**Faculty of Engineering and the Built Environment**

**Department of Electrical Engineering**

**EEE3061W Yaw Sensor Demo 2015**

1. **SCOPE**

This specification applies to the yaw sensor to be designed, built and tested in EEE3061W in 2015. The sensor is a critical subsystem of the robot required to compete in a biathlon event.

1. **APPLICABLE DOCUMENTS**

Course notes

1. **SPECIFICATIONS**
   * The sensor must sense and display relative yaw angle
   * The sensor must be capable of being reset to zero at the start of the test.
   * The yaw angle must be displayed by either:
     + LCD display (or equivalent)
     + PC application
   * The sensor must operate on the required voltage (3S lipo minimum and maximum voltage) from the bench PSU
   * The entire sensor electronics must occupy a veroboard of at most 5 cm x 5 cm.
   * The sensor must be entirely made up of analog/digital circuitry.
   * A microcontroller must interface to the sensor to read and process its data.
   * The sensor must be stably mounted on the board.
   * No breadboards are allowed. Neatness will be rewarded.
   * The sensor should have fairly long communication wires to the microcontroller to allow rotation during marking
   * The sensor must operate from ambient to warm (50 degrees ) conditions
2. **ACCEPTANCE TEST REQUIREMENTS**
   1. Sensors are to be demonstrated in designated slots on 30 April. This session may run from 13h00 to 18h00.
3. **Extra Remarks**

* **A test setup will be available in the White Lab for you to test your sensors**
* **For any other issues you are unsure of please speak to the course convenor or TA.**