

TST 161 CREATIVE DESIGN

1 course unit - Two (2) one-hour and twenty-minute class periods,
or one (1) two-hour and forty minute period.

Perspectives on the World: Fine and Performing Arts

2011-12 Catalog Data:

(fall and spring)

This is a foundational course that looks at the elements and principles of design as related to practical products, systems, and environments. It introduces students to the creative process practiced by artists, designers, and engineers, valuable to them as both future producers and consumers. Content includes thinking, drawing, and modeling skills commonly used by designers; development of a design vocabulary; the nature and evolution of technological design; the impacts of design on the individual, society, and the environment; patents and intellectual property; human factors; team design; and appropriate technology, risk analysis, and futuring techniques. Design problems are presented within real-world contexts using field trips and outside speakers. Students complete a major design project, document their work through a design portfolio; and present their solutions before the class. Weekly critiques of class projects build fluency, confidence, and creativity.

Textbook: Bevin, Marjorie E., Design Through Discovery, Addison-Wesley, 1994

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- Goals:**
1. To analyze the nature of art and aesthetics as related to design.
 2. To analyze the nature of design as the organization of materials and form in order to fulfill specific purposes.
 3. To discuss the evolution of design within specific cultures.
 4. To discuss the evolution of design in relation to the environment.
 5. To analyze the relationships among technological inventions, social organizations and cultural values.
 6. To use the elements and principles of design to create pleasing products and structures.
 7. To develop a design literacy through the study of historical and contemporary movements in design, art, engineering design, and industrial design.

8. To use design criteria to evaluate selected cultural artifacts.
9. To use a design process to solve problems.
10. To develop technical competencies in sketching and modeling for communication of ideas.
11. To present a design solution to an audience.
12. To use various ideation methods to brainstorm new innovations.
13. To identify and develop a solution in response to a design problem, and carry that solution through to the stage of a working model which can be tested and evaluated.

Prerequisites

by Topic: None

Schedule: (Two one-hour and twenty-minute classes/wk, or periods #1 and #2 combined into one two-hour and forty-minute evening class)

Week	Period #1	Period #2	Reading Asst's Due Dates
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1	Introduction Student Information The Design Process Model	Design communication activity	Txt. Ch. 1 pp 1-24
2	Designing and problem solving – SAFE Brainstorming	Term Project & Group Asst. Team Development	Txt. Ch. 2 pp 25-43
3	The Design Process Ch. 1&2 Designer Profile Asst.	Sketching & Orthographic projection	Txt. Ch. 3 & 4 pp 45-77 Design Communication report Due, Period #2 SOCS Dropbox
4	Patents, Trademarks, & Copyrights Portfolio Logo Asst.	Isometric, Annotated, and Exploded sketching	Txt. Ch. 5 & 6 pp 78-108

Week **Period #1** **Period #2** **Reading Asst's Due Dates**

5	Elements of Design Ch. 3 thru 6	Perspective sketching 1 & 2 - point	Txt. Ch. 7 pp 109-122 Orthographic Due
6	Shading, Shadowing, & Texturing Techniques Assignment	Color Theory Ch. 7 Color Techniques Review for Midterm	Reading review for Midterm Isometric Due
7	MIDTERM EXAM (1 st ½) Through Chapter 6	MIDTERM EXAM (2 nd ½)	Txt. Ch. 8,9,&10 pp 123-175 Portfolio Cover & Logo Due, Period #2 SOCS Dropbox
8	Ergonomics & Human Factors Manikin Asst. Meet w/groups	Anthropometric HPV Research Assignment	Txt. Ch. 11 pp 177-205 Perspective Due
9	Principles of Design Ch. 8, 9, & 10	Term Proj. lab. session	Txt. Ch. 14 pp 259-292 Designer Profile Due Period #2 SOCS
10	Materials Selection Ch. 11& 12	Term Proj. lab. session	Txt. Ch 16 pp 293-317 Shade, Shadow, & Texture Due
11	Packaging Ch. 16	ePortfolio Organization review	Txt. Ch. 15 pp 318-330
12	Industrial Design Ch. 15	Term Project – Lab. Modeling & Finishing	Txt. CH 17 pp 351-377
13	Term Project – Lab. Testing and Finishing	Term Project – Lab. Testing and Finishing	Anthropometric HPV Project Due Period #2
14	Term Project Presentation and Competition	Review for Final Course Evaluation Group Evaluation	ePortfolio Due Last date on SOCS Dropbox
15	FINAL EXAMINATION Comprehensive	*****	

Course Requirements:

1. Students are expected to attend all classes, held in Armstrong room 154. This "Design Room" is used by several classes, and instructors, and must be maintained as a pleasant working environment. There are also tools and materials for fabrication available in Armstrong 135. In both rooms you are always responsible for cleanup before you leave. It would make both rooms more pleasant to work if you not only cleaned up the mess you've made, but also of any other messes that you spot. At the end of each class period, tools and materials must always be put away and the rooms must be ready for the next class or the next group. Note: There are no classes scheduled for AR154.
2. All written assignments will be individually prepared on a word processor, and will incorporate appropriate graphic design elements. All assignments will be graded equally on both content accuracy and aesthetic value.
3. Students are expected to complete all design assignments that will demonstrate the development of graphic design and modeling skills. The due dates for these activities are listed in the outline. At the end of the semester, all of the activities will be presented in an electronic portfolio format. The average of the original design assignments will contribute 20% to the final grade, and the electronic portfolio will contribute 5% to the final grade. The last date for the ePortfolio submission will be listed in the SOCS Dropbox.
4. Each student will be assigned to a design team which will complete a "[Term Design Project](#)". The project will include an operating prototype, a competitive performance event, and a design presentation evaluation. All three parts of the project are due the fourteenth week of the semester. The effort will contribute 25% to the final grade. The competitive/performance event will determine the relative effectiveness of the design solution, and the design evaluation will determine the aesthetic value of the project. At the end of the semester, each team will complete a team evaluation form which will be used in the calculation of individual term project grades.
5. Students are expected to complete two (2) research assignments. The first will be a designer profile, and will contribute 5% to the final grade. The second will be a problem analysis and design presentation that will contribute 10% to the final grade. The due dates for these assignments are listed in the course schedule.
6. There will be one (1) midterm test plus one (1) final exam. The Midterm test is scheduled for the seventh week of the class, and the final exam will be scheduled during the finals week. The midterm test will contribute 15% to the final grade, and the final exam will contribute 20% to the final grade.

7. Additional Graphic supplies needed:

- an inexpensive sketchpad, **no smaller than 8 ½"x 11" and no larger than 14"x17"** plain bond (drawing) paper.
- a carrier/protective envelope at least large enough to hold the sketch pad listed above.
- a couple of 2B and 2H pencils and a "Mars-Plastic" eraser.

"Optional" supplies (if working at home)

- a metal ruler, at least 12 inches long.
- an architect's scale in inches.
- an Xacto knife to hold no. 11 or no. 24 blades.
Get some extra blades.

Grading Procedures:

1. Percentage make-up of grades:

a. Midterm Test.....	15%
b. Final Exam	20%
c. Design Activities	25%
(1) Weekly assignments (avg.)...	20%
(2) Portfolio	5%
d. Term Design Project.....	25% (+/- X)
(1) Prototype Design	9%
(2) Working prototype.....	9%
(3) Demonstration/Competition...	7%
(4) Group Evaluation Factor	X%
e. Research Assignments.....	15%
(1) Designer Profile.....	5%
(2) Problem Analysis.....	10%

Total	100%

2. Letter Grade Equivalent:

A	= 100 - 93
A-	= 92.9 - 90
B+	= 89.9 - 87
B	= 86.9 - 83
B-	= 82.9 - 80
C+	= 79.9 - 77
C	= 76.9 - 73
C-	= 72.9 - 70
D+	= 69.9 - 67
D	= 66.9 - 60
F	= 59.9 - 0