|  |
| --- |
| Instructions:  *Delete these instructions*  The report should be about 1000 words, not including code, captions, etc. There is no page limit, and graphics, photos, diagrams etc are encouraged provide they are relevant to the text.  Save this with your school name (and team if more than one) in the filename, e.g. “AppleOrchardps\_TeamA.pdf”  Email the final version in PDF format to uoitroboticscompetition@uoit.ca with the subject line: “Engineering Report <schoolname> <team>”  *Be sure to study the accompanying rubric.* |

2018 UOIT Engineering Robotics Competition Report (Template)

|  |  |
| --- | --- |
| School – Team name: |  |
| Date: |  |
| Teacher: |  |
| Team members: |  |

**2019 Engineering Robotics Competition  
Ontario Tech University Engineering Outreach**

## SUMOBOTS: KING OF THE HILL Competition Report

## Synopsis

This report should provide an overview the engineering and design process your team took in the development of the robot for the competition. The titles in this template offer a guideline for the material that should be included in the report. The report has two major design sections, one dealing with mechanical and the other with software that must be addressed.

In this section you should summarize the report.

## Challenge Statement

State the problem that you are addressing, in particular what the robot challenge is. List the requirements and the constraints that have affected your solution (some of these will come from the rules and some from the robot itself).

## Mechanical Analysis and Design

In this section you should present your solutions to the robot challenge from a mechanical engineering perspective. State how it works (use some diagrams if needed), explain any unique features, why you chose that design, and how you tested it.

## Software Analysis and Design

In this section you should present your solutions to the robot challenge from a software engineering perspective. State how it works (use diagrams taken from the Edu NXT development environment, see below on how to do that), why you chose that design, and how you tested it.

To get a figure that you can paste into your document from the Edu NXT software development environment you need to print it as an RTF file. This then creates a file in D:\My Documents\LEGO Creations\MINDSTORMS Projects\Profiles\Default with the same name as your code. This figure can then be copied and pasted to your report. To create figures of what you are viewing on the screen (generally these display more detail), use the print screen or screen grab function on your device.

## Integration and testing

In this section you should present your final solution to the robot challenge from an integrated engineering perspective. State how the system works as a complete system, how the mechanical and software components work together (use some diagrams if needed), why you chose this overall design, and how you tested it.

## Conclusion

The conclusion should summarize everything you have mentioned in your report. This is your opportunity also explain your lessons learned and any next

The overall technical judging will be based on the report, discussion with the students and performance of the robot. Judges will look for mechanical and tactical behaviours that show ingenuity and good engineering, the robot does not need to win matches to score points here. The report will form a large portion of this judging grade (about 60%) with the judges looking for creativity, design quality and presentation.

Good luck and have lots of fun!!!