

1 Basic information

Instructor: Jason O’Kane (jokane@cse.sc.edu)

Lectures: Mondays and Wednesdays, 9:30–10:45, SWGN-2A07 Innova 2277

Office hours: Tuesdays, 2:00–3:00pm, Innova 2229

You may also stop by my office at other times, or make an appointment.

2 Description

This class is about robotics, with a strong emphasis on *planning algorithms*, that is, computational techniques that robots or other agents can use to plan their future actions. Though the majority of the content will be drawn from robotics, it should also be relevant to other areas in which agents must act autonomously to achieve their goals. After completing this course, students should be able to understand, critique, design, and implement planning algorithms for various applications.

3 Instructional format

The format will mix lectures by the instructor and student-led discussions of important and interesting published research papers in the field.

4 Webpage

Information about the course will be posted at this site:

<https://cse.sc.edu/~jokane/774>

This site will be the definitive resource for the course, and is the place to look for assignments, lecture notes, and announcements.

5 Prerequisites

The officially-listed prerequisite is CSCE 574, which is an introduction to robotics. However, the course will be structured so that students that have mature programming skills and mathematical ability, but have not yet had the pleasure of studying robotics, should be able to succeed.

Textbooks

Steven M. LaValle, *Planning Algorithms*, Cambridge University Press, New York, NY, 2006.

The textbook is freely available at

<http://lavalle.pl/planning/>

6 Evaluation and Grading

Final grades will be determined based on a course project, approximately two homework assignments, one quiz, two paper presentations, approximately 16 short paper reviews, and your class attendance and participation.

Project	50%
Homework	10%
Quiz	5%
Paper presentation	15%
Paper reviews	15%
Attendance and participation	5%

The course project is divided into six submissions. The weights of these submissions, as percentages of the final grade, are shown below.

Topic choice	1%
Related work	3%
Progress report	10%
Project presentation	3%
Final report	28%
Exit interview	5%

The following table gives upper bounds on the thresholds for determining final grades. The instructor reserves the right to adjust these thresholds downward, but promises not to adjust them upward.

A	≥ 90%	C	≥ 70%
B+	≥ 85%	D+	≥ 65%
B	≥ 80%	D	≥ 60%
C+	≥ 75%	F	< 60%

Gradebook access Grades will be posted on the CSE moodle server:

<https://dropbox.cse.sc.edu>

It is your responsibility to verify that grades are correctly recorded on this site.

Corrections and regrades My goal is to ensure that all of the grading for this course is fair and correct. If you believe there's been a mistake in grading, please bring it to my attention within one week after the scores are posted. Regrade requests after one week will be politely declined.

Important reminder Keep in mind that I am grading your work, not you as a person.

Deviations from the grading policy I assume that every student takes the class intending to succeed, and I share that goal. However, in the interest of fairness and consistency, requests for grade increases that are inconsistent with the stated grading scale will be politely declined. Here is an incomplete list of hypothetical requests from students that are not sufficient reasons to deviate from the stated grading scale:

- I need a GPA of at least ____ to get the internship I want.
- My parents will be disappointed in me.
- If my grade is less than ____, I won't be able to graduate.
- I've never gotten a grade as low as ____ before.
- Getting a grade lower than ____ makes me feel sad.
- I have too many other responsibilities.
- The course is too hard for me.
- I am about to graduate.
- I have a good GPA so far.
- I have never failed a class before.
- I am willing to do extra work.
- I am really close to getting a ____.
- I want to get into graduate school.

Incompletes In accordance with university policy, the temporary grade of 'I' (incomplete) may only be assigned in cases of "unanticipated illness, accident, work-related responsibility, family hardship, or verified learning disability."

7 Policies

Attendance You are expected to attend and participate in each class session. Attendance, particularly for the student presentations, will be taken into account in the participation portion of the final grade.

Cheating Academic dishonesty undermines the educational mission of the course and reflects disrespect to your classmates and to your instructor. Therefore, you are expected to practice the highest possible standards of academic integrity. This policy includes all forms of academic misrepresentation, including cheating, complicity, falsification, and plagiarism.

In particular, assignments should be done independently. Discussions with your classmates or others should remain at a very high level, and must not include any specific details of the solutions. You must work out the details and compose the complete answers

independently. Submission of identical or substantially identical work will be considered strong evidence that violations of academic integrity by all involved have occurred.

It is not acceptable in this course to submit work completed by anyone else as your own, to make your own work available to anyone else, nor to distribute or post the materials for the course in any venue.

More details on university's academic integrity policies are available at

<http://sc.edu/academicintegrity>

The academic penalty for students found responsible for violating the academic integrity expectations is a failing grade for the course.

Excused absences Excused absences include (but are not limited to) being in quarantine or isolation, illness, religious holidays, medical conditions related to pregnancy, military duty, legal obligation to appear at or participate in a judicial or administrative proceeding, and any other absences required to be excused by applicable state or federal law. Whenever possible, documentation is required in advance of any excused absence.

Late assignments Each assignment will indicate a specific date and time by which it must be submitted. Late submissions will be accepted only in extraordinary circumstances.

Mobile devices Please silence any mobile devices before coming to class. If your phone rings in class, I reserve the right to answer it for you and take a message. Likewise, if my phone rings during class time, I will allow a student to answer it.

Accommodations for disabilities Reasonable accommodations are available for students with documented disabilities. If you have a disability and may need accommodations to fully participate in this class, contact the Student Disability Resource Center. (<https://www.sa.sc.edu/sds/>). All accommodations must be approved through the Student Disability Resource Center.

Potential for policy changes Amendments to the syllabus at the instructor's reasonable discretion, including changes to course schedule or to the evaluation and grading mechanisms, are possible but unlikely.