TA Outline – Course Competition (Fall / Spring)

Below is the outline for the competition week's labs:

1. **Collect MANDATORY group/course evaluations**. Extra copies will be located in a folder on the TA table (distribute at start of lab). Out of respect for students' privacy, do not read the evaluations as they are submitted; I will summarize the feedback and discuss it with you individually.
2. **Groups shall not touch the robots until each lab formally begins.** At that point, instruct students to not disturb other robots when retrieving theirs and escort ONE into the back room to make sure.
3. **Groups will have the first 5 min. of lab to finish any work on their robots.**
4. **Groups will have another 5 min. to wire their robots after receiving the control boxes.**
5. **Evaluate each robot's assembly drawings / BOM, ECNs, and POs** using the provided grade sheets. When finished, return all documents to the groups' design report notebooks. For efficient use of time, evaluate all groups at the beginning of the lab period. Each TA should evaluate your assigned group since you are familiar with problems, changes, and the status of their ECNs; if you need assistance tallying the total amounts of 80/20 or sheetmetal, ask the team for help. The goal is to complete the paperwork evaluations in 20 min., the competition runs in 50 min., give the students 30 min. for fun runs, and leave at least 20 min. for disassembly and cleanup.
6. **Groups which are ready should run in sequence** (i.e. A vs. B, C vs. D, etc.). Groups were instructed their design must be capable of running on either side of the arena, so if they don't quickly agree on sides, just assign them for the sake of time.
7. **Groups not ready can forfeit their first run;** if they aren't ready after 45 min., they receive no credit for the dynamic performance evaluation of the project and should use DR4 as an opportunity to explain the failure(s) and submit a redesign with revised detail and assembly drawings. If a group elects to work on their robot in lieu of their first run, their TA should ask if they need help to improve their chance of being ready for their second run. Groups cannot wire up a control box for testing during this period. After 45 min., the group's paperwork should be evaluated and they should be given the opportunity to complete their second run or take photos and disassemble.
8. **Groups will be permitted to make wiring changes;** however, if a group needs to do so, give them a NO for *correctly wiring the robot within the 5 min. limit*.
9. **Groups will be allowed 10 min. for repairs or adjustments after their first run.**
10. After each group's second run, we shall **take two photos of the group with their robot and 3 - 5 photos of their robot alone** for evaluation of their technical development and visual project quality.
11. After all groups compete, they should **disassemble their robots and clean out their bins.**
12. **As soon as possible, place the control boxes on charge** for the next lab.
13. **Please do not sit and talk with one another while the groups are disassembling.** ***This is the time in the semester where the most damage happens to the motors because of students mishandling the wiring.*** **Tell each group to be careful and closely supervise each group's disassembly.** Show the students where to put the hardware, wires, manufactured parts, and trash. If you are not helping a group, sort hardware, 80-20, wheels, etc., as this has to be done anyway. **Before each group's motors are returned to the shelf, check their function. If a motor no longer works, groups shall pay the following cost: Denso/Entstort/Globe: $60, others: $30.** Groups should not return hardware to the rotisserie, cabinets or rectangular cubby-bins; instead they should place ALL hardware in ONE bin labeled *HARDWARE*, which you sort and put away during each lab. Ask if you don't know where something goes.

14. After each group disassembles, cleans up, organizes their toolbox, and wipes out their storage bin into a trashcan, sign their **workstation check-off sheet** (located on the TA table as usual).
15. **Return remaining homeworks and quizzes.**
16. Tell students to fill out the **formal electronic course evaluation** (they received an e-mail containing the link).

MISC. NOTES

1. Timers should **(with strong command presence)** announce when there are 2.5 min., 60 sec., and 30 sec. remaining; **please do not say anything else during their runs so you do not distract the students when they are trying to concentrate and communicate with their teams. Also, please regulate the students AND TAs watching the competition to keep the noise and talking to a minimum.**

2. This is your last chance to help the students, so please leave them with the feeling you sincerely cared about their success and tried to assist as much as possible.

3. Be sensitive to the fact students will feel defeated if their project does not perform well during the competition. As discussed the first week of the semester, provide feedback in an honest, yet respectful manner. Explain the grade breakdown to the students so they can understand that doing poorly in the competition does not mean failure of the project; and all groups have the opportunity for additional points by submitting a revised design (detail and assembly drawings) with DR4. All of their ideas won't work the first time in industry either, so the opportunity to revise a design is not just a classroom exercise to make them feel better. As a reminder, the design project is worth 60% of the final course grade and the design project grading rubric is as follows:

    a. 40% : design reports (DR1+2+3/3R+4)
    b. 20% : following instructions (size, budget, POs, ECNs, assembly drawings/BOM)
    c. 20% : attention to detail and development of technical ability (most groups score well)
    d. 20% : effectiveness / success of project

    So failure to complete the primary objective can still result in an 80% project grade if the group did everything else well, and they can do better than that if they use the opportunity provided to submit updated drawings showing how they would modify the design to fix the problem(s) encountered.

4. If you worked with someone in a group you think might make a good TA in the future, and for whatever reason you haven't already done so, please make a note on the Welding Sign-up Sheet (i.e. "John Doe (PTA MJB), where PTA means potential TA, followed by your initials) so I can ask you for additional details.