Communicating Testing and Evaluation Procedures
Capstone Design—Winter 2021
Due Date: 1pm, Friday, 12 Feb 2021

Communication Objective

This section (which will ultimately become part of your final written report) addresses the fundamental questions: ***How do you know whether your system is actually doing what it is designed to do?*** Remember that your primary audience is your client, as well as other stakeholders, but you also want the general lay public to understand your writing too.

Break it Down: Road map of smaller questions to answer the big question

1. What is your (sub)system designed to do? Think details and big picture (trees and forest). That is, what does your subsystem do? Where does it fit into the overall robot design?

2. What specific physical quantities will you measure to assess system performance? Why these quantities—how do they relate system requirements and design objectives?

3. What instruments, equipment, software do you need to make those measurements and analyze the data you collect?

4. How many replicate measurements do you need to assess system performance? Justify.

5. How will you analyze and visualize/display data? Sketch in detail figures and other graphics will look like in concept (e.g., imagine you already had measurements and other data at hand)

6. How will you interpret the results? What is the theoretical framework for comparison? How will you appropriately compare if the measurements (dis)agreed with theory?

7. How will you evaluate the data in the context of overall robot design and competition? What do your measurements/data say about how well your design meets the design criteria? Is the design ultimately successful? In some aspects? All aspects? Answer this both quantitatively (hard and fast numbers) and qualitatively (subjective assessment).

How it's Gonna Go Down: Workshop Roadmap

Here is the road map detailing how this workshop will work in practice, and what you ultimately need to turn in.

1. **Workshop**: Each (sub)team formulate clear, concise, and specific answers to the above questions (30 min).

2. **Pair-and-Share/Peer Review**: Each team will share their answers with the entire class; other teams will offer substantive feedback which to guide the presenting team's framework for testing and evaluation procedures.

3. **Written document submission (Document I)**: Use your answers and thinking from the workshop as a springboard to write a formal document which will ultimately become part of your final project report. The style should be regular prose writing organized into subsections as you see fit (*not* a bullet point list of answers).