Excellence Award

is presented to a team that exemplifies overall excellence in building a high-quality robotics program. Team is a strong contender in numerous award categories.

Key criteria:

- Engineering Notebook must be submitted.
- Ranking for the Design Award.
- Ranking for Qualification Matches.
- Ranking for Robot Skills (does not apply to VAIC-HS or VAIC-U).
- Ranking for other judged awards.
- Quality of the team's interview.
- High-quality robotics program.
- Team conduct.

Design Award

is presented to a team that demonstrates an organized and professional approach to the design process, project and time management, and team organization.

Key criteria:

- Engineering Notebook must be submitted.
- Engineering Notebook demonstrates clear, complete, organized record of robot design process.
- Team demonstrates effective management of time, talent, and resources.
- Team interview demonstrates their ability to explain their robot design and game strategy.
- Team interview demonstrates effective communication skills, teamwork, and professionalism.

Engineering Notebook Rubric

Rubrics are strictly confidential; they are not shared beyond the Judges/Judge Advisor and shall be destroyed at the end of the event.

Team #: _____

Program level: ☐ Elementary ☐ Middle ☐ High or VEX U

Judges: _____

Directions: Write the points in each row for the criterion that best describes the performance of the Engineering Notebook on each topic. Total the points.

	Topic	Criteria: Expert *(4-5 points)*	Criteria: Proficient *(2-3 points)*	Criteria: Emerging *(0-1 points)*	Points
Engineering Design Process	Identify game and robot design challenges and goals	Identifies the game challenge or robot design challenge in detail at the start of each design process cycle with words and pictures. States the goals for accomplishing the challenge.	Identifies the challenge at the start of each design cycle. Lacking details in words, pictures, or goals.	Does not identify the challenge at the start of each design cycle.	
	Brainstorm and diagram or prototype solutions	Lists three or more possible solutions to the challenge with labeled diagrams. Citations provided for ideas that came from outside sources such as online videos or other teams.	Lists one or two possible solutions to the challenge. No citations provided for ideas that came from outside sources.	Does not list any solutions to the challenge.	
	Select the best solution and plan	Explains why the solution was selected through testing and/or a decision matrix. Fully describes the plan to implement the solution.	Explains why the solution was selected. Mentions the plan.	Does not explain why the solution was selected or does not mention the plan.	
	Build and program the solution	Records the steps to build and program the solution. Includes enough detail that the reader could recreate the solution following the steps in the Notebook.	Records the key steps to build and program the solution. Lacks sufficient detail to recreate the solution.	Does not record the key steps to build and program the solution.	
	Test solution	Records all the steps to test the solution, including test results.	Records the key steps to test the solution.	Does not record the steps to test the solution.	
	Repeat design process	Shows that the design process is repeated multiple times to improve performance on an individual design goal or overall robot or game performance.	Shows that the design process is not often repeated for individual design goals or overall robot or game performance.	Does not show that the design process is repeated.	
	Usefulness and repeatability	Records the entire design and development process in such great clarity and detail that the reader could recreate the project's history and build the current robot from the notebook.	Records the design and development process completely but lacks sufficient detail to fully recreate the entire project or robot.	Does not record the design and development process or lacks sufficient detail to understand the design process.	
	Record of team and project management	Provides a complete record of team and project assignments; a bound should be in ink; notes from team meetings including goals, decisions, and accomplishments; name or initials of author; each page numbered and dated. Design cycles are easily identified. Includes Table of Contents and/or Index so anyone can easily locate needed information.	Records most of the information listed at the left. Not written in ink. Organized so that team members can locate most of the needed information.	Does not record most of the information listed at the left. Not organized; needed information difficult to locate.	
	Notebook construction	Five (5) points if notebook is bound. If a Digital Engineering Notebook or a printed copy one, five (5) points if the entries contain a time stamp that can be confirmed.	Zero points for any other notebook.	Zero points for any other notebook.	
Describe a few of the best features of the Engineering Notebook:				Total points for Engineering Notebook	

Team Interview Rubric

Rubrics are strictly confidential; they are not shared beyond the Judges/Judge Advisor and shall be destroyed at the end of the event.

Team #: _____

Program level: □ Elementary □ Middle □ HS or VEX U

Judges: _____

Directions: Write the points in each row for the criterion that best describes the quality of the interview. Total the points.

Topic	Criteria			Points
	Expert *(4-5 points)*	**Proficient** *(2-3 points)*	**Emerging** *(0-1 points)*	
Design process and Engineering Notebook	Students clearly explain all aspects of the design process and how they recorded their use of the design process in the Notebook.	Students can explain most aspects of the design process and how they recorded their use of the process.	Students can explain only limited aspects of the design process and how they recorded their use of the process.	
Game strategies and robot designs	Students can describe three or more game strategies and robot designs that were considered; students can fully explain how and why the current game strategy and robot design were chosen.	Students can describe two game strategies and robot designs that were considered; students can explain how and why the current game strategy or robot design were chosen.	Students can describe only their current game strategy and design, or they cannot explain how and why the current game strategy or robot design were chosen.	
Project and team management	Students can explain how team progress was tracked against an overall project timeline, and how students were assigned to tasks based on their skills and availability; students can explain management of material resources.	Students can explain how team progress was monitored, or how students were assigned to tasks, or management of material resources.	Students cannot explain how team progress was monitored or how students were assigned to tasks or how material resources were managed.	
Teamwork and communication	Students can explain how multiple team members contributed to the robot design and game strategy. All students answer questions independently.	Students can explain how most team members contributed to the robot design and game strategy. Students support each other as needed to answer questions.	Only one team member answered questions or contributed to the robot design process.	
Respect and courtesy	Students answer respectfully and courteously. Students make sure each team member contributes. Students wait to speak until others have finished.	Students answer respectfully and courteously. Some students attempt to contribute but are interrupted by other students.	Students do not answer respectfully and courteously. Students interrupt each other or the Judges.	
Describe a few of the best features of the team interview:			Total points for Team Interview:	
			Total points for Engineering Notebook:	
			Total points for both rubrics:	

Team Interview Tips and Sample Questions

Judges need to talk to students, not adults. Occasionally enthusiastic adults may want to answer the Judge's questions. If this is encountered, politely remind the adult(s) that the Judges are there to interview the students.

- Help put the students at ease by asking them questions about their robot.
- Try not to ask yes or no questions. Encourage teams to elaborate on their answers.
- Be prepared to rephrase your questions. It is important to be mindful of differences in communication style. Also be mindful of students who do not speak the language you are using as their first language.
- Be aware of different age levels and approach students in an age appropriate way, especially when talking to younger students.
- Be sure all team members are present and include all team members in the interview.
- Being a Judge gives you a unique opportunity to impact students. They will be looking to you for positive reinforcement. Just a few words of encouragement can make their day.
- Be attentive to students and do not engage in other conversations during interviews.
- Take a picture of each team with their robot so the license plate is visible. This will help you identify teams and robots during later during deliberations.
- Leave the Judge's Note to Missed Teams at the pit table for teams that you cannot locate.
- After interviewing the team, mark the pit sign or the team list to indicate the team has been interviewed.
- Did your team turn in an Engineering Notebook? When did you start making entries?
- What does your robot do and how does it score points?
- How did you develop this robot design?
- Which team members built the robot?
- What part of your robot are you most proud of? Why?
- Were there any other robots that inspired your robot design? How?
- What changes did you make to improve your design during the season?
- Did you use any sensors? What are they used for? How do they operate in your autonomous mode? How do they operate in your driver-controlled mode?
- What problems did you have in working on your robot? How did your team solve them?
- If you had one more week to work on your robot, how would you improve it?
- Has your game strategy been effective? How and why?
- Tell us about your robot's programming. Autonomous mode? Driver control mode? Who did the programming?
- What were the challenges of this year's game that you considered before designing your robot? How did you design your robot to meet those challenges?
- How many subsystems does your robot have? Who was responsible for integrating them? (May be difficult question for VIQC students to answer.)