2022 REC FOUNDATION EVENT PARTNER SUMMIT

JULY 12-13

Effective Judging at Events: An Overview of the Updated Judge Guide

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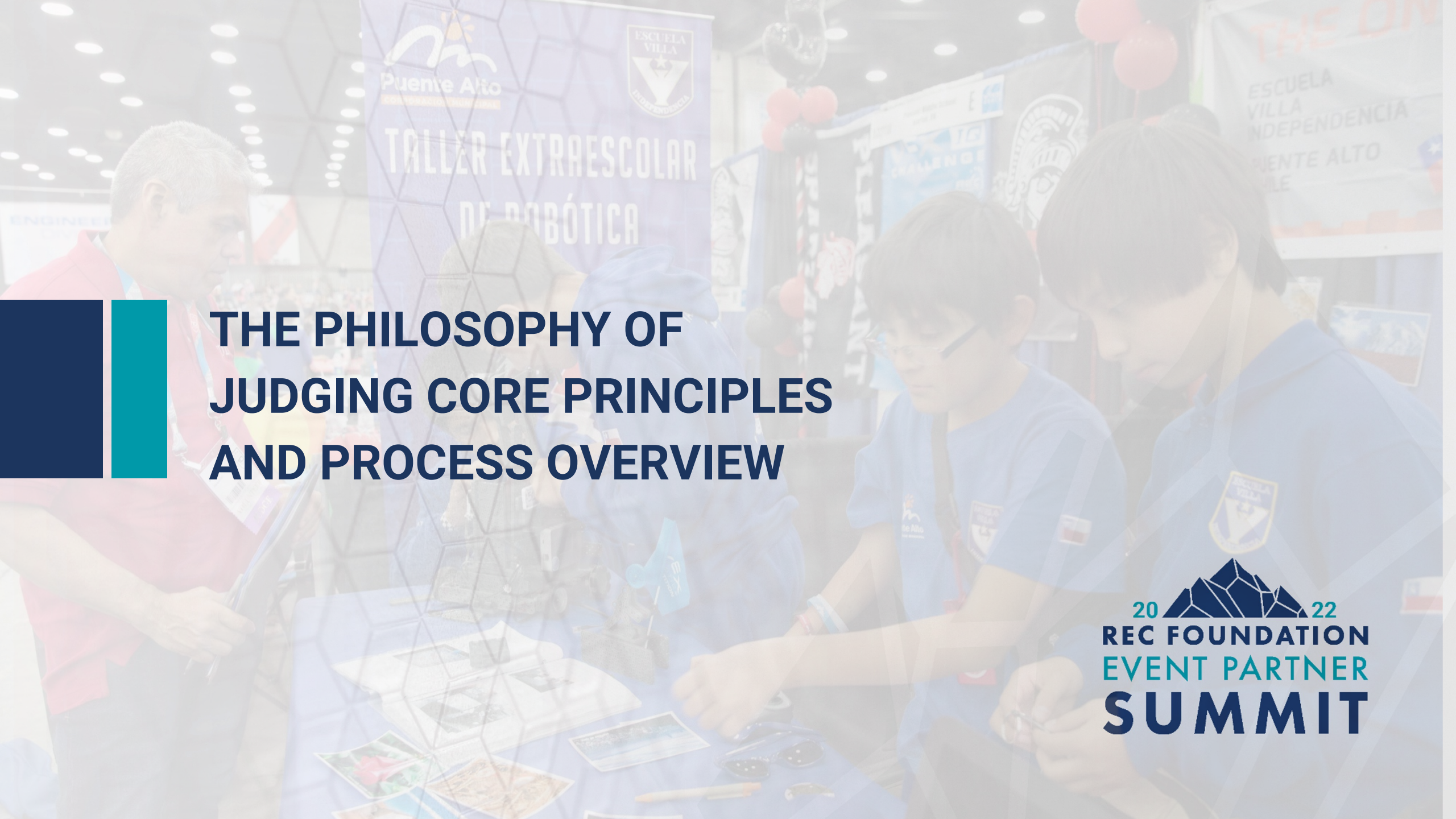
EFFECTIVE JUDGING AT EVENTS
AN OVERVIEW OF THE UPDATED JUDGE GUIDE

THIS PRESENTATION WILL COVER

- **Maintaining Continuity:** Aspects of Judging that have not changed
- **How Judging Is Conducted**: Overview of the process
- **The Values of Judging:** Philosophy and Core Principles
- **Updates and Changes**: Updates to the Judge Guide, new tools, updated rubrics
- **Remote Judging:** Updated and clarified



THE PHILOSOPHY OF JUDGING CORE PRINCIPLES AND PROCESS OVERVIEW

2022 REC FOUNDATION EVENT PARTNER SUMMIT

ASPECTS OF JUDGING THAT ARE UNCHANGED

MAINTAINING CONTINUITY FROM PAST SEASONS

- Judge volunteer roles
- Overall judging process - though verbiage has been clarified
- Guiding ethos of the judging process - such as confidentiality in deliberations
- Requirement that all teams at an event should **have equal opportunity** to be judged
- Acceptance of Digital Engineering Notebooks
- Notebook requirements for certain awards
- Requirement that only official rubrics and award descriptions be used

JUDGING ROLES

Event Partner

- Recruits Judge Advisor able to objectively manage the judging process
- Determines which awards to offer
- Collaborates with Judge Advisor in recruiting sufficient Judges
- Provides secure, quiet, spacious room for Judge deliberations (Judges' Room)
- Provides judging supplies such as clipboards, rubrics, etc.
- Does not directly participate in any deliberations

Judge Advisor

- Should complete Judge Certification course
- Organizes and oversees the overall judging process at an event
- Prepares a judging schedule based on event size and agenda
- Manages conflicts of interest of Judge volunteers with teams at the event
- Facilitates deliberations and delivers final award winners to Event Partner / TM Operator

Judge

- Evaluates teams to determine eligibility for judged awards
- Conducts one or more activities at the event, as assigned by the Judge Advisor:
  - -Evaluate Engineering - Notebooks
  - -Interview teams
  - -Observe teams
  - -Present awards
- Work together to deliberate award winners

JUDGING OVERVIEW

THE JUDGING PROCESS

Event Partner recruits a qualified Judge Advisor to create judging schedule to track event agenda ***at the direction of the Judge Advisor:***

- Judges review and rank Engineering Notebooks according to overall quality
- Small Judge groups (~2-3) divide teams into subsets in order to interview **all** teams at an event
- Each Judge group selects their top candidates for each award from their subset of teams
- Deliberations may involve additional interview/observations - judge groups may cross-interview so finalists are interviewed by additional group of judges
- Judges nominate the final candidates for each judged award
- Performance information is factored in at the end of Qualifying Matches for some awards
- Awards are usually presented at the conclusion of the event during or after finals

THE IMPORTANCE OF JUDGING

WHY OFFER JUDGED AWARDS AT YOUR EVENT?

- Judging is an integral part of REC Foundation programs
- The Judging Process gives students an opportunity to
  - practice written and verbal communication skills through the Team Interview and Engineering Notebook
  - demonstrate values of the REC Foundation Code of Conduct and Student-Centered policies
- Judging recognizes and celebrates what teams have learned and the hard work they have put into the competition as an educational activity
- Judged awards can qualify teams to higher levels of competition

Note: If Event Partners do not have the resources to comfortably conduct judging, events can run without it, but will be limited to qualifying teams via performance-based awards alone

THE ETHOS OF JUDGING

CORE PRINCIPLES FOR JUDGES

Confidentiality

Discussions & notes are kept confidential

Impartiality

Judges disclose any conflicts of interest and avoid impropriety

Consistency

Teams evaluated under similar conditions using the same materials

Qualitative Judgement

Judges use their judgement to evaluate teams

Inclusion

ALL teams must given an opportunity to be interviewed

Balance

No team can earn more than one JUDGED award

Integrity

Awards should go to the teams that earn them

Youth Protection

Safety of students is top priority

Student-Centered Teams

Judging recognizes student-centered teams

Team Ethics and Conduct

Teams must abide by the Code of Conduct

THE ETHOS OF JUDGING

CORE PRINCIPLES FOR TEAMS

- A team that earns an award should be **Student-Centered**
- A team that earns an award should abide by the REC Foundation **Code of Conduct**
- The **Team Interview is a conversation between students and judges** - it is not a prepared presentation
- The Interview and Notebook are **genuine reflections** of student work
- The Engineering Notebook is developed **by the team, for the team** - not a “presentation notebook” designed for the judges to look at
- There is **no magic formula** for winning an award
- **Each award is a worthy accomplishment** in its own right - no award should be seen as a consolation prize

THE 2022-2023 JUDGE GUIDE CHANGES AND UPDATES

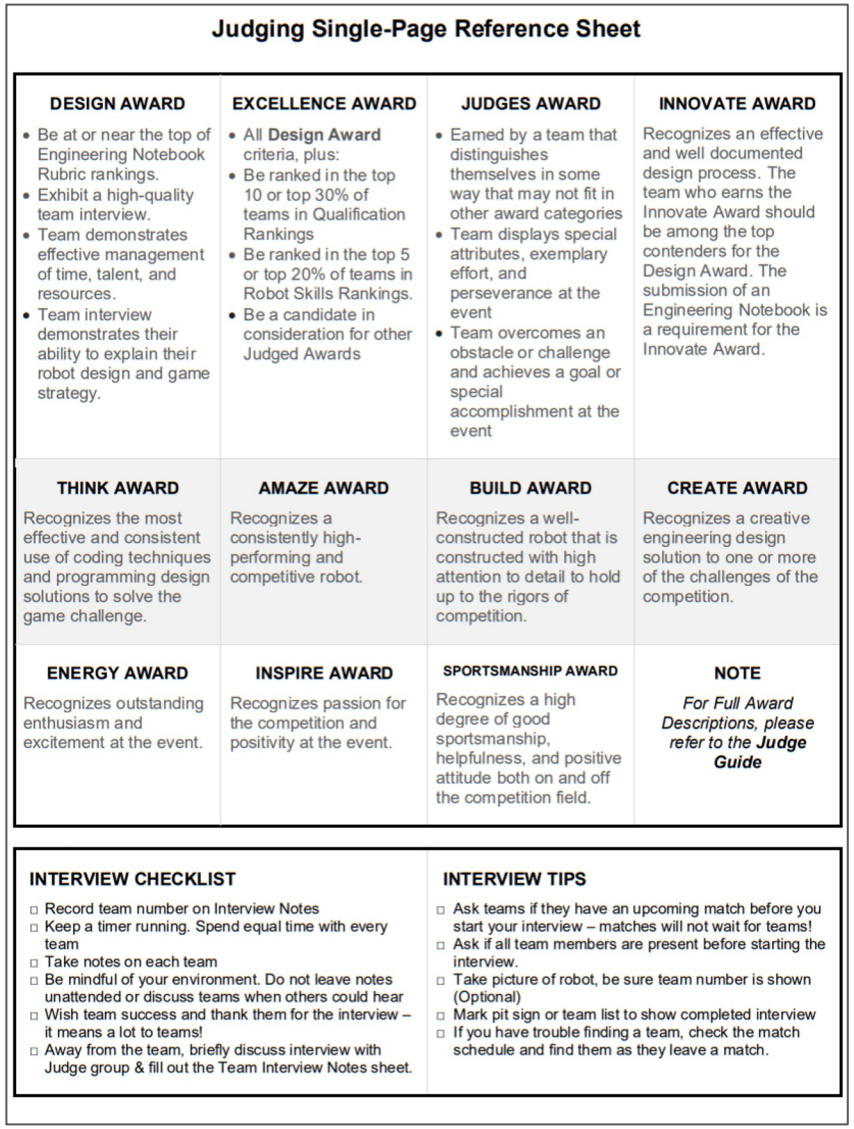
2022 REC FOUNDATION EVENT PARTNER SUMMIT

THE 2022-2023 JUDGE GUIDE

UPDATED AND STREAMLINED

Overall Goal Make the Judging Process easier for new volunteers to understand, make it more consistent between events, and make it easier to accomplish with improved tools and instructions

- Verbiage changes made to the award criteria & descriptions
- Clarified descriptions of judging processes, including step-by-step descriptions
- More closely-aligned Team Interview and Engineering Notebook Rubrics with award criteria
- New tools added to aid Judges, including a note-taking form, a one-page reference sheet, and award ranking sheets
- Remote Judging explained in its own section of the Judge Guide



Judging Single-Page Reference Sheet

DESIGN AWARD	EXCELLENCE AWARD	JUDGES AWARD	INNOVATE AWARD
• Be at or near the top of Engineering Notebook Rubric rankings. • Exhibit a high-quality team interview. • Team demonstrates effective management of time, talent, and resources. • Team interview demonstrates their ability to explain their robot design and game strategy.	• All **Design Award** criteria, plus: • Be ranked in the top 10 or top 30% of teams in Qualification Rankings • Be ranked in the top 5 or top 20% of teams in Robot Skills Rankings. • Be a candidate in consideration for other Judged Awards	• Earned by a team that distinguishes themselves in some way that may not fit in other award categories • Team displays special attributes, exemplary effort, and perseverance at the event • Team overcomes an obstacle or challenge and achieves a goal or special accomplishment at the event	Recognizes an effective and well documented design process. The team who earns the Innovate Award should be among the top contenders for the Design Award. The submission of an Engineering Notebook is a requirement for the Innovate Award.
THINK AWARD	**AMAZE AWARD**	**BUILD AWARD**	**CREATE AWARD**
Recognizes the most effective and consistent use of coding techniques and programming design solutions to solve the game challenge.	Recognizes a consistently high-performing and competitive robot.	Recognizes a well-constructed robot that is constructed with high attention to detail to hold up to the rigors of competition.	Recognizes a creative engineering design solution to one or more of the challenges of the competition.
ENERGY AWARD	**INSPIRE AWARD**	**SPORTSMANSHIP AWARD**	**NOTE**
Recognizes outstanding enthusiasm and excitement at the event.	Recognizes passion for the competition and positivity at the event.	Recognizes a high degree of good sportsmanship, helpfulness, and positive attitude both on and off the competition field.	*For Full Award Descriptions, please refer to the **Judge Guide***

INTERVIEW CHECKLIST	INTERVIEW TIPS
☐ Record team number on Interview Notes ☐ Keep a timer running. Spend equal time with every team ☐ Take notes on each team ☐ Be mindful of your environment. Do not leave notes unattended or discuss teams when others could hear ☐ Wish team success and thank them for the interview – it means a lot to teams! ☐ Away from the team, briefly discuss interview with Judge group & fill out the Team Interview Notes sheet.	☐ Ask teams if they have an upcoming match before you start your interview – matches will not wait for teams! ☐ Ask if all team members are present before starting the interview. ☐ Take picture of robot, be sure team number is shown (Optional) ☐ Mark pit sign or team list to show completed interview ☐ If you have trouble finding a team, check the match schedule and find them as they leave a match.

SINGLE-PAGE REFERENCE SHEET

NEW!

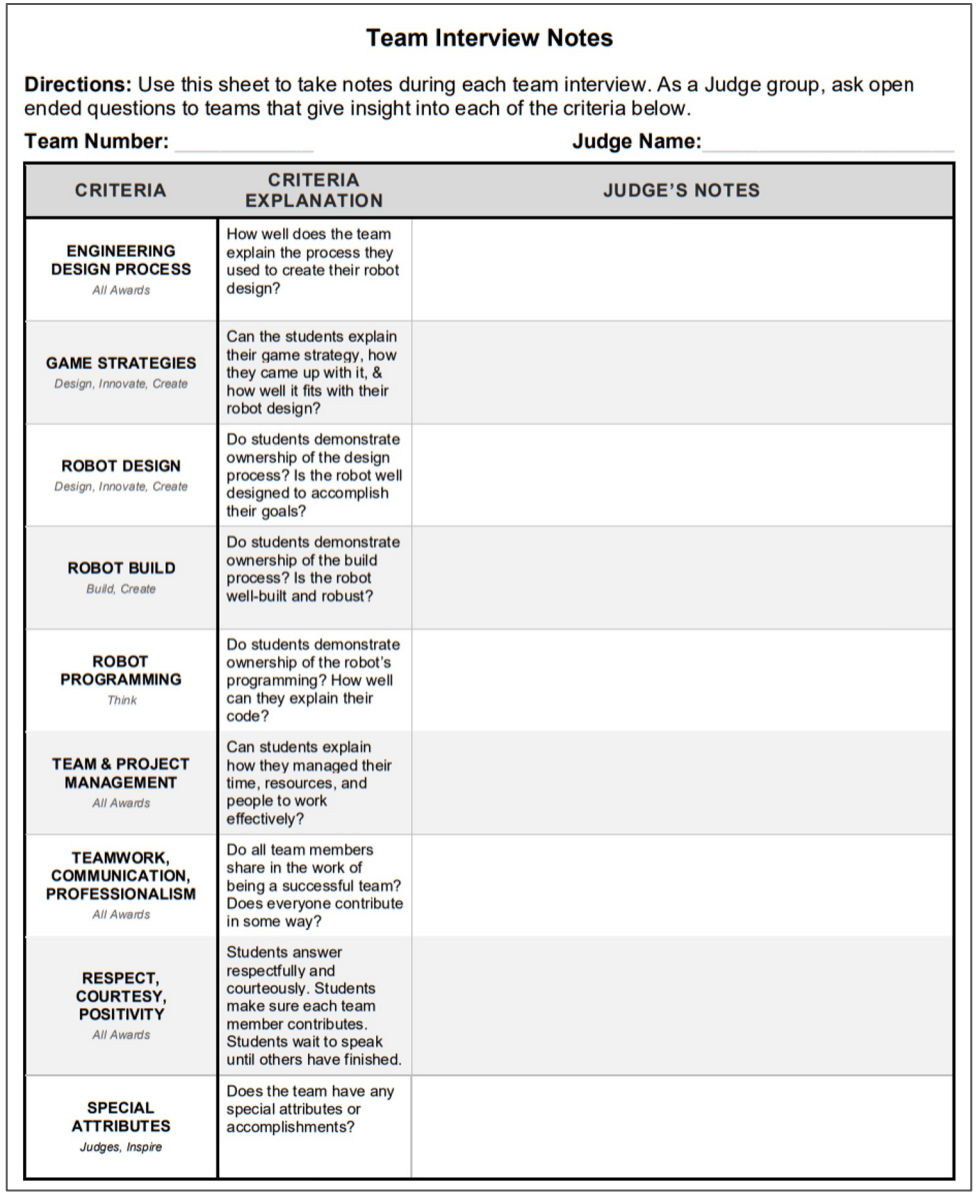
Thumbnail **descriptions** of each Judged Award for quick reference and side-by-side comparison

Interview Checklist and Best-Practice **Interview Tips** facilitate consistency among interviews… **all on one page!!**

TEAM INTERVIEW NOTES SHEET

NEW!

- Note-taking companion to the Team Interview Rubric
- Space for Judges to write notes as they conduct interviews
- Helps judges remember distinctive attributes for the teams they have seen
- Aligned with the Team Interview Rubric Criteria - identifies which criteria will be important for each award



Team Interview Notes

Directions: Use this sheet to take notes during each team interview. As a Judge group, ask open ended questions to teams that give insight into each of the criteria below.

Team Number: _____ **Judge Name:** _____

CRITERIA	CRITERIA EXPLANATION	JUDGE'S NOTES
ENGINEERING DESIGN PROCESS *All Awards*	How well does the team explain the process they used to create their robot design?	
GAME STRATEGIES *Design, Innovate, Create*	Can the students explain their game strategy, how they came up with it, & how well it fits with their robot design?	
ROBOT DESIGN *Design, Innovate, Create*	Do students demonstrate ownership of the design process? Is the robot well designed to accomplish their goals?	
ROBOT BUILD *Build, Create*	Do students demonstrate ownership of the build process? Is the robot well-built and robust?	
ROBOT PROGRAMMING *Think*	Do students demonstrate ownership of the robot's programming? How well can they explain their code?	
TEAM & PROJECT MANAGEMENT *All Awards*	Can students explain how they managed their time, resources, and people to work effectively?	
TEAMWORK, COMMUNICATION, PROFESSIONALISM *All Awards*	Do all team members share in the work of being a successful team? Does everyone contribute in some way?	
RESPECT, COURTESY, POSITIVITY *All Awards*	Students answer respectfully and courteously. Students make sure each team member contributes. Students wait to speak until others have finished.	
SPECIAL ATTRIBUTES *Judges, Inspire*	Does the team have any special attributes or accomplishments?	

TEAM INTERVIEW RUBRIC

NOW ENCOMPASSING MORE CRITERIA

- Removed reference to the Engineering Notebook as part of the Team Interview
- Added criteria to represent **all** Judged Awards
- Added award names to identify which criteria are linked to which awards
- Added a criterion calling attention to team attributes that may not 'fit' other award criteria
- Reworded all criteria descriptions to better mirror each award
- Added more space for judges to take notes

Team Interview Rubric

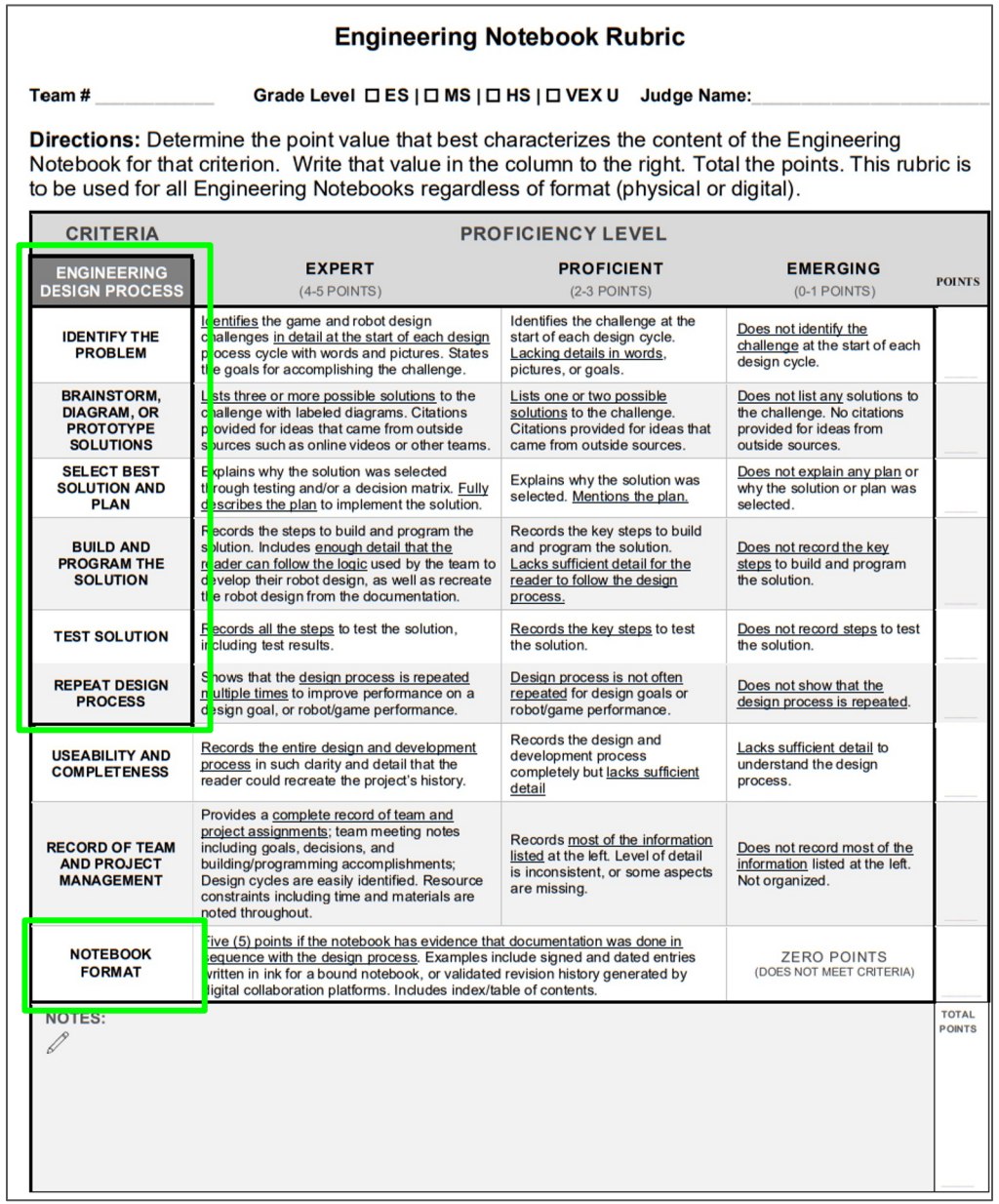
Team # _____ **Grade Level** ☐ ES | ☐ MS | ☐ HS | ☐ VEX U **Judge Name:** _____

Directions: Determine the point value that best characterizes the content of the Team Interview for that criterion. Write that value in the column to the right. Total the points.

CRITERIA	PROFICIENCY LEVEL EXPERT (4-5 POINTS)	PROFICIENT (2-3 POINTS)	EMERGING (0-1 POINTS)	POINTS
ENGINEERING DESIGN PROCESS *All Awards*	Students clearly explain all aspects design process	Students can explain most aspects design process	Students can explain only limited aspects of design process	
GAME STRATEGIES *Design, Innovate, Create*	Students explain the entire evolution of their game strategy	Students can explain their current strategy with limited evidence of evolution	Students did not explain game strategy/strategy is not student-directed	
ROBOT DESIGN *Design, Innovate, Create*	Students can fully explain the evolution of their robot design to the current design	Students can provide a limited description of why the current robot design was chosen, but shows limited evolution	Students did not explain robot design /design is not student-directed	
ROBOT BUILD *Build, Create*	Students can fully explain their robot construction. Ownership of the robot build is evident	Students can describe why the current robot design was chosen, but with limited evolution	Students did not explain robot build/build is not student-directed	
ROBOT PROGRAMMING *Think*	Students can fully explain the evolution of their programming	Students can describe how the current programs work, but with limited evolution	Students did not explain programming/programming is not student-directed	
TEAM AND PROJECT MANAGEMENT *All Awards*	Students can explain how team progress was tracked against an overall project timeline, students can explain management of material and personnel resources.	Students can explain how team progress was monitored, and some degree of management of material and personnel resources	Students cannot explain how team progress was monitored or how resources were managed.	
TEAMWORK, COMMUNICATION, PROFESSIONALISM *All Awards*	Students can explain how multiple team members contributed to the robot design and game strategy. All students answer questions independently.	Students can explain how some team members contributed to the robot design and game strategy. Some students answer questions independently.	Only one team member answered questions or contributed to the robot design process.	
RESPECT, COURTESY, POSITIVITY *All Awards*	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.	
SPECIAL ATTRIBUTES *Judges, Inspire*	Does the team have any special attributes, accomplishments, or exemplary effort in overcoming challenges at this event? Please describe:			TOTAL POINTS

NOTES:

All Judging materials are strictly confidential. They are not shared beyond the Judges/Judge Advisor and shall be destroyed at the end of the event.



Engineering Notebook Rubric

Team # _____ **Grade Level** ☐ ES | ☐ MS | ☐ HS | ☐ VEX U **Judge Name:** _____

Directions: Determine the point value that best characterizes the content of the Engineering Notebook for that criterion. Write that value in the column to the right. Total the points. This rubric is to be used for all Engineering Notebooks regardless of format (physical or digital).

CRITERIA	PROFICIENCY LEVEL			
ENGINEERING DESIGN PROCESS	EXPERT (4-5 POINTS)	PROFICIENT (2-3 POINTS)	EMERGING (0-1 POINTS)	POINTS
IDENTIFY THE PROBLEM	Identifies the game and robot design challenges 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, 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. Citations provided for ideas that came from outside sources.	Does not list any solutions to the challenge. No citations provided for ideas from outside sources.	
SELECT 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 any plan or why the solution or plan was selected.	
BUILD AND PROGRAM THE SOLUTION	Records the steps to build and program the solution. Includes enough detail that the reader can follow the logic used by the team to develop their robot design, as well as recreate the robot design from the documentation.	Records the key steps to build and program the solution. Lacks sufficient detail for the reader to follow the design process.	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 steps to test the solution.	
REPEAT DESIGN PROCESS	Shows that the design process is repeated multiple times to improve performance on a design goal, or robot/game performance.	Design process is not often repeated for design goals or robot/game performance.	Does not show that the design process is repeated.	
USEABILITY AND COMPLETENESS	Records the entire design and development process in such clarity and detail that the reader could recreate the project's history.	Records the design and development process completely but lacks sufficient detail	Lacks sufficient detail to understand the design process.	
RECORD OF TEAM AND PROJECT MANAGEMENT	Provides a complete record of team and project assignments; team meeting notes including goals, decisions, and building/programming accomplishments; Design cycles are easily identified. Resource constraints including time and materials are noted throughout.	Records most of the information listed at the left. Level of detail is inconsistent, or some aspects are missing.	Does not record most of the information listed at the left. Not organized.	
NOTEBOOK FORMAT	Five (5) points if the notebook has evidence that documentation was done in sequence with the design process. Examples include signed and dated entries written in ink for a bound notebook, or validated revision history generated by digital collaboration platforms. Includes index/table of contents.		ZERO POINTS (DOES NOT MEET CRITERIA)	
NOTES:				TOTAL POINTS

ENGINEERING NOTEBOOK RUBRIC

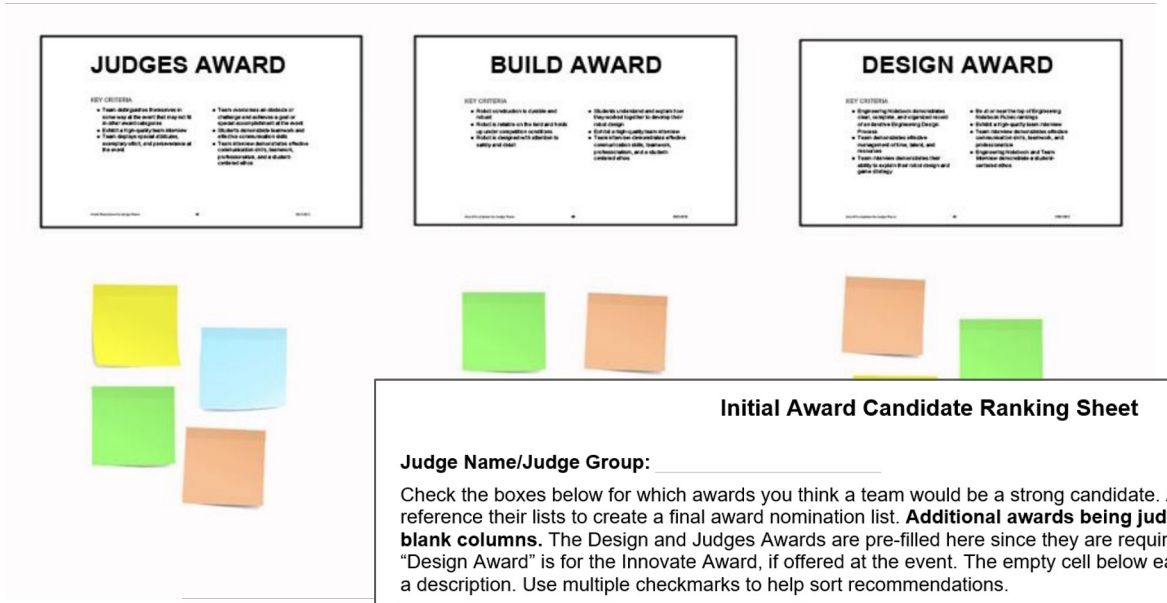
UPDATED

- Instructive addition of identifying the **Engineering Design Process** Criteria in list of all criteria
- Teams earn 5 points for evidence that the Notebook creation is contemporaneous with the design process
- Format-neutral verbiage replaces a previous 5-point "Bonus" for a bound notebook that put all digital notebooks at a disadvantage
- Cleaner formatting and more instructive language for ease-of-use

INITIAL AWARD CANDIDATE RANKING SHEET

NEW!

- Primarily for the **Judge Groups** as they interview teams
- Can be filled in with the awards specific to the event
- Required award fields are pre-filled
- Checkmark method for recording a running ranking of teams assigned to that Judge Group



Initial Award Candidate Ranking Sheet

Judge Name/Judge Group: _____

Check the boxes below for which awards you think a team would be a strong candidate. All Judge groups will cross-reference their lists to create a final award nomination list. **Additional awards being judged are added across the top blank columns.** The Design and Judges Awards are pre-filled here since they are required awards. The empty cell below "Design Award" is for the Innovate Award, if offered at the event. The empty cell below each award name can be used for a description. Use multiple checkmarks to help sort recommendations.

TEAM NUMBER	**Design Award**	**Judges Award**					
	Communicating the Engineering Design Process	**Special Recognition**					

All Judging materials are strictly confidential. They are not shared beyond the Judges/Judge Advisor and shall be destroyed at the end of the event.

FINAL AWARD NOMINATION RANKING SHEET

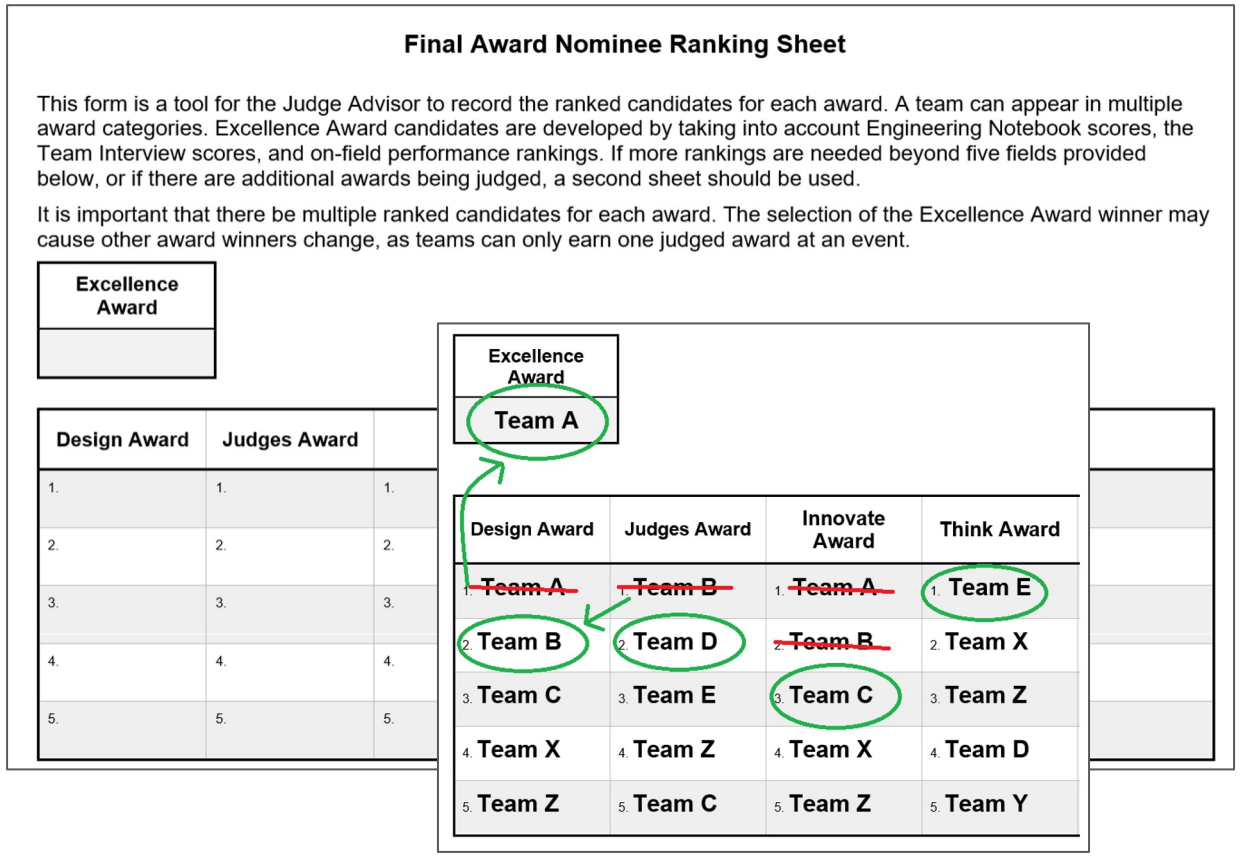
NEW!

Visually helpful to the **Judge Advisor** for recording final Award Nominees

Multiple ranked candidates for quick reference in case teams need to be reordered

Example cases:
Design candidate moves to Excellence (due to high performance rankings), which potentially moves a runner-up team into the award spot, which in turn may impact other awards

Code of Conduct violation takes team out of consideration necessitating another candidate for that award



Final Award Nominee Ranking Sheet

This form is a tool for the Judge Advisor to record the ranked candidates for each award. A team can appear in multiple award categories. Excellence Award candidates are developed by taking into account Engineering Notebook scores, the Team Interview scores, and on-field performance rankings. If more rankings are needed beyond five fields provided below, or if there are additional awards being judged, a second sheet should be used.

It is important that there be multiple ranked candidates for each award. The selection of the Excellence Award winner may cause other award winners change, as teams can only earn one judged award at an event.

Excellence Award

Design Award	Judges Award	
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

Excellence Award
Team A

Design Award	Judges Award	Innovate Award	Think Award
~~1. Team A~~	~~1. Team B~~	~~1. Team A~~	1. Team E
2. Team B	2. Team D	~~2. Team B~~	2. Team X
3. Team C	3. Team E	3. Team C	3. Team Z
4. Team X	4. Team Z	4. Team X	4. Team D
5. Team Z	5. Team C	5. Team Z	5. Team Y

AWARD DESCRIPTION SIGNS

UPDATED

- Bold, easy-to-read signage to post in the Judge deliberation room
- Concise listing of criteria for each award
- Aids with ranking teams for each award during deliberations

DESIGN AWARD

KEY CRITERIA

- Engineering Notebook demonstrates clear, complete, and organized record of an iterative Engineering Design Process
- Team demonstrates effective management of time, talent, and resources
- Team interview demonstrates their ability to explain their robot design and game strategy
- Be at or near the top of Engineering Notebook Rubric rankings
- Exhibit a high-quality team interview
- Team interview demonstrates effective communication skills, teamwork, and professionalism
- Engineering Notebook and Team Interview demonstrate a student-centered ethos

REMOTE JUDGING
NEW GUIDANCE & INSTRUCTIONS

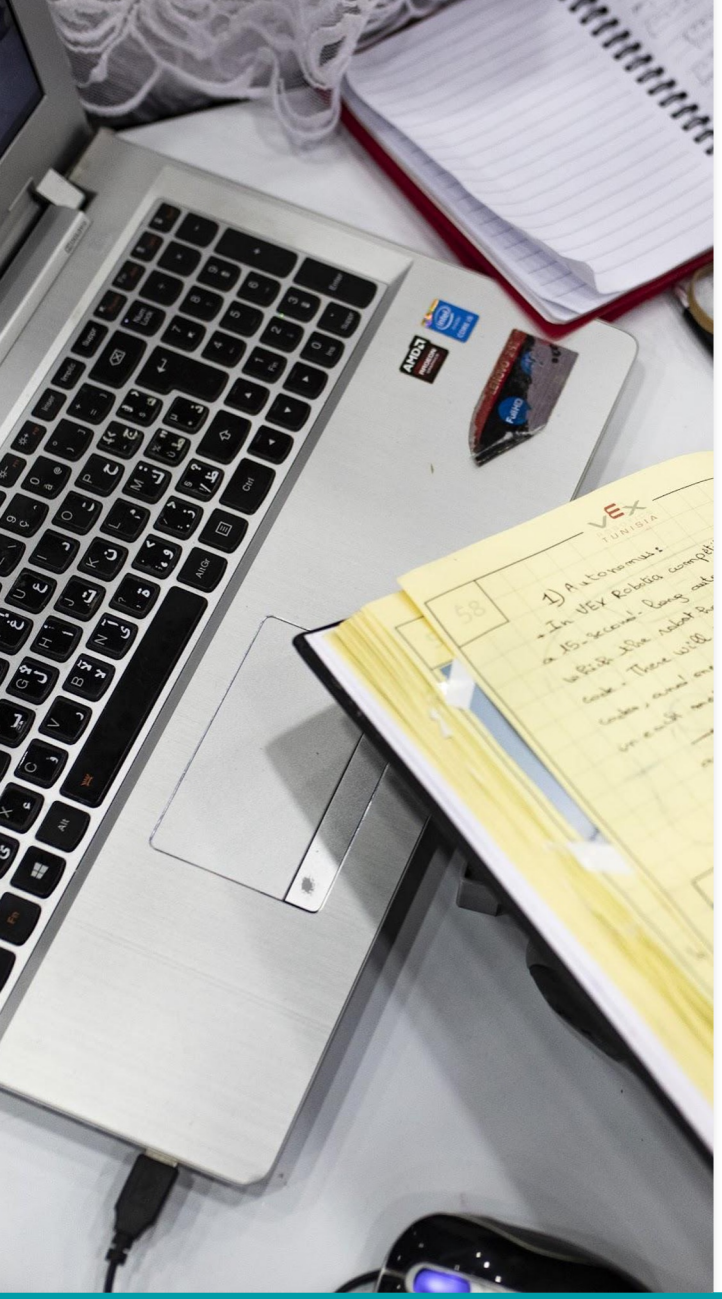
2022 REC FOUNDATION EVENT PARTNER SUMMIT

REMOTE JUDGING OVERVIEW

ENGINEERING NOTEBOOK JUDGING AND/OR

INITIAL JUDGED TEAM INTERVIEWS

- All Judging Principles and Guidelines still apply
- Must include **in-person follow up interviews** and **in-person deliberations** on the **day of the event**
- Provides flexibility for Event Partners and Judge volunteers
    - Remote Judging ahead of the event allows all teams to be judged if only a small number of judge volunteers are available
    - Judge volunteers unable to attend in-person can be utilized online
- Requires additional volunteer-hours and planning ahead of the event
- Event Partner must clearly **communicate the judging format to teams** well in advance of the event
- All teams should be **evaluated in the same format** for consistency and to eliminate format-based bias

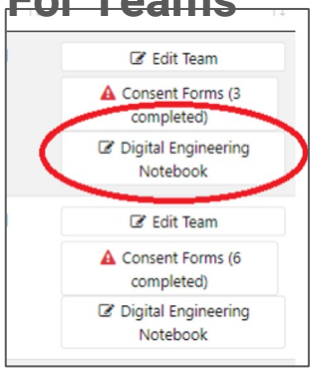


REMOTE JUDGING
ENGINEERING NOTEBOOK

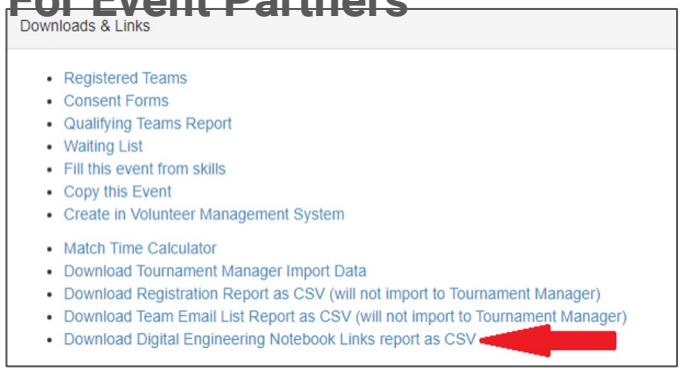
DIGITAL ENGINEERING NOTEBOOKS ARE JUDGED IN ADVANCE OF THE EVENT

- Event Partner must clearly communicate the judging format
- Teams upload Digital Engineering Notebook links via RobotEvents well in advance of the event
- Event Partner gives list of Notebook links to the Judge Advisor
- Judge Advisor organizes judges into groups to review and score notebooks using Engineering Notebook Rubric
- Judge Advisor will carry those scores to the in-person event

For Teams



For Event Partners



REMOTE INITIAL INTERVIEWS

STEP 1 OF THE DELIBERATION PROCESS

- Remote Judges interview and evaluate teams online in advance of the event using the Team Interview Rubric
- Remote Judges will provide their **Initial Award Candidate Rankings** to the Judge Advisor
- Initial Remote Judged Team Interviews followed by Initial Award Candidate Rankings completes **Step 1** of deliberation process
- Multiple teams of judges can interview teams in parallel - each submit **Team Interview Rubrics** and **Initial Award Candidate Rankings** sheets as needed
- The competition-day judging staff has a shortlist of multiple candidates for each award to cross-interview, so fewer initial interviews will need to take place.

REMOTE JUDGING REQUIRES IN-PERSON FINISHING

OBSERVATIONS AND FINAL AWARD NOMINEE RANKING HAPPENS AT THE EVENT

Judge Advisor reviews Remote Judge Initial Award Candidate Rankings and plans the in-person judging schedule to complete any follow-up interviews, team observations with match results, and final award deliberations

- Same/Different Judges will conduct follow-up **in-person** team interviews and **observe team performance** and behavior **at the event**
- Initial Award Candidate teams **should not be moved from one award category to another** - doing so would invalidate Step 1 and “start over” the judging process
- In-person Judges and the Judge Advisor develop the **Final Award Nominee Ranking**, completing **Step 2** through **Step 6** of the deliberation process

JUDGE GUIDE UPDATES

Updates

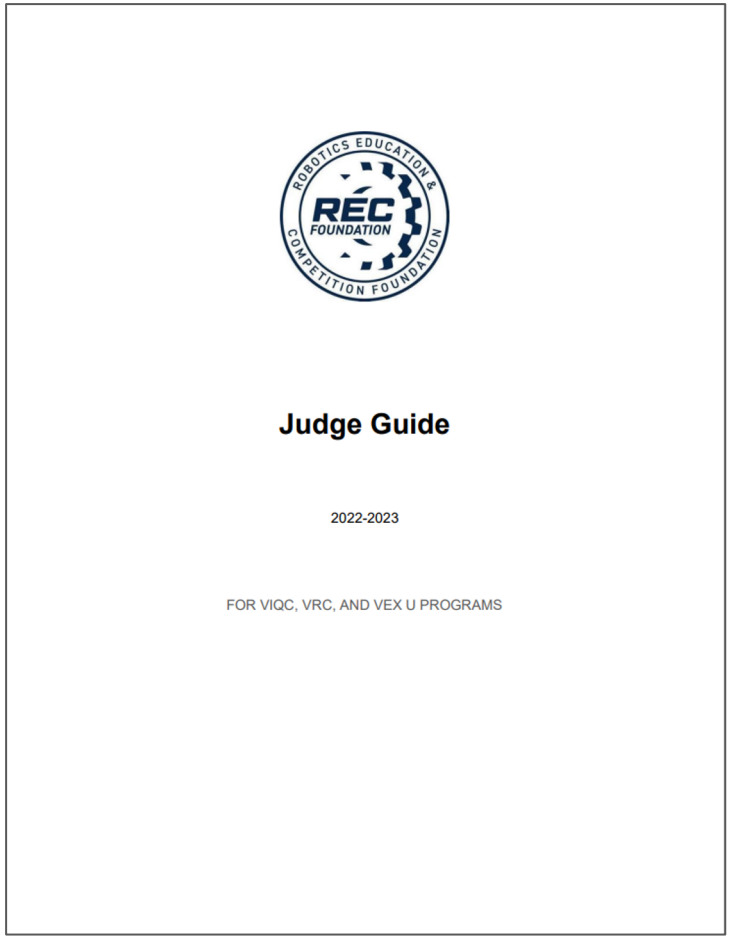
August 15 and December 15

Email

judging@roboticseducation.org

Official Question & Answer

https://www.robotevents.com/judging/2022-2023/QA



THANK YOU

2022 REC FOUNDATION EVENT PARTNER SUMMIT