

New This Year

Major changes to the VRC Awards Appendix:

- Modified Excellence Award candidate identification process
- Updated the Design Award process
- Added a 3-point Bonus in rubric for bound notebooks, further defined notebook content
- Remove pre-submission requirement for Design at the VEX Robotics World Championship
- Remove pre-submission requirement for Excellence at World Championship
- Changed eligibility requirements for Design Awards at World Championship
- Modified the Inspire Award and dropped it as a pre-submitted award at World Championship
- Remove pre-submission requirement for Innovate, Community, and Teamwork awards at World Championship
- Added the Design Award Rubric
- Added discussion of Student-Centered Teams
- Added Statement on required use of official Award descriptions and judging procedures at qualifying events

Awards Overview

This section details the full list of awards presented in the VEX Robotics Competition. Most local and regional tournaments will offer a small subset of these awards, based on the number of teams at their event. The only event likely to present each and every one of these awards will be VEX Worlds, as warranted by the hundreds of teams competing. The awards presented at each event are chosen by the event planning committee with the help of their Regional Support Manager. Details on the judging process used to select award winners are available in the Judge Guide located at roboticseducation.org/event-partners/event-partner-resources-documents/.

Official events may not change award criteria from those listed below. Events not following the award criteria in this document will not qualify to higher level events. Judges at local and state/regional/provincial events must follow the judging process outlined in the official VEX robotics competition Judge Guide.

Student-Centered Teams: The Robotics Education & Competition Foundation seeks to increase student interest and involvement in science, technology, engineering, and mathematics (STEM) by engaging students in hands-on sustainable and affordable curriculum-based robotics engineering programs across the U.S. and internationally. Judges play an important role in our efforts to ensure that our program remains student-centered. Teachers/Mentors/Parents providing guidance and helping students design, fix or program robots is accepted. Adults doing the majority of the work on a robot, or working on a robot alone without students, is not acceptable, as there is obviously limited student learning and ownership taking place in such a situation.

Judges have the opportunity through observation and interviews to identify teams, schools and clubs that strive to keep their program student centered and that understand the purpose of the program is to enhance the learning process, not to win at all costs. Judges, with input from event staff, are instructed to identify teams that are not student-centered.

Examples of this may include:

- Robots built entirely by adults or, in the case of younger student, mentors (i.e., high school students building robots for elementary or middle school teams).
- Identical robots on two or more teams (so called clone-bots).
- Adults who criticize students from alliance teams for poor performance, failure to perform optimally or who blame other teams for low scores rather than offering positive suggestions.

Judges are instructed not to reward teams that Judges have clearly identified as not student-centered with any Judged awards. The standard set of awards will be offered at most tournaments.

Standard Set of Awards	
Excellence Award	Top All Around Team (Robot Performance & Judged)
Tournament Champion Award	Each Team on Winning Alliance (2 or 3 teams) (Robot Performance)
Design Award	Team with a professional design approach
Robot Skills Champion Award	Top Combined Programming & Driving Skills Challenge Team (Robot Performance)
Judges Award	Recognition from Judges for special accomplishments
Volunteer of the Year Award	Recognized Event Volunteer

In addition to these standard awards, larger events may also offer some or all of the following awards:

Other Awards (Larger Events)	
Tournament Finalist Award	Each Team on Finalist Alliance (2 or 3 teams) (Robot Performance)
Amaze Award	Team with an amazing, well rounded and top performing robot
Build Award	Team with a well-crafted robot
Create Award	Robot with a creative engineering solution
Energy Award	Team with extraordinary enthusiasm
Innovate Award	Team that has the most “Innovative” design feature on their robot
Think Award	Team with an impressive and effective autonomous programming

The remaining awards may be offered at very large events, such as VEX Worlds. For a listing of the awards offered at your event and of the awards that qualify for advancement to championship events, please visit your event page at robotevents.com.

Other Awards (Very Large Events)	
Robot Skills 2 nd Place	2 nd place combined Programming & Driving Skills Challenge Team (Robot Performance)
Robot Skills 3 rd Place	3 rd place combined Programming & Driving Skills Challenge Team (Robot Performance)
Community Award	Team with extraordinary community involvement and awareness
Inspire Award	Team that has inspired judges with their accomplishments
Service Award	Team that goes above and beyond to assist other teams at an event
Sportsmanship Award	Team that is extremely courteous and most enthusiastic
Teamwork Award	Group with multiple teams competing and communicating together
Mentor of the Year Award	Recognized Volunteer Team Mentor
Partner of the Year Award	Recognized Event Sponsor/Supporter
Teacher of the Year Award	Recognized Team Teacher

The following Awards are part of the Online Challenge program.

Online Challenge Awards (Submitted in January)	
VEX Promote Award	Team with the best Online Challenge video submission
Girl Powered: In Her Words Storybook Challenge	Team with the best Girl Powered Challenge story submission
Robomatter VEX Robot Virtual Worlds	Team with the best Robot Virtual Worlds submission
VEX Photo Challenge	Team with the best Photo submission
Texas Instruments Electronics Challenge	Team with the best electronics study
Dell Technologies Website Challenge	Team with the best Website submission
REC Foundation STEM Educational Video	Team with the best Educational video submission
Autodesk Make it real CAD Challenge	Team with the best Cad & 3-D printing submission
VRC Game Design Animation Challenge	Team with the best New Game Design Animation
FUTURE Foundation Robot Construction Challenge	Team with the best design meeting the year's challenge

Team Professionalism and Ethics

The REC Foundation considers positive, respectful, and ethical conduct to be an important and essential component of the VEX Robotics Competition. Ethics is an important part of every engineer's professional training and practice. Judges will consider team conduct in determining awards. Judges will consider students, mentors, and adults to be team members.

Excellence Award

The **Excellence Award** is the highest award presented in the VEX Robotics Competition. This award is presented to a team that exemplifies overall excellence in creating a high quality VEX Robotics program. This team is a strong contender in numerous award categories. Excellence winners must have an engineering notebook.

Key criteria:

- Design Award ranking
- Tournament Qualification Matches ranking
- Robot Skills Challenge ranking
- Other Judged Award rankings
- High quality VEX robotics program

Some events may offer two Excellence Awards, one for the top overall Middle School team and one for the top overall High School team, if they have at least ten (10) teams in each group.

Excellence Award at VEX Worlds

At VEX Worlds, Excellence Awards will be offered at the Middle School and High School levels. Please note that if an individual team receives the Excellence Award at VEX Worlds, then the award is given to that team's school or organization, not just to the individual team. Schools or organizations that won the Excellence Award in the previous three years will not be eligible for the Excellence Award at VEX Worlds.

At VEX Worlds, only individual teams that have submitted at least two different VEX Online Challenges, have won an Excellence Award at an official event during the current competition year, and have submitted their Engineering Notebook will be considered for the Excellence Award.

The Online Challenges may be found at: roboticseducation.org/online-challenges/

Each qualified team will be given a single Excellence Award Interview slot. Schools or organizations with more than one eligible team will be given one Excellence Interview slot with the score from the interview shared by all eligible teams from the school or organization.

Team interview schedules will be forwarded to eligible teams the week of Worlds. Teams should be sure that they have listed a contact email that they may access at the event.

Design Award

The **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. Only teams that submit Engineering Notebooks are eligible for the Design Award.

Key criteria:

- Engineering Notebook is a clear, complete document of the team's design process
- Team is able to explain their design and strategy throughout the season
- Team demonstrates personnel, time and resource management through the season
- Teamwork, interview quality, and team professionalism.

Design Award Rubric

Judges will use the Design Award Rubric to evaluate the teams' performance on the award criteria. The first page of the Design Award Rubric is used to evaluate the quality of a team's Engineering Notebook. The second page of the rubric is then used to evaluate the students' understanding and application of an effective robot design process, as demonstrated in their team pit interview with Judges. The Design Award Rubric is available in the Judge Guide and at roboticseducation.org/event-partners/event-partner-resources-documents/.

Design Award – Engineering Notebook

One of the primary missions of the VEX Robotics Competition is to help students acquire real world life skills that will benefit them in their academic and professional future. The Engineering Notebook is a way for teams to document how the VEX Robotics Competition experience has helped them to better understand the engineering design process while also practicing a variety of critical life skills including project management, time management, brainstorming, and teamwork.

Each notebook is created through a concerted effort by a team to document their design decisions. Large events may send a Design Award winner as well as the Excellence Award winner to a state or regional championship, so teams should start their notebooks early and update them often.

Engineering is an iterative process whereby students recognize and define a problem, brainstorm and work through various stages of the design process, test their designs, continue to improve their designs, and continue the process until a solution has been identified. During this process, students will come across obstacles, encounter instances of success and failure, and learn many lessons. It is this iterative process that students should document in their Engineering Notebook.

The Engineering Notebook provides an opportunity to document everything a team does during the design process. Students should include a number of items in their Engineering Notebook including: a table of contents, team meeting notes as they relate to the design process, design concepts and sketches, pictures, notes from competitions regarding observations that should be considered in the next iteration of their design, team members' observations and thoughts on their design, team organization practices as they relate to their design process, and any other documentation that a team finds useful as related to their robots design. The team should also document their project management practices including their use of personnel, financial, and time resources.

A good notebook would allow a person who is unfamiliar with the team's work to take over the robot design/construction based on a team's detailed design documentation.

The Engineering Notebook provided by the REC Foundation with team registrations includes hints on good notebook practices and gives examples of good practices. A bound quad-ruled notebook is the preferred format. You may use the notebook provided by VEX or purchase your own bound notebook from any one of many online sources. The notebook should never be edited. The team number should be on the cover. The notebook should be written in ink with errors crossed out using a single line. Pages should be numbered and entries should be dated in chronological order with each page signed or initialed by the students. Additional materials such as computer code or CAD drawings should be glued or taped into the notebook. Pages should never be removed from the Notebook even if they contain errors.

Note to Teams: Judges will not accept Electronic notebooks on lap tops, thumb drives, or cloud based servers. The Design Rubric may be found in the Judges guide which is posted on the RoboticsEducation.org website. Teams will be interviewed in their pit area during local and state competitions.

Design Award at VEX Worlds

Teams must have been awarded the Design or Excellence Award at a state/regional/provincial/national qualifying event to be eligible for Design at VEX Worlds. Eligible teams will be notified in advance to submit their Engineering Notebooks at check in. Teams with high quality Engineering Notebooks will be selected for Design Award interviews in the Team Pit Areas. Teams are not given scheduled sit-down interviews for the Design Award at VEX Worlds.

Judges Award

The Judges Award is presented to a team that the Judges determine is deserving of special recognition. Judges consider a number of possible criteria for this award, such as team displays of special attributes, exemplary effort and perseverance at the event, or team accomplishments or endeavors throughout the season that may not fit under existing awards, but are nonetheless deserving of special recognition.

Robot Performance Awards

The **Tournament Champions Award** is presented to the winning alliance (2 or 3 Teams) of the VRC tournament.

The **Robot Skills Champion Award** is presented to the team with the highest combined Programming and Driving Skills Challenge score. A team's combined score will be determined by adding their highest Programming Skills score and their highest Driving Skills score at a single competition. Teams competing in only one of the two skills challenges will receive a zero score in the challenge in which they did not participate.

The **Tournament Finalists Award** is presented to the runner-up alliance (2 or 3 Teams) of the VRC tournament. Some events may choose to present this award.

The **Robot Skills 2nd Place Award** is presented to the team with the second highest combined Programming and Driving Skills Challenge score. Some events may choose to present this award.

The **Robot Skills 3rd Place Award** is presented to the team with the third highest combined Programming and Driving Skills Challenge score. Typically, only VEX Worlds will offer this award.

Technical Judged Awards

These awards and most of the Other Team Judged Awards are Judged using the VEX Awards Scoring Sheet, which is available at roboticseducation.org/competition-teams/vex-robotics-competition/.

The **Amaze Award** is presented to a team that has built a competition robot that clearly demonstrates overall quality. A solid mechanical design along with demonstrated robot programming, robustness, strong performance and consistency are key attributes assessed for this award.

Key criteria:

- Robot design is consistently high-scoring and competitive
- Robot demonstrates a solid mechanical design and is robustly constructed to fulfill its designed task
- Robot autonomous mode is consistently successful
- Robot is robustly constructed to fulfill its designed task
- Teamwork, interview quality, and team professionalism

The **Build Award** is given to a team that has built a well-crafted and constructed robot that also shows a clear dedication to safety and attention to detail.

Key criteria:

- Robot construction is of professional quality; robust, clean and elegant use of materials
- Robot efficiently uses mechanical and electrical components
- Robot is designed with a clear dedication to safety and attention to detail
- Robot demonstrates reliability on the field and holds up under competition conditions
- Teamwork, interview quality, and team professionalism.

The **Create Award** is presented to a team whose robot design incorporates a creative engineering solution to the design challenges of this season's game.

Key criteria:

- Robot is a well-crafted, unique design solution, demonstrating creative thinking
- Team has demonstrated a highly creative design process and methodology
- Team has committed to ambitious and creative approaches to playing the game
- Teamwork, interview quality, and team professionalism

The **Think Award** is presented to a team that has developed and effectively used quality programs as part of their strategy to solve the game challenge.

Key criteria:

- All programming is cleanly written, well documented, and easy to understand
- Team has explained a clear programming strategy to solve the game challenge
- Team demonstrates their programming management process, including version history
- Team's autonomous code is consistent and reliable
- Teamwork, interview quality, and team professionalism

Other Judged Team Awards

The **Community Award** is presented to a team that should be recognized for making a difference in the community. This award may be Judged by the local VEX Robotics Organizing Committee. This team demonstrates strong community building skills and has made many contributions to help support students and teams beyond their own school. This award is given to a team that makes a concerted effort to raise support in their community for technology education programs.

The **Energy Award** is presented to a team that displays a high level of enthusiasm and passion at the event.

Key criteria:

- Team maintains a high level of excitement and energy throughout the event
- Team's passion for competition and robotics enriches the event experience for others
- Teamwork, interview quality, and team professionalism

The **Innovate Award** is presented to a team that has demonstrated a strong combination of ingenuity and innovation in designing their VEX robot. This award will typically recognize a specific, unique piece of engineering that exemplifies thinking outside of the box and innovative engineering design. This robot feature should also be a part of the engineering design solution that solves the complex problems presented by the VRC game.

Key criteria:

- Robot design demonstrates an ingenious and innovative piece of engineering
- Innovative feature is soundly crafted and is an effective solution to a design problem
- Innovative solution is integrated as a part of an overall well-crafted robot
- Students understand and explain why the innovative feature was necessary
- Teamwork, interview quality, and team professionalism

The **Inspire Award** is presented to a team that has inspired judges with their approach to competitive robotics. This team will effectively communicate their passion for the VRC program and maintain a positive attitude throughout the event. The team will have a clear vision for their future and will participate with both a high level of integrity and good sportsmanship. This team demonstrates that they believe they can achieve what they set out to achieve through their diligence.

The **Service Award** is given to a team that is always willing and able to help other teams in need of assistance. VEX Worlds uses ballots for this award.

Key criteria:

- Team is willing to help others by sharing resources, knowledge, and encouragement
- Team has helped not only alliance partners, but all teams, by sharing resources
- Team has enriched local VRC events by volunteering personnel and/or resources

The **Sportsmanship Award** is presented to a team that has earned the respect and admiration of the volunteers and other teams at the event. VEX Worlds uses ballots for this award.

Key criteria:

- Team is courteous, helpful, and respectful to everyone at the event, on and off the field
- Team treats others on the playing field in the spirit of friendly competition and cooperation
- Team demonstrates respect and willingness to help event staff, other teams and spectators
- Team demonstrates excitement and enthusiasm throughout the event

The **Teamwork Award** is presented to a group of teams from a single school, or organization, that demonstrates a season-long commitment to cooperation, unity and mutual respect. The Teamwork award is presented to a school, or an organization, that has built a sustainable multi-team robotics program. This award recognizes a school, or a group of teams from a single organization, that demonstrates the ability to field multiple independent robotics teams which also work and collaborate together to enrich the experience of all students involved.

Online Challenge Awards

The VEX online challenge rules and judging criteria are located on the Online Challenge site which is found at: <http://challenges.robotevents.com/>. Online Challenge submissions are due in January.

Individual Awards

The **Mentor of the Year** award is given to a mentor or engineer that has helped students achieve goals that were seemingly out of reach. This individual is a role model, a leader and an extraordinary mentor who helps show students new ways to expand their knowledge and solve problems in the worlds of STEM. The recipient of this award will be nominated by the students on their team with a written submission detailing how the mentor inspires, motivates and educates students in a positive, enthusiastic and challenging atmosphere.

To be considered for this award at the VEX Worlds, teams must pre-submit a 500-word essay through the VEX Worlds awards page at robotevents.com/vexawards/, which will be available from **February 1, 2018, until March 20, 2018**. Late submittals will not be accepted for this award.

The **Partner of the Year Award** is presented to an organization that consistently supports students and schools as they pursue excellence in the VEX Robotics Competition. There are many partners and organizations that deserve recognition for their support of the REC Foundation and the VEX Robotics Competition. This partner supports student and school efforts to advance educational opportunities in Science, Technology, Engineering, and Math (STEM) subject areas; their generosity creates a positive impact for all those touched by the VEX Robotics Competition. The recipient of this award is recognized as a “champion” that fights for affordability and accessibility for all participants.

The **Teacher of the Year Award** is presented to a teacher who shows true leadership and dedication to his or her group of students. The winner of this award continually exceeds expectations to ensure a safe, enjoyable and educational experience for all students. The recipient of this award will be nominated by the students on their team with a written submission detailing how the teacher inspires, motivates and educates students in a positive, enthusiastic and challenging atmosphere. To be considered for this award at the VEX Worlds, teams must pre-submit a 500-word essay through the VEX Worlds awards page at robotevents.com/vexawards/, which will be available from **February 1, 2018 until March 20, 2018**. Late submittals will not be accepted for this award.

The **Volunteer of the Year Award** is presented to an event volunteer who demonstrates a commitment and devotion to their community, putting in many hours of hard work with persistence and passion to help make events happen. To be considered for this award at the VEX Worlds, the volunteer must be nominated by a member of the REC Foundation staff.

Design Award Rubric

Team # _____
Judges _____
Evaluator 2 _____



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
Design Process: Challenge	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.	
Design Process: Brainstorming	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.	
Design Process: Select Approach	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.	
Design Process: Build & Program	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.	
Test & Redesign	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.	
Usefulness	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.	
Resources	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.	
Teamwork	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.	
Total the number of points earned from Notebook (Add 3 pts for a bound notebook & enter the number on page 2 of this rubric):				

Rubrics are confidential judging documents and should not be returned to the team, coach, or Event Partner. Rubrics should be destroyed immediately after the Judge Advisor has recorded the winning team.

Design Award Rubric

Team # _____
Judges _____
Evaluator 2 _____



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
Design Process	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.	
Design: Methods & Strategies	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	
Team Work: Contributions	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.	
Interview: Individual Contributions	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.	
Interview: Professionalism	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.	
Total the number of points earned from Student Interview and Discussion:				
Total the number of points earned from Notebook: (including bonus for bound notebook)				
Total the number of points combined:				

The REC Foundation thanks Northeastern State University, Oklahoma teacher training program for developing this rubric.

Comments: _____