## **Class 6 Task List – DEVELOPING 3 ALTERNATIVE SOLUTIONS**

**NOTE: Any team that does not have all Requirements approved by your CEO will spend the part of the class revising and re-sending your Requirements before you will be allowed to brainstorm.**

## **Part 1: Brainstorming Requirements (~30 minutes)**

1. **Project Lead :**

Review these tasks with the team and make any final changes your CEO requested to your Requirements document before your brainstorm.

MAKE SURE YOU SAVE REVISED VERSION in File Exchange and send copy with email asking CEO to review changes made; cc me and UCA. When completed, upload into MyCourses/ File Exchange.

1. **Project Lead:** Review these instructions with Team about Brainstorming. Read aloud. Appoint someone as Conversation Recorder—that is, someone who will right down all ideas in a Google Document to be saved in Google Drive and on File Exchange.
2. **Conversation Recorder:** Open your computer and display the final, approved Requirements Document.

* **Conversation Recorder:** Add a new section to your Google Doc or devise a method for capturing brainstorming ideas.
* **Everyone Else**: Use engineering notebooks, whiteboards, etc. to capture ideas and sketch as brainstorming is happening. \*Note: the conversation recorder is recording the same information in a Google Doc. that will later be saved on Google Drive and in File Exchange.
* \*Only **ONE** computer should be open for each team so that team members are focused on brainstorming and later evaluating ideas..

1. REMEMBER: Each brainstormed design the team develops must fulfill ALL of these requirements. **Project Lead:** Write on the walls, boards, or large notepads on the wall (depending on availability).

**Brainstorming Process:**

* **Brainstorm** as many ideas as possible, using your Evaluation Criteria as a guide while keeping in mind the requirements for the team’s project.
* **Write down your Criteria across the board as Headings**
* Every team member calls out ideas in a round-robin fashion—do this methodically—take one criteria at a time.
* Generate ideas until there are no more ideas for that criteria—then move on to the next until you have brainstormed and have keywords expressing design ideas for all criteria.
* HAVE AT LEAST 10 different ideas under each criteria.
* **It is important to brainstorm many ideas—the first ones you come up with will be the most obvious and easiest—you need to work passed these to get to the original and innovative ideas—that is why you need at least 10—to flush out the obvious.**

1. You can evaluate after each Evaluation Criteria heading OR you can brainstorm everything and then go back and evaluate the ideas listed under every heading.
2. Brainstorm every Evaluation Criteria and any other headings the team has created.

**After the Brainstorming:**

1. When you have finished generating as many ideas as possible for each criterion and heading, use the concepts in the reading to evaluate your ideas.
2. **Take ideas from each of the criteria and develop them into three (3) different viable alternative design solutions—each of which will have to meet all requirements. Each team will need three Viable Designs.**
3. **The team** must choose from the brainstormed lists to create 3 separate designs, even if the some items are duplicated in another alternative.
4. Divide the team into 3 pairs or trios. The pair/trio will be working together on one design solution for the next few weeks.
5. UCA will come around later to have you sign sheet indicating who the pairs/trios are, and what alternative design solution that pair/trio will be working on.
6. **Assign each pair/trio a title: Viable Design 1, Viable Design 2, and Viable Design 3.**
7. Pairs/trios move off from the rest of the team and together read the next part of the Task List: *Part 2: Viable Design.*

## **Class 6 Task List – Part 2: Viable Design**

**Pairs/Trio:**

With your partner(s) your job now is to create a Viable Alternate Design that meets all of your project’s Requirements.

Part of this process will require the pairs to conduct further research to help you with any area of the design you create on which you need more information.

1. First, read the Viable Design Report document and rubric and the Viable Design Presentation rubric.
2. Decide which Member # each person in the pair/trio is going to be and understand what each person is responsible for based on the rubric.
3. Review the Class 6 homework with your pair/trio.
4. Next, **schedule a series of meetings, at least two, with your partner(s).** These meetings **MUST** **take place before Class 7** and in time to get the agreed-upon work completed.
5. Each team member will be expected to complete their portion of the work and show it in class in Class 7.
6. After you review the Class 6 Homework and schedule your meetings, begin the Class 6 Homework in class today. I and the UCA will check your progress throughout the class. Get as far in the process as possible.
7. For this portion of the project, create a new Google Drive Doc just for your pair/trio to use as you develop your design.
8. In your Engineering Notebooks, or on your computer, or both, begin to brainstorm your ideas for the design. Remember, the Evaluation Criteria and Requirements must guide your design. Your design will be evaluated on how well it meets the criteria and it MUST satisfy all the Requirements.

Remember, you are selecting or being assigned ideas brainstormed by the team from each heading for the Evaluation Criteria.

To create your design, use whatever method works for you. You can brainstorm together, or separately, and then share ideas and work together to blend your ideas.

## 

## **Class 6 Homework**

**Due by the start of Class 07**

* Completed Viable Design Report Rough Draft
  + Follow the guidelines in the Viable Design Report document and rubric.
  + Name **Project#\_ViableDesign#\_RoughDraft** and submit to TEAM FILE EXCHANGE.
* Start Viable Design Presentation (will be due and presented in Class 08).
* Team Evaluation Google Form
* **PL:** Email with attached TMM with **updated** Gantt chart screenshot