

# CSCI 39502 Intro to Robotics

Instructor: Jaime Canizales

Monday - Thursday 2:30 - 3:45pm pm ThomHunter 405, Fall 2022

**Textbook:** Introduction To Robotics Mechanics And Control 3rd Edition. John J. Craig. ISBN: 9780201543612

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**Office Hours:** By appointment.

## Course Description:

**Part 1 Mathematics of Robotics** The first part of the semester we will cover the necessary/fundamental topics in mathematics needed to have a deep understanding of robotics. Topics will include a review of linear algebra and probability theory, spatial descriptions and transformations(2D and 3D), manipulator kinematics, and algorithms relating to robot vision and navigation.

**Part 2 Robot Components and Programming** The second part of the semester will be more hands on and project oriented. We will discuss different types of robot hardware, such as robot joints, cameras, lidars, odometer, kinect, and more. We will also learn the basics of programming in Robot Operating System (ROS), which is an open-source framework for controlling and communicating with robots.

## Grading:

Midterm Exam:	30%
Final Exam:	30%
Assignments/Projects:	40%

**Assignments:** There will be four assignments/projects, which will be posted on blackboard.

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