



QSC Case Competition 2018

Background Info

The year is 2100, and the revitalized Queen's Space Corporation™ is planning an ambitious trip to *Proxima b*, the nearest planet beyond our solar system that may be able to support life. *Proxima b* orbits *Proxima Centauri*, 4.243 light years from Earth. With the capabilities of modern technology, the spaceship is able to travel at 50% the speed of light. At this speed, the craft will reach *Proxima b* after 267 798 hours, or just over 30 years.

The Queen's Space Corporation™ is sending 10 young, fit astronauts on the trip; however, a major concern is how the citizens will occupy their time onboard the spacecraft for 30 years. Orthopedists are extremely concerned for the astronaut's bodies, as 30 years without gravity or easily accessible exercise could leave the astronauts unable perform basic tasks on the newfound planet. Additionally, psychiatrists have expressed their own concerns about the astronaut's mental health. Communicating with only 9 other people for 30 years before the mission even begins could have detrimental consequences to the mental strength of each astronaut, putting the mission success at risk.

The Queen's Space Corporation™ needs your help to develop a system that will keep their astronauts in perfect shape so that the mission on *Proxima Centauri* runs smoothly. Please address *both* sub issues below in your proposal; however, feel free to focus on one if your group deems it more important. For both situations, cost is not a factor, but economic viability is a consideration in judging.

1. Physical Health

Design a system to keep each astronaut in shape for the 30-year journey. Keep in mind the system should be practical for use on an interstellar space-ship. Exercise is not a necessity, as long as the system maintains muscular strength and stability throughout the journey.

2. Mental Health

Propose a solution to keep the astronauts mentally healthy for the duration of the journey. Upon arrival, the astronauts must still have retained all of their background knowledge for the mission, while maintaining a positive relationship with their co-workers.

Presentation

Each group will have 7 minutes to share their PowerPoint presentation, demonstrating to the judges why their solution is the most practical. Feel free to make the presentation as creative as you wish with the resources available to your group. Highlight all of the key points outlined on the next page in the marking scale during your presentation.

Please email your completed PowerPoint to d.steinke@qsconference.com 10 minutes before presentations.





Marking Scale

Team Name:

Practicality

Whether the system proposed can be easily applied to an interstellar spaceship, and used for its desired purpose. Does the solution seem like it will achieve the desired results? Is there evidence that the solution will work?

1 2 3 4 5 6 7 8 9 10 11 12
Does not meet criteria Exceeds expectations

Creativity

Taking an alternative approach to the problem. Developing a new solution that may have practical applications.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Economic Viability

Does the project seem to be within a reasonable budget? Solution should attempt to be as economically feasible as possible.

1 2 3 4 5 6
Does not meet criteria Exceeds expectations

Presentation

Were the speakers engaging and informative? Maintaining eye-contact with the audience, and clearly defining their solution. Total presentation time 7 minutes or under.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Total Score /34





Marking Scale

Team Name:

Practicality

Whether the system proposed can be easily applied to an interstellar spaceship, and used for its desired purpose. Does the solution seem like it will achieve the desired results? Is there evidence that the solution will work?

1 2 3 4 5 6 7 8 9 10 11 12
Does not meet criteria Exceeds expectations

Creativity

Taking an alternative approach to the problem. Developing a new solution that may have practical applications.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Economic Viability

Does the project seem to be within a reasonable budget? Solution should attempt to be as economically feasible as possible.

1 2 3 4 5 6
Does not meet criteria Exceeds expectations

Presentation

Were the speakers engaging and informative? Maintaining eye-contact with the audience, and clearly defining their solution. Total presentation time 7 minutes or under.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Total Score /34





Marking Scale

Team Name:

Practicality

Whether the system proposed can be easily applied to an interstellar spaceship, and used for its desired purpose. Does the solution seem like it will achieve the desired results? Is there evidence that the solution will work?

1 2 3 4 5 6 7 8 9 10 11 12
Does not meet criteria Exceeds expectations

Creativity

Taking an alternative approach to the problem. Developing a new solution that may have practical applications.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Economic Viability

Does the project seem to be within a reasonable budget? Solution should attempt to be as economically feasible as possible.

1 2 3 4 5 6
Does not meet criteria Exceeds expectations

Presentation

Were the speakers engaging and informative? Maintaining eye-contact with the audience, and clearly defining their solution. Total presentation time 7 minutes or under.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Total Score /34





Marking Scale

Team Name:

Practicality

Whether the system proposed can be easily applied to an interstellar spaceship, and used for its desired purpose. Does the solution seem like it will achieve the desired results? Is there evidence that the solution will work?

1 2 3 4 5 6 7 8 9 10 11 12
Does not meet criteria Exceeds expectations

Creativity

Taking an alternative approach to the problem. Developing a new solution that may have practical applications.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Economic Viability

Does the project seem to be within a reasonable budget? Solution should attempt to be as economically feasible as possible.

1 2 3 4 5 6
Does not meet criteria Exceeds expectations

Presentation

Were the speakers engaging and informative? Maintaining eye-contact with the audience, and clearly defining their solution. Total presentation time 7 minutes or under.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Total Score /34





Marking Scale

Team Name:

Practicality

Whether the system proposed can be easily applied to an interstellar spaceship, and used for its desired purpose. Does the solution seem like it will achieve the desired results? Is there evidence that the solution will work?

1 2 3 4 5 6 7 8 9 10 11 12
Does not meet criteria Exceeds expectations

Creativity

Taking an alternative approach to the problem. Developing a new solution that may have practical applications.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Economic Viability

Does the project seem to be within a reasonable budget? Solution should attempt to be as economically feasible as possible.

1 2 3 4 5 6
Does not meet criteria Exceeds expectations

Presentation

Were the speakers engaging and informative? Maintaining eye-contact with the audience, and clearly defining their solution. Total presentation time 7 minutes or under.

1 2 3 4 5 6 7 8
Does not meet criteria Exceeds expectations

Total Score /34

