

# Expectations for student Conferences and Design Reviews

## **Web Conference Expectations:**

- Student will show up on time for the web conferences that have been scheduled.
- Students will have their work downloaded on the computer that they are using for the web conference so that they can share their work on screen
- Student will come prepared with sketches, drawings, and updates to their project.
- Student will have detailed questions to ask about the project.
- Student will have visibly progressed in their project from one web conference to the next.

## **Preliminary Design Review Expectations:**

***Student should be able to have these items present at the Preliminary Design Review***

***You should have a trifold along with your prototype. Your trifold should include your problem trying to solve, your designs (from start to where you are now with main points of what changed along the way), design specifications and constraints, any testing you may have done at this point, pictures taken along the way and this should look professionally done.***

1. Identify and describe the specific criteria for and constraints to the design of a project. (These specific criteria and constraints should be defined from the requesting NASA project)
2. Show how design ideas have gone from concept #1 to final concept design. Show this visually and written summary of the changes (drawings, photographs, and documentation). Make sure that the designs are well drawn with measurements on the drawing.
  - 2a. if you have a larger assembly, please show your separate component parts as well.
3. Make sure to list and describe the materials that you will use/or have used in your prototype and why you chose those materials
4. Preliminary Review should have a 70% complete design with prototype aspects. Should use less expensive materials that you can “show “your design concept. 3D renderings can help to offset prototype proofs.

### **Video Conference Preliminary Design Review Expectations:**

- Students should be familiar on how to zoom conference. If you need a practice session just contact Flo.
- Students will have their work downloaded on the computer that they are using for the video conference so that they can readily share their work on screen.
- Student will have detailed questions to ask about their project to the mentors.
- The Preliminary Conference is a time to share ideas with others. HUNCH Design and Prototyping final projects usually involve a collaboration between teams' ideas. The end goal is to design or redesign the very best item for the astronauts living and working on the ISS.

1. Identify you project, your school, your teacher and your team members.
2. Describe the specific constraints and or requirements to the design of your product. (These specific constraints should be defined for you on the Design PowerPoint or by your research on living and working in a microgravity environment)
3. Describe how your design meets the constraints of the project. Point out all of the good qualities or attributes of your project ideas.
4. If you have a prototype have it ready to show at the conference.
5. Make sure that your ideas are well drawn with measurements in inches and well labeled.
6. Show results of any testing you have done by a demonstration, video or pictures.
7. Preliminary Review should have a 70% complete design with prototype aspects. Should use less expensive materials that you can "show "your design concept.

## **Critical Design Review Expectations:**

*You should have a trifold along with your prototype. Your trifold should include your problem trying to solve, your designs (from start to where you are now with main points of what changed along the way), design specifications and constraints, any testing you may have done at this point, pictures taken along the way and this should look professionally done.*

1. Have all information and Data from the Preliminary Design Review.
2. Have a working prototype along with 3D renderings if possible. Prototype should be 90-95% complete with only some minor tweaks if selected to come to the final Challenge Review in Houston.
3. Testing Data should be present on all components and whole system. This data should be clear and detailed. Any changes made to design based on testing should be shown either in prototype or by design drawings of what will be changed.

## **Final Design Review in Houston for Top Projects**

- The selection of the top 3 teams per project area will start to be determined after the Critical Design Reviews that have taken place regionally across the country (If there is a close tie between projects, the Lead Design Engineer will determine if a 4<sup>th</sup> team may come based on project solution status)
- Projects are chosen on prototype development and meeting the project problems that HUNCH is trying to solve.
- Decisions are made by the Lead Design Engineer with NASA HUNCH to determine those coming to represent best solutions
- This Final Design Review in Houston will take place in the middle of April (Exact Date TBD)
- Final review will require a trifold and prototype to come to Houston
- Projects will be reviewed by astronauts, ISS Program office, Crew Flight systems and Engineering staff

## **Final Review in Houston for Top Projects**

- The selection of the top 3 teams per project area will start to be determined after the Critical Design Reviews that have taken place regionally across the country (If there is a close tie between projects, the Lead Design Engineer will determine if a 4<sup>th</sup> team may come based on project solution status)
- Projects are chosen on prototype development and meeting the project problems that HUNCH is trying to solve.
- Decisions are made by the Lead Design Engineer with NASA HUNCH to determine those coming to represent best solutions
- This Final Design Review in Houston will take place in the middle of April (Exact Date TBD)
- Final review will require a trifold and prototype to come to Houston
- Projects will be reviewed by astronauts, ISS Program office, Crew Flight systems and Engineering staff