Appendix 2: *FIRST* Vex Challenge Award Guidelines

FIRST Vex Challenge *Create* Award Guidelines

	Needs Improvement	Fair	Good	Excellent
Structural Design	- Team has difficulty assembling robot & components during interview - Parts are used inefficiently	- Base structure has some stability - Modules/extremities are difficult to apply - Modules/extremities difficult to maintain - Robot unstable during motion - Difficulty with environmental variations	- Base and modules stable - Robot has some difficulty with variations	- Robot is modular and parts are used efficiently - Base and components very stable - Robot handles environmental variations very well - Robot displays a wide range of capabilities
Locomotion	- Robot has difficulty moving at all - Robot motion is jerky	- Robot motion is appropriate - Robot motion is not repeatable - Robot motion is not precise	- Robot motion is very appropriate - Robot motion is repeatable - Robot has minor difficulties with precision	- Robot drive train is extremely solid - All motions are appropriate for the tasks they do - Robot is very controllable - Robot actions are easily repeated
Manipulation	- Robot has one or no manipulators (attachments) - If there is one, it has extreme difficulty completing tasks	- Robot has 1 or more manipulators - Manipulators are not precise - Manipulator success is not repeatable	- Robot manipulators are capable - Some manipulators are unreliable - Some manipulators are overly complex	- Robot has 1 or more manipulators - Manipulators perform tasks extremely well - Manipulators are robust - Manipulators are simple - Manipulators are reliable - Team can install manipulators with ease
Overall Design	- Robot consists of a basic base design that lacks creativity and/or detailed explanation of how and why team came to that solution	- Robot is solid - Robot shows signs of team's design ideas - Sensors are not used to make the robot tolerant of variations	- Robot is solid (base and components) - Robot was designed by the team - Sensors are well-utilized - Manipulators don't reflect a consistent strategy -	- Robot is a complete system - Robot is consistent with team plan and strategy - All components work together - All components look like they belong together - Design is unique - Design demonstrates creative flair

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	Needs Improvement	Fair	Good	Excellent
Roles & Responsibilities	- No clearly-defined roles on team - Not clear who completed which tasks - Very uneven distribution of work - Time management is poor or purely directed by the mentor	- Loose role assignments - Uneven work distribution - Time management skills are weak	- Clearly-defined roles - Team members understand each other's roles, but focus on their own - Work is distributed fairly - Team members will help each other, if asked - Team mentions learning time management	- Clearly defined roles - Team members understand each other's roles - Team members can fill each other's roles (happily!), if needed - Workload is distributed fairly - Team members assist each other without being asked - Team members give concrete examples of learning time management
Gracious Professionalism	- Team members show little/no respect for each other - Team members show no awareness of school/community issues - Team members compete with each other to be heard during judging - Team doesn't mention gracious professionalism	- Team members show limited respect for each other - Team members show limited awareness of school / community issues - Team talks about gracious professionalism, but gives no concrete examples of what they have done to help others	- Team members show respect for teammates - Team members imply increased awareness of school and/or community - Team members are vague about how this awareness translates into other aspects of their lives Team implies that they have helped each other/other teams	- Team members give concrete examples of respect for teammates - Team members show increased awareness of their school/community - Team members clearly discuss how this increased awareness translates into other areas of their lives - Team members give concrete examples of how they have helped each other/others
Problem-Solving & Team Dynamics	- A problem was identified, but no steps were taken to identify a solution - One team member used power to reach their desired outcome - One person's ideas are used - Team members working against each other - Coercion and/or confrontation	- A problem was identified, but the chosen solution was inadequate to some team members - Some team members didn't accept the solution - Simple majority had input at meetings - Decisions made by simple majority - Coexistence is a dominant theme	- A problem was identified and there is compromise evident in the solution - Team tested various solutions to solve the problem - Cooperation is a dominant theme - Team focuses on individual tasks - Decisions made by most of the team	- A problem was identified and the team worked together to find a solution - Various solutions were tested and then incorporated - Team is willing to accept input - Collaboration and co-ownership are dominant themes - Team members show equality and value each other's roles - Group sees big picture and

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	dominate			overall goals - Members recognize inter-dependence - Decisions made by entire team
Confidence & Enthusiasm	- Only one team member spoke to the judge(s) - No/limited eye contact with judge(s) - Some team members seem disinterested	- About ½ the team spoke to the judge(s) - About ½ the team seems interested - Limited eye contact with judge(s)	- Everyone was ready to answer at least one question from the judge(s) - Most of the team appears excited and interested - Good eye contact with judge(s)	- All team members show confidence in themselves as well as the team - Members work together to include each other - Concrete examples of enthusiasm are shown - Team members show equal investment in FIRST Vex Challenge - All team members speak to the judge(s) - Good eye contact with judge(s)
FIRST Vex Values	- No clear enthusiasm for science, engineering or technology - Team doesn't mention new skills acquired - No mention of future aspirations	- Some members show an interest in science, engineering or technology - Limited attention paid to new skills acquired - Team members imply future aspirations	- Team shows a keen interest in subject matter, but limited use of concrete examples - Team implies new skills acquired - Team members suggest future aspirations - Team talks about how FLL has made a difference	- Group articulates a clear understanding of FIRST Vex Challenge - Team gives concrete examples of their interest in the subject areas - Team members give concrete examples of how they plan to continue in FLL, FRC or subject areas - Team talks about career aspirations - Team clearly talks about how FIRST Vex Challenge has made a difference for them

Appendix 2: *FIRST* Vex Challenge Award Guidelines

***FIRST* Vex Challenge *Think* Award Guidelines**

	Needs Improvement	Fair	Good	Excellent
Engineering Design Notebook Format and Organization	- Did not follow format and/or guidelines found in the FIRST Vex Challenge manual - Overall organization of the Engineering Notebook is poor and impossible to follow the team's journey and robot design ideas - No pictures/drawings with no detail are found in the Engineering Notebook -Team biographies have little to no information about who they are and why they wanted to participate on the FIRST Vex Challenge team	-Followed few formatting elements and/or guidelines stated in the FIRST Vex Challenge Manual -Overall organization of the Engineering Notebook is poor and only some of the team's journey and robot design ideas are noted - Few pictures/drawing are with little to no detail are found in the Engineering Notebook Team biographies have little information about who they are and why they wanted to participate on their FIRST Vex Challenge team	- Followed most formatting guidelines stated in the FIRST Vex Challenge manual -Overall organization of the Engineering Notebook is good and the team's journey and robot design ideas are defined -Some pictures/drawings with details that highlight only parts of the Engineering Notebook - Team biographies have some information about who they are and why they wanted to participate on their FIRST Vex Challenge Team	- Followed all formatting elements and/or guidelines stated in the FIRST Vex Challenge manual - Overall organization of the Engineering Notebook is excellent and the team's journey and robot design ideas are clearly defined and engaging - Pictures/drawings with details documenting all stages of robot design - Team Biographies have a lot of information about who they are and why they wanted to participate on the FIRST Vex Challenge team
The "Journey" and Engineering Design Process	- Team member ideas within the Engineering Notebook is not integrated - Engineering Notebook does not demonstrate an understanding of the engineering design process -Entries within the Engineering Notebook do not highlight the team's journey	- Team member ideas within Engineering Notebook is not well integrated - Engineering Notebook poorly demonstrates an undertstanding of the engineering design process -Few entries in the Engineering Notebook highlight the team's journey	- Team member ideas within Engineering Notebook is integrated - Engineering Notebook demonstrates an understanding of the engineering design process - Entries in the Engineering Notebook highlight the team's journey	- Team member ideas within Engineering Notebook is well integrated - Engineering Notebook demonstrates a clear inderstanding of the engineering design process and team actively used as a tool throughout the FVC season Entries in the Engineering Notebook not only highlight the team's journey but offer insight to competition and design strategies

Appendix 2: *FIRST* Vex Challenge Award Guidelines

Team Awareness and Personality	- Engineering Notebooks Team Personality is not present - Problems were identified within Engineering Notebook but no steps were taken to identify a solution - Only one team member ideas are evident within the Engineering Notebook Decisions made by one team member and/or mentor - Robot built by only one or two team members	- Engineering Notebook Team Personality is not clearly defined - A problem was identified within the Engineering Notebook, but the chosen solution was inadequate to some team members - Simple majority had input and is evident within the Engineering Notebook - Decisions made by simple majority without collaborative discussion -	- Engineering Notebook Team Personality is defined - A problem was identified within the Engineering Notebook and there is compromise evident in the solution - Cooperation is dominant theme - Decisions made by most of the team Team focuses on individual tasks	- Engineering Notebook Team Personality is clearly defined - A problem was identified within the Engineering Notebook and the team worked together to find a solution - Collaboration and co-ownership are dominant themes - Decisions made by entire team - Team members show equality and value for each other roles