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# Technical Component

**Last Revised: February 2, 2021**

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## Table of Contents

The Technical Component (TC).....	2
Accommodations .....	2
The Presentation.....	3
The Report .....	4
Rubrics.....	5
Presentation / Display Rubric.....	5
Report Rubric .....	6

### Disclaimer

It is your responsibility to read and understand this document on a regular basis because we may update it from time to time.

## The Technical Component (TC)

The TC allows your team to show off your work and what you learned and know in English or French. This includes concepts about programming and teamwork skills.

There are two components to the TC, a report and a presentation. Due to the COVID-19 pandemic, all components will be submitted online. If your team is registered in two challenges, your team should discuss about both challenges wherever possible. **No mark adjustments will be made due to technical issues, like corrupted recordings, internet connectivity issues, or any other malfunction.**

For the TC, the report and presentation will be weighed at 15% each. So, the TC will have an overall weight of 30%. It is important to do well in **both** components of the competition because **final rankings do change based on your performance on both components.**

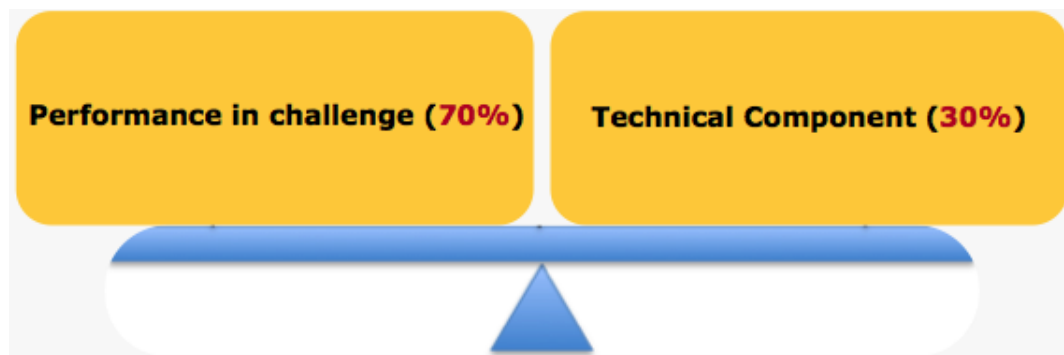


Figure 1: ORC grading scheme for all challenges.

### **Accommodations**

If you require accommodations on the TC, please let us know at [orcinfo@ieeeottawa.ca](mailto:orcinfo@ieeeottawa.ca).

## The Presentation

Your team must create a video and submit a YouTube (public or unlisted) link to our online submission form by **10:00:59 pm Eastern Time on May 14<sup>th</sup>, 2021**. Parts 1 – 4 must be completed in 7 minutes. For part 5, we will release the follow-up questions on at 2 pm Eastern Time on May 14<sup>th</sup>, 2021. Each team member must answer one question per registered challenge. These answers must not exceed 1 minute.

We will stop watching your video for any portion of it that goes beyond the maximum allotted time of 7 minutes (for parts 1 – 4) + 1 minute per follow-up question (part 5). For late submissions, we will subtract the amount of your video that we watch based on how late your submission is.

1. Introduction / Background
  - a. Explain key characteristics about your team (e.g. members of the team, grade level, registered challenges, how the work was split, etc.)
2. Hypothesis
  - a. Describe the initial strategy used to tackle a challenge.
3. Procedure / Methods
  - a. Explain how your team tested your strategy.
  - b. Discuss how changes were made as a team following a test.
4. Results, Discussion, and Conclusion
  - a. Summarize results from the tests done by your team.
  - b. Describe the final program chosen by the team, including one aspect of your program that your team thinks makes it better than everyone else's.
  - c. Discuss how your team might change its strategy if you were to start over again.
5. Follow-Up Questions (**released at 2 pm Eastern Time on May 14<sup>th</sup>**)
  - a. Clearly and complete answer in 1 minute or less per question.

**Clarity and sharing talking time will count towards your marks!**

## The Report

Your team must submit a report in DOC, DOCX, ODT, or PDF format by **10:00:59 pm Eastern Time on May 14<sup>th</sup>, 2021** through an online submission form. Late submissions will incur a 5% penalty for every minute it is late.

The form will be available at <http://www.orc.ieeeottawa.ca/submission/>

1. Title Page
  - a. Team name, school/community group name, grade level, challenges
2. Introduction / Background / Hypothesis
  - a. Describe the initial strategy used to tackle a challenge.
3. Methods
  - a. Describe how you tested your robot.
4. Results
  - a. Briefly describe the results of the tests.
  - b. Explain **at least** one milestone **and** one challenge your team encountered in preparing for the competition. These milestones and challenges can relate to the robot, your team, the programming, etc.
  - c. Explain how your program works in a step-by-step action. Make sure that you include a screenshot of the program or a flowchart to help explain how your program works.
5. Discussion
  - a. Compare your current program to at least one other program your team could have programmed, and explain why your current one is better, worse, or a bit of both.
6. Journal
  - a. Write us a summary of each meeting with a journal entry. In the journal entries, document what happened, any decisions made, accomplishments, setbacks, etc. Make sure to include a date for each meeting in your report.

**Grammar and spelling do count, so please remember to be careful!**

## Rubrics

### Presentation Rubric

<b>Team Name</b>		<b>Comments</b>
<b>School or Community Group Name</b>		
<b>Challenge(s)</b>		

<b>Criteria</b>	<b>Points</b>
<u>Presentation</u> <ul style="list-style-type: none"><li>• Introduction (2 pts)</li><li>• Hypothesis (2 pts)</li><li>• Procedure / Methods (4 pts)</li><li>• Results, Discussion, and Conclusion (5 pts)</li></ul>	/13
<u>Other Presentation Criteria</u> <ul style="list-style-type: none"><li>• Clarity of presenters (2 pts)</li><li>• Dispersion of presenters during presentation (2 pts)</li><li>• Ability to answer questions from judges (3 pts)</li></ul>	/7
<b>TOTAL</b>	/20

## Report Rubric

<b>Team Name</b>		<b>Comments</b>
<b>School or Community Group Name</b>		
<b>Challenge(s)</b>		

<b>Criteria</b>	<b>Points</b>
<u>Title Page</u> <ul style="list-style-type: none"> <li>Team name, school/community group name, challenge(s), grade level (1 pt)</li> </ul>	/1
<u>Introduction / Hypothesis</u> <ul style="list-style-type: none"> <li>Description of initial strategy (2 pts)</li> </ul>	/2
<u>Methods</u> <ul style="list-style-type: none"> <li>Description of testing methods (2 pts)</li> </ul>	/2
<u>Results</u> <ul style="list-style-type: none"> <li>Summary of tests and results (2 pts)</li> <li>Descriptions for milestone(s) (2 pts)</li> <li>Descriptions for challenge(s) encountered (2 pts)</li> <li>Explanation of final program (6 pts)</li> <li>Screenshot or flowchart of final program (1 pt)</li> </ul>	/13
<u>Discussion</u> <ul style="list-style-type: none"> <li>Discussion about advantages and/or disadvantages of final program compared to at least one other program (5 pts)</li> </ul>	/5
<u>Journal</u> <ul style="list-style-type: none"> <li>Documentation of meetings, accomplishments, setbacks, etc. (2 pt)</li> <li>Completeness and organization of journal entries (2 pts)</li> </ul>	/4
<u>Other Report Criteria</u> <ul style="list-style-type: none"> <li>Spelling and grammar (3 pts)</li> </ul>	/3
<b>TOTAL</b> – Minimum of 0 pts	/30