ME 003 OL1 Introduction to Robotics

Semester	Fall 2019	
Classroom	Online course only	
Meeting time	Not applicable	
Instruction	Sam Whitmore, Perkins 201 C, Samuel.Whitmore@uvm.edu	Office hours: See Forum
	Yves Dubief, ydubief@uvm.edu	Office hours: See Forum

Prerequisites	None
Credit hours	1
Textbook	No textbook required
Software	Python 3 (Anaconda distribution) https://github.com/yvesdubief/UVM-ME003

Course description

Introduction for first year students to computational engineering for data science and robotics in python

Course objectives

a) To demonstrate the ability to be profecient in python.

b) To demonstrate the ability to design algorithms based on imposed contraints and/or equations.

c) To demonstrate the ability to apply verification and validation (V \& V) principles.

d) To demonstrate the ability to manipulate data in list or vector formats

e) To demonstrate the ability to design simple autonomous algorithms for simulated vehicles or moving objects.

Grade distribution and assessment

Weekly assignments	40 %
Midterm and final exams	30 %
Project	30 %

Letter grade distribution

100.0--93.00	A	73.00--76.99	C
90.00--92.99	A-	70.00--72.99	C-
87.00--89.99	B+	67.00--69.99	D+
83.00--86.99	B	63.00--66.99	D
80.00--82.99	B-	60.00--62.99	D-
77.00--79.99	C+	59.99--00.00	F

Policies

Classroom Environment Expectations

Working in groups is encouraged at the beginning of the semester. If so, please enter the names of students in your study group at the beginning of the notebook. You are expected to follow the Code of Academic Integrity of the University of Vermont and expectations written in Our Common Ground.Any act plagiarism will result in no more than one warning. Further violation of the academic integrity contract will result in a report to the Center for Student Conduct and a grade of zero for the assignment.Due to the online nature of the course, office hours will be conducted via forums. Be courteous and productive. Instructors and TAs will answer your question within 24 hours. Students are expected to use blackboard for forums and download and upload of course documents, and read emails sent by instructors.

Late assignment

Assignments are expected to be uploaded on blackboard in the requested format by the dealine set by the instructor. Late assignment will result in a loss of 10/100 points. With sufficient justification, you may ask for an extension no later than 48 hours before the deadline.Please contact the instructor as soon as you can in case of an emergency.

Tentative schedule

Week	Content
1	Python tutorial (1)
2	Python tutorial (2)
3	Python tutorial (3)
4	Data science (1)
5	Data science (2)
6	Midterm exam (1)
7	Introduction to drivetrain robot
8	Sensors
9	Integration of sensors for autonomous driving
10	Midterm exam (2)
11	Project: Design of algorithm
12	Project: Verification and Validation
13	Project: Testing and tune up
14	Project: Competition
15	Final exam