NASA Exploration Design Challenge
Design Evaluation Rubric

Category

Design Project Notebook:
The steps of the design process are identified and explained in detail. (___/36)
The problem to be solved is stated clearly. (___/4)
Conditions or restrictions of the solution are acknowledged and addressed. (___/4)
Important information about space radiation was considered in the design of the solution. (___/4)
Background research includes information about past and present radiation shielding materials. (___/4)
Viable solutions are identified during brainstorming. (___/4)
Strengths and weaknesses of each solution are clearly delineated. (___/4)
The reasons the team chose and did not choose possible solutions are clearly identified. (___/4)
Sketches clearly depict the chosen design. (___/4)
Evidence that the design has been redesigned shows an understanding of the iterative engineering design process. (___/4)

Content and Technical Application:
Designs reflect science, technology and mathematical concepts. (___/36)
Design is feasible and based on accurate applications of science and mathematical concepts. (___/4)
Explanation includes evidence of research to support science and mathematical concepts. (___/4)
Design integrates cutting-edge technology. (___/4)
Submitted images clearly illustrate the design. (___/4)
Submitted images include labels to describe and explain the science and mathematical concepts supporting the design. (___/4)
The design and supporting documentation clearly show an understanding of the Orion EFT-1 flight trajectory and the associated radiation environments. (___/4)
All materials in the design are approved for spacecraft IntraVehicular Activity. (___/4)
Modeling software is used to clearly illustrate the design. (___/4)
Modeling software is used to emphasize the science and mathematical concepts supporting the design. (___/4)

Teamwork:
Project shows evidence of collaboration from all team members. (___/20)
Mission patch or logo reflects the team. (___/4)
The Design Project Notebook includes a description of the mission patch. (___/4)
Project elements include contributions from all team members. (___/4)
Reflections from students document individual and team responsibilities. (___/4)
Task interdependency and systems engineering are discussed. (___/4)

Innovation
Evaluators may award up to eight additional points for unique and exceptional work

(Total) ___/100