EECS 376/EECS 476 Mobile Robots

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Office Hours: TBA

Required Textbooks:


Supplemental Textbooks:


1) Course Description
Design of software systems for mobile robot control, including: motion control; sensory processing; localization and mapping; mobile-robot planning and navigation; and implementation of goal-directed behaviors. The course has a heavy lab component involving a sequence of design challenges and competitions performed in teams. Prereq: ENGR 131, EECS 233 or Graduate Status.

2) Project
The specific project will change every year. Details about the project will be shared during the first class. Students will participate in defining the class project and a significant element of the course will included applying basic project management principles to the class project.

3) Course Calendar
Week 1: Project Management

Week 2: Intro to ROS

Week 3: Actuation

Week 4: Sensors

Week 5: Mapping

Week 6: SLAM

Week 7: Navigation

Week 8 Perception
Weeks 9 through 12: Based on Project

Weeks 13 through 16: Project

4) Grading
Mobile Robots is project based course. Grading will be based on participation during class and in the project. Grades will be based on assessments made by the instructor as well as assessments made by other students in the course.

5) Academic Integrity Policy
Students, faculty, and administrators share responsibility for the determination and preservation of standards of academic integrity. Not only must they adhere to their own personal codes of integrity but they must also be prepared to educate others about the importance of academic integrity, to take reasonable precaution to discourage violations of academic integrity, and to adjudicate violations.

For students, education about the importance of academic integrity begins during the admissions process. The centrality of integrity to the academic enterprise is reinforced during new student orientation when students engage in discussion about academic integrity. Specific mention of academic integrity and course-specific guidelines should be presented in all classes. Programs and instruction about academic integrity guidelines also should be offered throughout the students' undergraduate career.

Faculty and students are expected to uphold standards of academic integrity by taking reasonable precaution in the academic arena. Reasonable precaution involves implementing measures that reduce the opportunities for academic misconduct but do not inhibit inquiry, create disruption or distraction in the testing environment, or create an atmosphere of mistrust.

The vitality of academic integrity is dependent upon the willingness of community members to confront instances of suspected wrongdoing. The faculty have a specific responsibility to address suspected or reported violations as indicated below. All other members of the academic community are expected to report directly and confidentially their suspicion of violation to a faculty member or a dean or to approach suspected violators and to remind them of their obligation to uphold standards of academic integrity.

All forms of academic dishonesty including cheating, plagiarism, misrepresentation, and obstruction are violations of academic integrity standards and are defined below:

- Cheating includes copying from another's work, falsifying problem solutions or laboratory reports, or using unauthorized sources, notes or computer programs.
- Plagiarism includes the presentation, without proper attribution, of another's words or ideas from printed or electronic sources. It is also plagiarism to submit, without the instructor's consent, an assignment in one class previously submitted in another.
- Misrepresentation includes forgery of official academic documents, the presentation of altered or falsified documents or testimony to a university office or official, taking an
exam for another student, or lying about personal circumstances to postpone tests or assignments.

- Obstruction occurs when a student engages in unreasonable conduct that interferes with another's ability to conduct scholarly activity. Destroying a student's computer file, stealing a student's notebook, and stealing a book on reserve in the library are examples of obstruction.

More information can be found in the Case Western Reserve University Student Handbook available at http://students.case.edu/handbook/policy/.