Robot Design Executive Summary (RDES) Template

The purpose of the ***Robot Design Executive Summary (RDES)*** is to give the *Robot Design Judges* a quick overview of your team's robot and all it can do. This ***RDES Template*** may be used to help collect information about your team's robot and program(s) as described in the official *FIRST*® LEGO® League Challenge Guide. Teams are welcome to add content above and beyond this template.

Team #		Team Name	

Robot Facts

	Number of Sensors:	
	Number of Motors:	
	Number of Attachments:	
	Typical Score:	Maximum Score:

Robot Name:	
How many times have you modified your robot throughout the season? Explain the engineering process.	
What is your most innovative robot feature? Explain how it operates.	
How many robot programs did your team create? How many of those programs do they use? How have they changed over the duration of the season?	
Which mission did your team complete most consistently?	

Robot Design Executive Summary (RDES) Handout

Design Details	
Fun: Describe the most fun or interesting part of robot design as well as the most challenging parts. If your team has a fun story about your robot please feel free to share.	
Strategy: Explain your team's strategy and reasoning for choosing and accomplishing missions. Talk a little bit about how successful the robot was in completing the missions that were chosen.	
Design Process: Describe how your team designed their robot and what process they used to make improvements to the design over time. Briefly share how different team members contributed to the design.	
Mechanical Design: Explain the robot's basic structure, how the robot moves (drivetrain), what attachments and mechanisms it uses to operate or complete missions, and how your team makes sure it is easy to add/ remove attachments.	
Programming: Describe how your team programmed the robot to ensure consistent results. Explain how the team organized and documented programs. Mention if the programs use sensors to know the location of the robot on the field.	
Innovation: Describe any features of the robot's design that the team feels are special or clever.	

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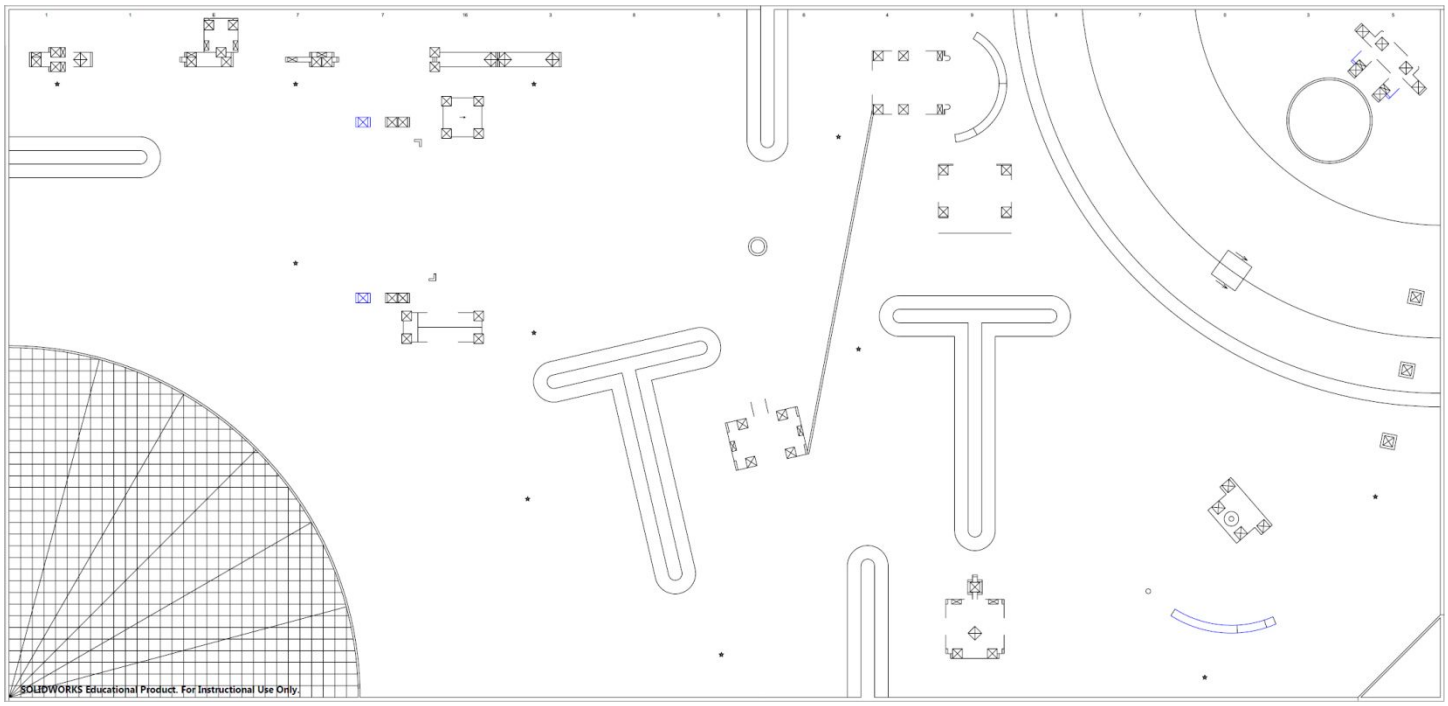
Show off your most consistent or best performing run:	
Program Name	*Describe what your robot does during this run.*

Robot Path Diagram

Sketch the path the robot takes as it executes the program. Each time the robot stops or takes an action, use the diagram to show what the robot is doing. *(Hint to teams: use different colors to signify individual runs or programs used.)*



Program Description

Explain your Path Diagram by showing your code, pseudocode (written outline), flow chart, or some other way. Assume the Judges have never seen the language you're using to code. How can you help them understand how your program works? (Use the back or additional pages if needed.)

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Program Summary What can your robot do? List programs you plan to use during your tournament. Duplicate and/or attach additional pages as needed.	
Program Name What is this program named in your robot?	
Mission Accomplished *(i.e. Mission 4, Design for wildlife)*	
Robot Action Forward / Turn / Lower attachment / etc. You may include a more detailed outline and/or path diagram on a separate sheet. *(i.e. Drive forward. Lower arm to release Big Water. Reverse back to base.)*	
Attachments Used Do you add anything to your robot while running this program? *(i.e. Arm)*	
Program Structure (Architecture) List the types of programming commands used <actions (start motor, read sensor, etc.), loops, do until, switches (if-then), subroutines (MyBlocks), parallel programs, etc.> *(i.e. Forward in Rotations)*	
Mechanical and/or Sensor Feedback Used Does your robot make decisions based on input from a sensor or mechanical feature? If yes, explain how the input is used.	