

AGENDA CENG 5437 February 8, 2022

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HW2 Review



00_HW2_5437_Answers_SP2022a.pdf

Review – Physics, Control



0_5437_4391_Review_2_8_2022_.pdf

Intro to sensors TLH



1_1IntroToSENSORS_TLH_2_8_2022.pdf

Survey of Sensors 1– McGill Slides



1_CS417_IntroductionToRobots_McGill11.

Optical Nose Rice



1b_OpticalNoseRice.pdf

Sensors 2 – Characteristics, A2D, Aliasing



2_sensors2CharacteristicsErrors_Niku_Ato

3_ Sensor Types accelerometer, compass, gyro



3_SENSOR Types_For_Heading_ε

Various Sensors

<http://blog.mide.com/accelerometer-specifications-decoding-a-datasheet>

<https://www.ngdc.noaa.gov/geomag/calculators/magcalc.shtml?useFullSite=true>

<https://www.getlostpowerboattraining.com/compass-variation-and-deviation-how-to-calculate-them/>

Iphone Calibration of Compass

<https://www.youtube.com/watch?v=86yUpUt8U6s>

Magnetometer with Peter Cooke

<https://robotacademy.net.au/lesson/using-magnetometers/>

Gyroscopic Instruments - U.S. Navy Aviation Training Film (1960)

200,518

<https://www.youtube.com/watch?app=desktop&v=JnKloSdUJLo>

4_Gyros Rock!



4_GyrosRock_Inertial
Guidance System_Gy

<https://www.youtube.com/watch?v=ekzwb3hu2k>



[ProfWaterLewin](#)

He brings the tough equations “to life” -



Don't Push It!

1. How a gyroscope guides a rocket 14:55

<https://www.youtube.com/watch?v=KToggTKa9Lk>

This is the most impressive control feat – even more than launching a Tesla to the aliens.

<https://www.youtube.com/watch?v=I5I8jaMsHYk>

[5_ErrorTheory1 – Introduction Systematic & Random Errors and to Standard Deviation](#)



5_Sensor2ERROR
THEORY_.pdf

What happened to the 737-MAX ?



6_MAX_737_Sensor
Failure.pdf
