DOCUMENTATION

Documentation is an open-ended event, which means that your team can "step outside the box" and choose your own scenario as long as the problem definition is CLEARLY STATED on the first page of the notebook (it makes it easier on the judges). Below, you will find a couple of scenarios we have. Feel free to use any one of these or your own (please see Event Descriptions included in your Registration packet).

If your team is doing experiments with one of the robotic platforms, please note this on the first page of the notebook (i.e. experiments the students would like to conduct and their initial thoughts on what the expected outcome(s) should be). Please email me rcorell@unomaha.edu if you have any questions.

For teachers of students in Elementary school, this website might aid in allowing your students to understand a simple version of the Engineering Design Process: http://www.mos.org/eie/engineering_design.php

Finally, I should make it clear that we do not expect hands-on implementation! We are interested in the thought process (i.e. problem definition, brainstorming ideas, and research into some of these ideas in order to select the most feasible one). The students can draw diagrams, include some of their research findings, list assumptions, etc. The students can also include a summary of what was accomplished every time they met. In a nutshell, the judges should be able to open these notebooks and feel that they were right there with the students throughout their thought process and be able to clearly understand WHY the students chose one idea over the others. Ask the students to keep in mind things like cost and degree of difficulty in design.

SCENARIO I: CEENBoT Inventory

Ben and Dan have been working hard at the CEENBoT Shop putting together the robotic kits to go out to area schools. They are so busy that they are only able to order parts when they see that they run out of something. Some of these parts take up to a week to get shipped, so production has to stop until new parts come in. So, schools have to wait to get their robotic kits often. Ben and Dan are not sure what they have in stock on any given day because there are too many parts to count and they are too busy to keep track of it themselves.

SCENARIO II: Bus Driver Blues

Tom drives a school bus in Omaha, and is responsible for picking up and dropping the same kids off at school each day. There are several neighborhoods that Tom drives through to get all of the students home safely. The students are in elementary school, and sometimes have a hard time remembering exactly when they need to get off of the bus. With several students to keep track of, Tom also has a hard time remembering. One time, a student got off the bus at the wrong stop. Thankfully, Tom realized this when he started to drive off and was able to bring the child back on the bus.

SCENARIO III: Firefighters' Dilemma

Firefighters are heroes! Every day, they risk their own lives in order to save others. They train all the time for different dangerous situations that they might encounter. The equipment they carry, however, is extremely heavy, which makes it difficult to go up several flights of stairs in an apartment complex. They also work in smoke-filled environments where visibility is extremely poor. Sometimes, it is hard to see the other firefighters in the same room, so they have to rely on their hearing many times to locate other firefighters. But, what if a firefighter is hurt and cannot respond?