Course Report WASP Graduate School

Advanced Autonomous Systems

Date: 2026-10-16

Authors: George Nikolakopoulos (Examiner), Volker Krueger, Olov Andersson, Akshit Saradagi

Advanced Autonomous Systems, 6hp
Semester: Fall 2025

Number of registered students: 13
Answering frequency (course evaluation): 2/13 (7.7 %)

Examination results

Number of students examined: 13
Fail: 3 (23.1 %) Students could not complete all three modules satisfactorily
Pass: 10 (76.9 %) Completed all three modules satisfactorily

Brief summary of student viewpoints and suggestions

Results of WASP base-line quantitative questions

- What is your overall rating of the course? Rating - 4
- Did you enjoy the course? Rating - 4.5
- Was it time well spent? Rating - 4

Answers to free text-questions to be (shortly) summarized under “Strengths” and “Weaknesses”

- What was the best aspect of the course?
- What would you suggest improving?
- What advice would you like to give to future participants?
- Other comments. Is there anything else you would like to add?

"Strengths" according to students[1] (What was the best aspect of the course?**)**

- The course provides a comprehensive and broad overview of modern robotic systems through three complementary modules.
- The course has a good mixture of theory and hands-on practice (especially in modules 1 and 3).
- The experience of working in smaller groups with relatively similar experience made the group work easy and enjoyable.

[1] *Based on both quantitative results and key viewpoints from students’ free-text answers*

- Strong recommendation for anyone working with control or robotics to take the course and get hands-on experience with a broad range of topics.
- The curriculum really needed another Autonomous Systems-focused course.

"Weaknesses" according to students[1] **(**What would you suggest improving?**)**

- The assignments could be better organized.
- The assignments for modules 1 and 3 were too big, whereas the mandatory part of the assignment for module 2 was very easy.
- There is repetition in the in-person lab assignment and take-home assignment in module 1. Students should be able to pick one of the three options in the Module 3 assignment.
- There was lack of clarity in the scheduling of the three modules and timely communication of the schedule. The course material could have been released much earlier before the start of each module.

Summary of the discussion with the student representative

- The modules were complementary. There was no overlap between the modules.
- The course covers a broad range of topics. Students may not have pre-requisites for some of the topics. It is better if all modules share moderate pre-reading material.
- The scheduling of the three modules should be released as early as possible. As the students travel to three different cities for the three modules, it is critical for students to know the scheduling a priori.
- The lecture material and pre-reading were released very late for Modules 1 and 2.
- The assignments can be structured better for Modules 1 and 3 to avoid repetition. Module 2 assignment was easy.
- For Module 3, the students could work as a group, with each member exploring the three different directions suggested.
- The choice of using MATLAB for Module 1 was good. However, there were issues with the MATLAB versions. The Simulink models provided by the instructors could be in a lower version of MATLAB, to avoid compatibility issues.

Comments from teachers on the implementation and outcome of the course[2]

- The 2025 Fall edition was the first time the course was offered.
- Although we received good overall feedback, the students reported several problems with scheduling, timely communication with students and release of notes and assignments, and lack of travel guidelines etc.
- The coordination between the three universities offering the three modules could have been better.
- Smoother coordination is needed in finalizing the grades.
- All instructors could be more prompt in responding to communication related to the course.

[2] *Including changes effected during the course*

- The student participation in the course was satisfactory. The commitment shown by the students was commendable. The instructors enjoyed offering the course.

Proposed changes/comments/measures

- The canvas page for the course will be set up at least two weeks before the start of the course, with information about all the modules, pre-reading and lecture material.
- The schedule of the three modules will be released as soon as it is decided. Travel information will be released simultaneously.
- Better communication will be set up and implemented among the instructors and the coordinators in the preparatory phase of the next iteration of the course.
- The grading policy will be made more transparent, so that students who cannot complete all modules are aware that passing all the modules is mandatory for passing the course.
- Better coordination will be set up between the three universities offering the three modules.
- The laboratory exercises in Module 1 will be streamlined with clear instructions, so that the students do not lose time in setting up their computers or debugging version issues.
- The current assignments in all the three modules will be reassessed to eliminate repetition and to estimate the time needed to complete the assignments.