

Heartland Bio-Innovation Challenge Application Regulations

Complete the application at <https://KS-HBC.ZFAIRS.COM> by 11:59 pm on March 27th.

Provide the following demographic information:

- Name
- Email
- Phone Number
- Year (checkboxes)
- School
- Address
- Gender (option to not declare)
- Racial Identifier (option to not declare)
- Program coordinator (teacher)
- Program coordinator email

Question Submissions

- Identify a research or engineering project check boxes.
- Identify if they are interested in the entrepreneurial track
- Project Title (no more than 160 characters, spaces included)
- A description of the idea and/or hypothesis (no more than 250 words)
- Project goals and strategy (no more than 500 words)
- Relevance to the biological sciences (no more than 250 words)
- If participating in the entrepreneurial track, an explanation of the commercial application for the research or engineering project. (no more than 250 words)
- Optional: reference research, products, and/or commercial plans related to the applicant's project.
- Optional: request for travel support if selected

Scoring Rubrics

Posters will be scored according to a standardized rubric, presented below.

Objective: Evaluate student applications based on completeness, clarity, scientific rigor, creativity, feasibility, and overall impact.

Base Criteria (50 pts possible):

Category	Criteria	Points
1. Completeness of Application (5 pts)	1- a majority of fields are blank; 3- all fields are filled in, but some are not detailed or correct; 5- all fields are filled out thoroughly and correctly.	/5
2. Clarity of Project Description (5 pts)	1- The project idea or hypothesis is incomplete and/or unclear; 3- The project idea or hypothesis is complete but lacks some clarity; 5- The project idea or hypothesis is clearly defined and easy to understand	/5
3. Relevance to Biological or Life Sciences (5pts)	1-The project has nothing to do with biological or life sciences; 3-The project is mainly relevant to biological or life sciences, but is not focused on these areas; 5-The project demonstrates a clear connection to biological or life sciences	/5
4. Project Goals and Strategy (5pts)	1- The goals are vague and not measurable, the strategy will not help reach the goal; 3- The goals are measurable and achievable, the strategy can work to achieve goals though it is not very detailed; 5- The goals are "SMART", the strategy is thorough and methodical with a clear outline to achieve goals	/5
5. Originality (5 pts)	1- The project is stereotypical and/or has been done many times at a high school level; 3- The project is similar to others, but has a unique aspect; 5- The project is novel	/5
6. Complexity (5 pts)	1- The project is basic and aligns with the general curriculum; 3- The project has a couple of parts, and is a bit more specific than the general curriculum; 5- The project has multiple parts, delves into specific topics, and has a twist from the general curriculum.	/5
7. Purpose (5 pts)	1- The goals do not address a problem; 3- the goal addresses a problem, but as a low impact; 5- the goal addresses a problem with a high impact	/5
8. Scientific Merit (5 pts)	1- The project does not follow the scientific method or engineering concepts; 3- The project mostly follows the scientific method or engineering concepts, with some errors; 5- The project is a strong example of applying the scientific method or engineering concepts	/5
9. Feasibility of Completion (5 pts)	1- The project cannot be completed within the timeline; 3- the project has a large scope and will have some challenges to be completed in the proposed timeline; 5- The project should be completed with at least a week for review in the proposed timeline.	/5
10. Potential for Broader Impact (5 pts)	1- There is not an explanation or a highly erroneous explanation of how the project will benefit the community, a specific group, or the field; 3- There is a clear explanation as to how the project could benefit the community, a specific group, or the field, with a low to medium impact, a few minor errors; 5- There is a detailed description as to how the project could benefit the community, a specific group, or the field, with medium to high impact, minimal errors	/5

Scoring Guidelines:

- **Exceptional (45-50 points):** Outstanding performance in all categories; project demonstrates exceptional quality, originality, and impact.
- **Proficient (35-44 points):** Strong performance in most categories; well-planned and thoughtful project with some room for improvement.
- **Adequate (25-34 points):** Satisfactory performance; meets minimum expectations but lacks depth or polish.
- **Needs Improvement (<24 points):** Significant gaps in one or more categories; requires additional effort and refinement.

Additional Comments Section:

Judges should provide constructive feedback to help students improve their projects and presentations.

Entrepreneurial Criteria (20 pts total):

Category	Criteria	Points
1. Commercial Application (5 pts)	1- There is no clear explanation of how the project can be translated into a commercial product or service; 3- There is an explanation of how the project can be commercialized, with some errors or challenges; 5- There is a detailed explanation of how the project can be commercialized, minimal errors or challenges.	/5
2. Innovation and Market Potential (5 pts)	1-The project description does not outline viability in the marketplace, or does not do so clearly; 3- The project has a description outlining potential viability in a marketplace, though the level of impact is not clear or there are a few errors; 5- The project has a thorough description of its viability for the current marketplace with potential high impact for a need	/5
3. Understanding the Commercial Landscape (5pts)	1- The project does not have any references or the references have nothing to do with the project; 3- The project has a few references to existing research, products, or commercial plans mostly related to the project; 5- The project has multiple clear references to existing research, products, or commercial plans that are relevant	/5
4. Entrepreneurial Vision (5 pts)	1- The applicant does not provide a vision of how to turn the project into a business opportunity, or they do but the vision is unrealistic; 3- The applicant describes a vision for turning the project into a business opportunity, it may be missing some details or aspects to the plan; 5- The applicant articulates a clear vision with a detailed plan for turning the project into a business opportunity	/5

Scoring Guidelines:

- **Exceptional (17-20 points):** Outstanding performance in all categories; project demonstrates exceptional quality, originality, and impact.
 - **Proficient (12-16 points):** Strong performance in most categories; well-planned and thoughtful project with some room for improvement.
 - **Adequate (9-11 points):** Satisfactory performance; meets minimum expectations but lacks depth or polish.
 - **Needs Improvement (<9 points):** Significant gaps in one or more categories; requires additional effort and refinement.
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Additional Comments Section:

Judges should provide specific feedback on strengths and areas for improvement for each presentation to support student growth.

Additional Opportunities for Points (5 pts total):

1. Evidence of Background Research (5 pts)	1- The applicant did not provide background research, or the background research is not relevant to the project; 3- The applicant provided a few relevant resources/references with some explanation of the relevance to their project; 5- The applicant provided multiple relevant resources with a detailed description on how they support the project	/5
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Additional Comments Section:

Judges should provide specific feedback on strengths and areas for improvement for each presentation to support student growth.