

# Design Award Rubric

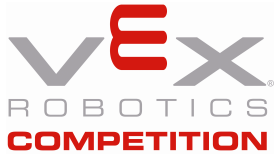
Team # _____
Judges _____



For Design Award details, review the Awards Appendix on [roboticseducation.org/competition-teams/vex-robotics-competition/](http://roboticseducation.org/competition-teams/vex-robotics-competition/)

**Directions:** Mark the descriptor that best describes the team’s performance for each criterion. Write the best features of the team’s Engineering Notebook and Student Interview and Discussion on the back of this page.

Engineering Notebook: The notebook...		See Student Interview and Discussion Criteria on Next Page		
Criteria	Expert (3 points)	Proficient (2 points)	Emerging (1 point)	Points
<b>Design Process: Challenge</b>	Describes the challenge at the beginning of the notebook with words and pictures and states the teams’ goals toward accomplishing that challenge.	Identifies the challenge at the beginning of the notebook.	Neglects to clearly identify the challenge.	
<b>Design Process: Brainstorming</b>	Generates an extensive list of possible approaches to the challenge with labeled diagrams.	Provides an extensive list of possible approaches to the challenge.	Contains a very short list or does not list the results of the brainstorming sessions.	
<b>Design Process: Select Approach</b>	Explains why the selected approach was chosen and why the other alternatives were not chosen.	Explains why the selected approach was chosen.	Does not document why the team selected the approach they did.	
<b>Design Process: Build &amp; Program</b>	Records the building and programming process in such detail that someone outside the team could recreate the robot by following the steps in the notebook.	Documents the key steps in the process of building and programming.	Seems to skip some important steps in the process of building and programming the robot.	
<b>Test &amp; Redesign</b>	Describes in great detail the process of troubleshooting, testing, and redesigning through all iterations (cycles) of the process.	Captures the key results of the troubleshooting, testing, and redesign cycle.	Leaves out important information about the troubleshooting, testing and redesign cycle.	
<b>Usefulness</b>	Is such a detailed account of the team’s design process that the reader could recreate the project’s history. It is a useful engineering tool. It contains evidence that team made decisions about design process based on previous entries. The team can explain why the notebook is organized the way it is.	Is a complete record of the process, documenting the key events of each work session. It is organized in a way that any team member can locate needed information.	Is missing, or lacks the detail needed for the reader to understand the team’s history, and/or is not organized in a way that an outsider can make sense of it.	
<b>Resources</b>	Shows the team’s efficient use of time with an overall project timeline. The team uses checkpoints to help them know how well they are staying on schedule and readjusts their schedule as needed. The notebook illustrates the good use of human resources by assigning members roles based on their strengths.	Documents the team’s efficient use of time with planning and goal-setting for each day’s session. It shows that the team used its human resources wisely by assigning members specific tasks.	Does not provide evidence of the team’s wise use of the team’s time or talents.	
<b>Teamwork</b>	Provides evidence that all team members were consistently involved in the process, that individual team members were self-directed enough to finish what needed to be done, and that all team members consistently shared ideas and respectfully considered each other’s input.	Shows that all team members’ were involved in the process, that members could be counted on because they did what they were supposed to, and that the whole team shared ideas and supported ideas of others.	Suggests that perhaps some team members did most or all the work, that one or more individuals had to be nagged or reminded to do their work, and/or that some team members did not contribute ideas or that their ideas were not considered.	



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Team # _____
Judges _____



Student Interview and Discussion: During the interview...		See Engineering Notebook Criteria on Previous Page		
Criteria	Expert (3 points)	Proficient (2 points)	Emerging (1 point)	Points
<b>Design Process</b>	Students describe the goals of the design process and how the team accomplished the challenge.	Students provide possible goals of the design process but do not clearly identify how team accomplished the challenge.	Students neglect to identify any goals of the design process and cannot describe how the team accomplishes the challenge.	
<b>Design: Methods &amp; Strategies</b>	Students describe multiple design methods and strategies considered; explaining both how and why the current design strategy was selected	Students only describe their current design methods and strategy; explaining only one of either how or why the current design strategy was selected	Students do not describe any of the design methods or strategies considered; do not explain why or how the current design strategy was selected	
<b>Team Work: Contributions</b>	Students explain how each team member contributed to the design and strategy.	Students explain how some team members contributed to the design and strategy.	Students only explain how 1-2 members contributed to the design and strategy.	
<b>Interview: Individual Contributions</b>	All students independently answer the Judges' questions.	Students support each other as needed to answer the Judges' questions.	Students rely on one or two members to answer all the questions.	
<b>Interview: Professionalism</b>	Students present their answers in a respectful and courteous manner to the Judges and other team members, making sure each team member has a chance to contribute and waiting to speak until the other person has finished.	Students present their answers in a respectful and courteous manner to either the team members or the Judges.	Students do not present themselves in a respectful and courteous manner.	
		<b>Total the number of points earned from Student Interview and Discussion:</b>		
		<b>Total the number of points earned from Notebook:</b>		
		<b>Total the number of points combined:</b>		

The REC Foundation thanks Northeastern State University, Oklahoma Teacher Training Program for developing this rubric.

**Comments:** \_\_\_\_\_