

## CISC1003 – Explore Robotics – HW 1

Submit your write-up as a pdf document on blackboard. Include your full name at the writeup. Name the writeup as lastname.fullname.HW1.pdf, e.g. Doe.Jane.HW1.pdf.

1. Read the following articles:

[http://www.robotplatform.com/knowledge/Classification\\_of\\_Robots/Types\\_of\\_wheeled\\_robots.html](http://www.robotplatform.com/knowledge/Classification_of_Robots/Types_of_wheeled_robots.html)

[http://www.robotplatform.com/knowledge/Classification\\_of\\_Robots/wheel\\_control\\_theory.html](http://www.robotplatform.com/knowledge/Classification_of_Robots/wheel_control_theory.html)

[http://www.robotplatform.com/knowledge/Classification\\_of\\_Robots/tracked\\_robots.html](http://www.robotplatform.com/knowledge/Classification_of_Robots/tracked_robots.html)

2. Answer the following questions:

How does **Ackermann Steering** improve on the **Tricycle Drive**?

What are some advantages to a **4 Omni Wheel** designed robot?

What advantage does a **Tracked Robot** have over a wheeled robot?

If you were going to build a robot to be used on a rocky terrain, which type of movement would you want to use and explain why.

If you were going to build a robot to be a car, which type of movement would you want to use and explain why.

\*Adapted from material by Prof. Lawrence Goetz.