Design Communication Activity_____

Impromptu Design Contest

Creative Design – Dr. Asper

THE GOLF BALL TOWER

Supplies:

30 sheets of letter size photocopy paper
45 in. of ¾" masking tape
1 golf ball

Objective:

The class will be divided into groups of four or five. Each group will design and construct a structure, using the given materials, to support a golf ball on top. The key is to use the materials efficiently, such that **maximum height** is achieved while rigidity is sufficient to carry one golf ball. The group with the highest tower will receive an additional five (5) points on the activity/documentation score

Rules:

- Each team, utilizing an appropriate design process (Cascade Design Process?), will have one hour to complete the design and construction of the tower.
- Each tower must be a ***minimum*** of 30 in. high with a *maximum* base diameter (or square dimension) of 12 in.
- The structure must be free standing, but the base can be fastened to the table or to the floor.
- The top must be designed so that a golf ball will be held in place without rolling.
- Only materials provided may be used. Not all of the materials need to be utilized.
- The paper may be cut, folded, and/or rolled.
- The loaded tower must stand for one minute.

Documentation/Report:

Each student will submit a **200 to 300-word** report that documents the Design Communication Activity. The notes taken during the activity and the following group and class discussions should provide a guide for the content of this report.

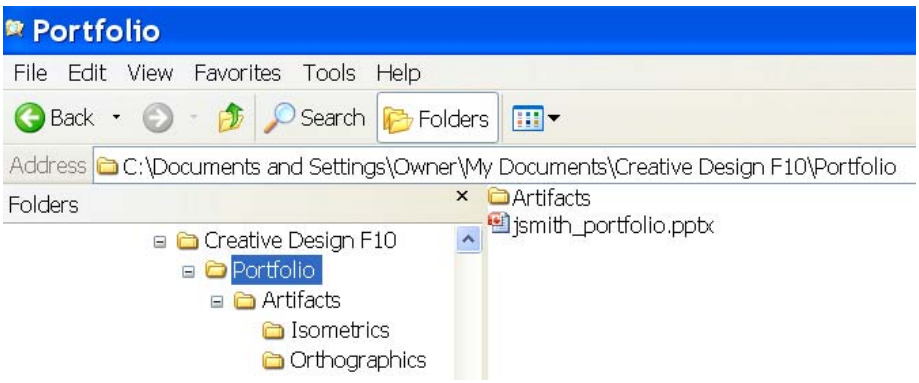
Photos will be taken during the activity and these digital images will be loaded on Dr. Asper's web site. Students should also consider bringing digital cameras (or camera phones) to class to take pictures of the progress of the activity. Selected images will then be used as part of the report. In some cases, sketches may be appropriate. These sketches will be converted to digital images and may be used as well. All photos and sketches will be supported with both captions and text references. The purpose of this documentation activity is to provide an opportunity to **establish a balance between the content** of a report **and the aesthetic value** of the report.

This report should take the form of a newsletter (two or three columns), not the typical report/term paper format. It should clearly:

- Use a heading to announce the activity.
- Document the names in your group.
- Discuss group dynamics
- Discuss both group and technical issues addressed in the activity.
- Use graphic elements to illustrate the activity. (text ref. & caption)
- Use two or three text columns with text wrapped around graphic elements.
- Be organized to draw in and keep the attention of the reader.
- Use as many pages as necessary.

In order to manage course materials for eventual inclusion in a personal e-Portfolio, you will need to begin to collect the documents in electronic form and store in a single folder

- Set up an electronic filing system and set up a naming system for computer-created documents.
- Set up sub-folders for each design activity (example below).



- Open a new document in Power Point or Publisher titled “Creative Design ePortfolio”.
- The first design activity that will be entered into the “ePortfolio” folder will be this “Design Communication Activity”.
- Identify the most appropriate storage and presentation medium (i.e., flash drive, computer hard disk, local-area network, a WWW server, CD-ROM, etc.).
- Collect digitized images from scanner or digital camera.
- **Conversion:** When completed, the document will be **saved as a PDF**. The original Power Point or Publisher files should be maintained for future editing. It is the PDF file that will be submitted for grading through “SOCS” using a specified Dropbox.
- The latest date for submission is listed on the course outline.
- The graded activity will be returned using e-mail, and this evaluation will follow the elements listed below.

Design Communication – Report Evaluation_____

Documentation:

_____ Craftsmanship and overall neatness. (10 possible)

_____ Headline size and complexity (10)

_____ Text consistency in style or spacing (10)

_____ Text, analysis of technical problems (10)

_____ Text, analysis of group communication process (10)

_____ Text type face and size (10)

_____ Text wrap, margins and spacing (10)

_____ Photos, quality, size, and shape (10)

_____ Photos, caption and text reference (10)

_____ Typo, name missing (10)

_____Score (out of 100)

Activity info "click here"

Creative Design Students Get "Tee'd" Off

The creation of the Golf Tower

January24, 2011

Students at the College of New Jersey's creative design class aren't really "Tee'd" off. However they were challenged with the great task of creating the tallest golf tower for extra class credits which just might "Tee" off our savviest of golf enthusiast.

Figure 1: Team members from l to r: Jess, Steve, Trudi and Sam standing with the finished Golf tower.

The team that consisted of Trudi, Jess, Sam and Steve were provided the materials to create the golf tower. List of items included: 30 sheets of 8x11.5 paper, 45inches of masking tape, and 1 golf ball. Since there were minimal materials provided to create their masterpiece, a plan of action had to be created. Rules for this massive tower were as follows; 1 hour to complete, minimum height of 30inches with a maximum base of 12 inches, free standing and able to hold the golf ball for the minimum of 60 seconds, lastly the team was able to use scissors, which was a relief to the team.

Since there was a time limit attached to this challenge, the immediately started brain storming the course of action. That process identified the needs to successfully build the winning tower. Steve took the initiative to spearhead the group and stated that he was familiar with the requirements since he done something similar in his past studies. After careful analysis of the challenge, the team decided to build a tubular base to support the design.

The team agreed to start the base by developing a wide tubular base to support the tower as seen in figure 2. Sam paid attention to detail and measurement of the base agreed upon by the fearless team.

Figure 2: Steve and Sam creating the tubular base

With the tower well on its way, Jess and Trudi identified the particulars, such as the look while the creation was taking place. Since there was a limited amount of tape provided, the group had to minimize the size of the tape use to maximize the opportunity to create the largest tower. One of the obstacles the group came against was whether or not to use tape for the second layer, and if so, how much? After trial and error it was figured that by making smaller tubes and adding small ½ inch slits at the bottom of the second layer of tubes and sliding onto the base will reduce tape usage and provide more balance.

Figure 3: Team discusses second level base design.

Once the base and the second layer was completed, the decision came as how far or simply put how high should the tower be without falling over? To reinforce the tower, the optimal solution was placing additional paper to keep the support sturdy for the golf ball. The tower was sturdy enough withstand 60 second and hold the ball at four feet, so the team decided to extend the height to five feet and results were successful.

Figure 4: Team reinforcing second level base

With only a few minutes to spare the team diligently added the finishing touches to the tower adding the remainder of tape for added support. There were a few more pieces of paper left so instead of discarding the men added the last few pieces adding an additional 3inches to the tower now totaling a whooping 63 inches. Not only did the newly created tower stand freely without assistance, it successfully held the golf ball longer than time required.

Figure 5: The finished product

TST 161 creative Design Class
Norman L. Asper, Ph.D. / Professor

Student Contact info:
Jessica-
Sam-
Stephen-

Engineering Students Reach New Heights

- Dr. Norman Asper's Engineering Class Works Together To Build Tower

On January 21, 2011, Dr. Norman Asper challenged his pupils to once again raise the bar on design. Not only did this design break boundaries but it miraculously had to suspended a golf ball above the air. By chance, the masterminds Nicole , Eddie , Eric , and Orlando were paired together to complete this challenging design. Along with supporting a golf ball, this design had to be made out of a paper. The specifications for such a project included a minimum of 30 inch in height, 12 inch maximum for base, and only 30 sheets of paper and 45 inches of tape were provided. Last but not least, this free standing monstrosity must hold the golf ball for one minute.

The team immediately bonded and worked together to prepare the design. One of the members recorded our progress while the rest of us worked on the construction of the tower. Through the design process our team completed the project in steps. First we asked our selves questions about our design. What will be the best base for such object? How should we support the ball, cone or cylinder? Where should we tape to get the maximum use out of it? All of these questions were raised and later answered through our design. As a group we discovered that a use of cylinders taped together would best support the ball while gaining height. We first built a triangular base with an 11" diameter out of rolled up paper. We then made the center cylinder 30 inches to achieve the minimum requirement. Next support cylinders were made connecting the base corners to the center cylinder. Little cylinders were then cut and taped to the center support beam from the middle of the base cylinders to support the bottom of the center beam. Finally, we added more cylinders to the center beam to gain height. We rolled them and put them inside one another for the best support.

Towering at 50 inches, the tower did its purpose and supported the golf ball. Not only did this amazing design do its job, but it looked great in the end. The creative pyramidal design supported the force of the ball and brought the team great pride. The success of the team was accomplished by our ability to work together and adapt to others opinions and designs.

Image 1- *Shows the ending product of the tower. It exceeds the minimum height requirement while also abiding by the rest of the speculations. It also succeed at supporting the ball for one minute*