

(—; 0-2-0)

## Control-Robotics Lab I

MATH-333\*

This course is the lab companion of Math-332\*, and is therefore intended to be taken concurrently with that course. The lab uses a combination of simulation and hardware to illustrate basic concepts in control.

**Textbook:** *Lab Manual*  
by A. Lewis

**Corequisite:** MATH-332\*.

**Instructor:** R. Hirschorn

**Evaluation:** Lab Reports 100%

**Outline:**

1. Introduction to lab hardware and software
2. Controllability and observability
3. Impulse response and the transfer function
4. Frequency response
5. Stability
6. PID control
7. Performance matters
8. The Nyquist criterion
9. Controller design using frequency response