https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet#headers

The Engineering Notebook

Introduction

As you probably guessed, the Excellence Award is the most prestigious award given in the VEX Robotics Competition. It encompasses driver ability, skills ranking, as well as documentation. A proper engineering notebook is key to success of any team, and there are many guidelines to follow to earn a full score on the Design Award Rubric (see Resource 2). With that being said, let’s get started with the formula to create the engineering notebook.

General Guidelines

The Team

Many teams have a page or two dedicated to describing the team. To begin, introduce the team makeup. How many people are there? What is the age range? What school do you attend? The basic information. Then, go on to discuss the history of the team. Which VRC games has the team participated in? What were the results (no need to be very detailed here; think low-level, such as “went undefeated in \_\_\_ year”). Finally, discuss community outreach. Many organizations fail to include community outreach in their teams, making it a go-to piece to mention at the end of your team description. Overall, the page or two of team description should entirely encompass the team dynamic, history, and qualities of the team on a generic level.

Team Bios

Shortly after the team description comes the team biographies. It is advised that each team member writes their own biography, so there isn’t a sense of monotony when the judges read over the bios. Advise each team member to write a biography of 100-150 words. The format of a successful biography goes as follows. Introduce with a greeting, like “Hello, my name is \_\_\_ and I am a \_\_\_ year member of team 5776\_.” Discuss your enjoyment of robotics, and, if possible, tie your interests back to some instances in your childhood that further demonstrate your passion for robotics. It is also a good idea to mention how you fit in with the team, and how the team has changed you. Describe what you thought you were going to get out of robotics versus what you received (good experiences only, hopefully). To leave you with one last note, one practice our team did was write the name of the member at the top of the page, and list their role on the team next to the name. Each role was written in a different color, which was uniform across all team members’ names (“programmer” was green, “builder” was purple, etc.). This can help in organization, as well as help the judges understand the team composition.

Game Description

While the mechanics and programming may remain relatively similar throughout seasons, the game description is something that is bound to change for every competition year. This page allows the judges to acknowledge that your team understands the objective of the game, as well as what you’re wrapping your strategy around. My tip for this section: state the obvious. For example, in the 2017-2018 game In The Zone, one could say that it is a game played on a 144 by 144 inch field that contains 80 cones. Then, go on to describe the objective of the game, as well as the point values for each game object. Be sure to include some generalized rules as well (for example a restriction on game object capacity). Finally, you can conclude with the standard that allows an alliance to win the match.

Strategy

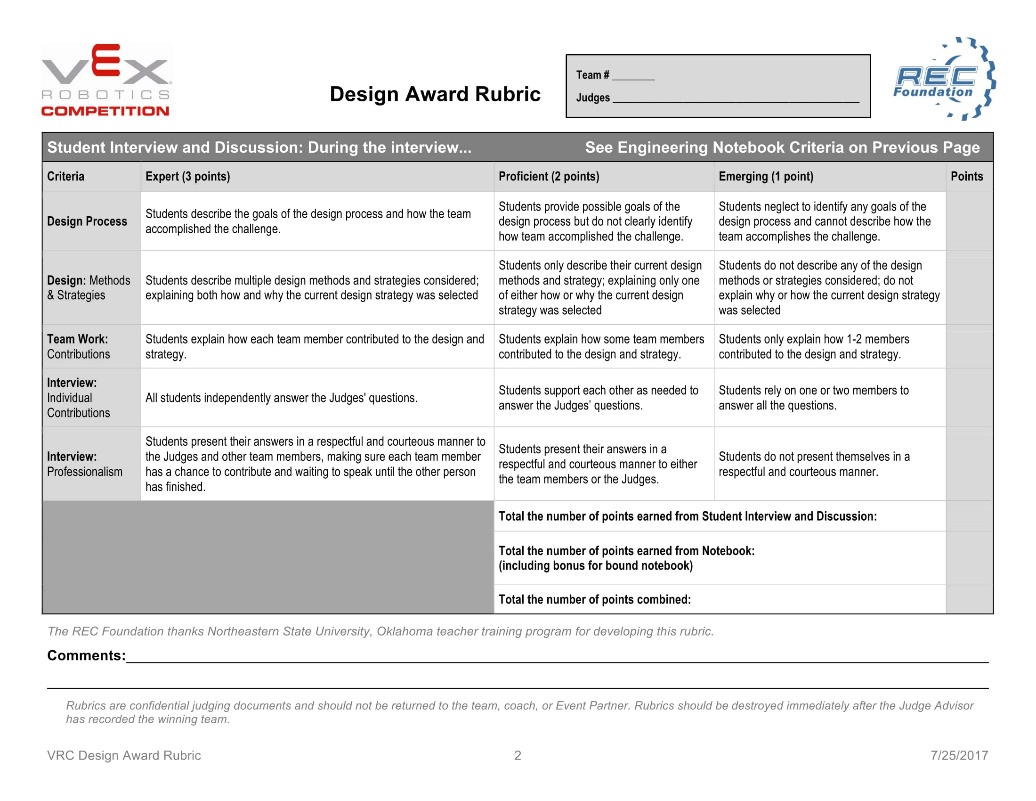
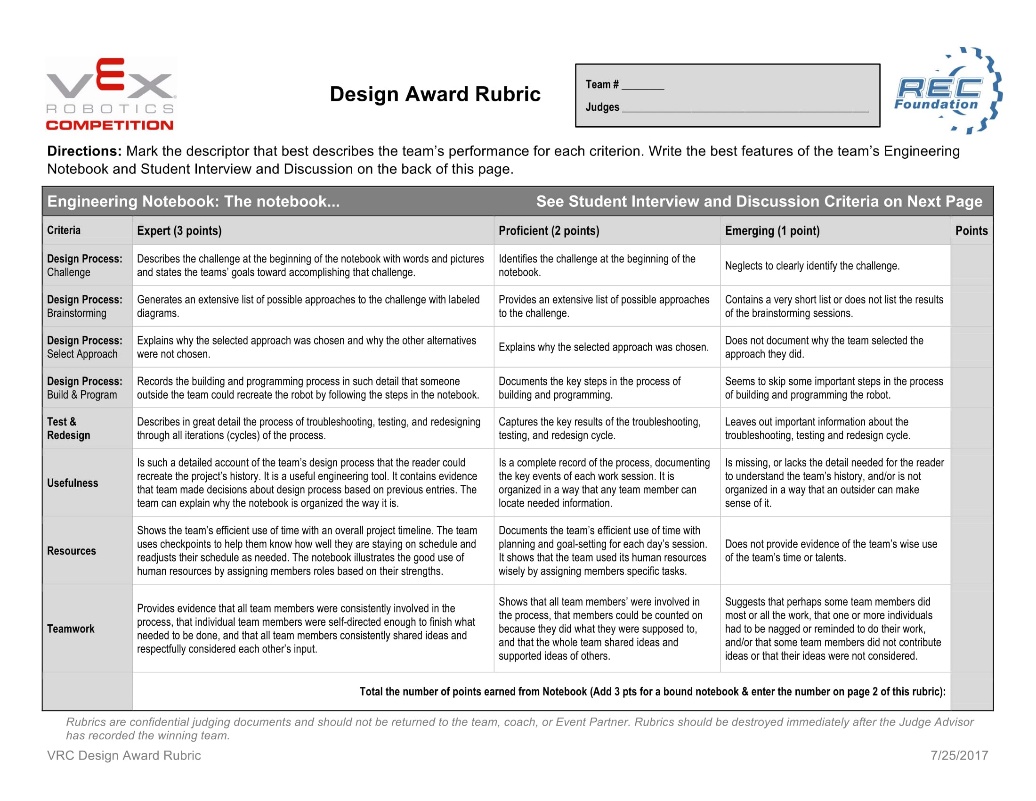
Though it is not a specific component explicitly stated in the Design Award Rubric, judges enjoy the unique thought process of teams pertaining to a certain game. For this reason, the strategy section makes its way into this guideline document. Whether it be calculations to find the optimal scoring strategy or even a certain autonomous route, dedicate a section in your notebook to thoroughly discuss the strategy involved in your team’s success. For example, in the game In The Zone (2017-2018), there were many outlets to score points. In accordance with this

*Useful notebook tips:* [*https://www.vexforum.com/index.php/30394-notebook-tips*](https://www.vexforum.com/index.php/30394-notebook-tips)

*Using drawings in the notebook:* [*https://www.vexforum.com/index.php/29891-pictures-vs-drawings-for-notebook*](https://www.vexforum.com/index.php/29891-pictures-vs-drawings-for-notebook)

*NBN worlds winning notebook:* [*https://www.roboticseducation.org/documents/2016/11/vrc-engineering-notebook-team-1575a.pdf*](https://www.roboticseducation.org/documents/2016/11/vrc-engineering-notebook-team-1575a.pdf)

*Resource 1: Couple of websites from Vexforums (a great resource) that may provide useful tips in making the engineering notebook*

**

*Resource 2: The rubric judges use to grade teams for the Excellence Award. This is called the Design Award Rubric, since the runner up to the Excellence Award is the Design Award. As you can see, it encompasses all aspects of performance, including competition ranking, skills ranking, teamwork, and documentation.*