drawing Board</td>
<td></td>
<td>Drawing Paper</td>
<td>Plaster</td>
</tr>
<tr>
<td>Duct Tape</td>
<td></td>
<td>Carving knives/Clay Stylus</td>
<td>Acrylic paints</td>
</tr>
<tr>
<td>Mini Hot Glue Gun</td>
<td></td>
<td>Sandpaper</td>
<td>Wire</td>
</tr>
</tbody>
</table>

N. GRADING METHOD: A-F

O. MEASUREMENT CRITERIA/METHODS:

Final Portfolio
Design Exercises
Quizzes/Exams
Final Project, Presentation and/or Exam

P. DETAILED TOPICAL OUTLINE: see attached
Topical Outline

I. Course Syllabus, Revisiting Problem Solving Procedure in 3-D context

II. Design as Problem Solving
   A. Problem
   B. Criteria
   C. Design Space
   D. Establishing 2-D design as one area of a much broader field/endeavor

III. Problem Solving Procedure
   A. Problem creation/posing
   B. Brainstorm
   C. Review and select ideas
   D. Roughs/Mockup/Model
   E. Draft
   F. Analysis and Critique
   G. Redesign

IV. Basic Design Concepts
   A. The Visual Elements
      a. Space
      b. Line
      c. Shape
      d. Texture
      e. Value
      f. Color
   B. The Conceptual Elements
      a. Space
      b. Line
      c. Plane
      d. Volume
   C. The Relational Elements
      a. Detachment
      b. Touching
      c. Overlapping
      d. Interpenetration
      e. Subtraction
      f. Union
      g. Intersection
      h. Coinciding

V. The Principles of Design: Using the Visual Elements
   A. Division of Space
      a. Scale
      b. Positive/Negative Space
      c. Grids
d. Division Structures

B. Balance

   a. Symmetry
   b. Asymmetry
   c. Near Symmetry

C. Unity

   a. Repetition
   b. Pattern
   c. Harmony
   d. Proportion

D. Rhythm

   a. Rhythmic Devices
   b. Direction
   c. Pattern

E. Emphasis

   a. Contrast
   b. Anomaly
   c. Concentration

F. Variety

   a. Transformation
   b. Complexity

VI. Categories of Form

   A. Realistic
   B. Naturalistic
   C. Abstraction
   D. Non-Objective
   E. Translating form between spaces: 3-D to 2-D

VII. The Language and Methodologies of 3-D Design:

   A. Subtraction
   B. Addition
   C. Assemblage
   D. Construction
   E. Carving
   F. Molding
   G. Armature
   H. Kinetics

VIII. Building Models

IX. Surfacing/Finishing

   A. Painting
   B. Polishing
   C. Sanding
   D. Dressing
   E. Feathering
F. Burnishing

X. Relating Text to Image
   A. Analytical vs. Visual: Balancing Text and Image in 3-D Design

XI. Criticizing Designs/Commanding Design Principles
   A. Implementation
   B. Evaluation
   C. Criticism
   D. Practical analysis: making well founded criticism in a very theoretical field
   E. Applying conceptual theory to practical problem solving
   F. Exploring/Discussing Design in various fields

XII. The Relationship between Design and Technology
   A. Function and Aesthetics: or the balance between function and form
   B. Problem solving vs Problem making
   C. The role of technology in problem solving/conception
   D. The role of design in the development and invention of technology
   E. Historical context of design evolution (various fields)

XIII. Texture
   A. Relationship of texture to visual texture

XIV. Repetition as a Form of Change
   A. Creating a super unit from a subunit
   B. Repetition structures