

MT6025 (Design of Mechatronical Systems, VT 2025, Halmstad, V0505, X0580)

Number of possible respondents: 23

Answers: 14

Response rate: 60,87 %

Study pace: 50 %

Examiner's course analysis

Based on the course evaluation result - which are the strengths of the course?

The students appreciated the well-balanced combination of theory and practical application. They found it engaging in calculating parameters, designing components like the jib and gearbox, and performing weight optimization while gaining a deeper understanding of the underlying theory. The course offered a valuable opportunity to apply what they learned in real-world scenarios, mainly through hands-on projects like building and programming the crane. The labs were an essential foundation for the final project, providing a practical and rewarding experience. Students also praised the teacher for their passion and engaging teaching style, noting how they encouraged independent problem-solving by offering hints instead of complete solutions, motivating students to think critically and find solutions independently. The course structure was well-received, with a nice mix of theory, practice, and student autonomy.

Based on the course evaluation result - which are the weaknesses of the course?

Some students felt that the lack of teacher availability hindered their ability to ask for help and demonstrate progress during laboratory sessions.

Access to the laboratory room was also a concern, with suggestions that card access should be granted from the beginning of the course to allow for more flexible use during weekdays and weekends.

Students found the project instructions vague and would have appreciated more precise guidance to understand the goals and expectations better.

Students also noted a need for more substantial software development and programming support, particularly given their limited backgrounds in these areas. There were suggestions for improved explanations of the provided code and more contextual information about what parts they were expected to implement themselves. While the introduction to MATLAB programming was helpful, a brief refresher closer to when it was needed would have strengthened their grasp of the material. However, one student questioned the necessity of being handed prewritten components, such as the Trapezoidal velocity profile generator, suggesting that they could benefit more from implementing these elements based on available resources.

Finally, there was frustration over the prioritization of lab space in the FabLab, with a request for students in the course to be given preference over those using the space for less relevant activities.

Comments about the collaboration with the course ambassadors

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Conclusion and suggestions for course development or already made decisions

The software part is still something that causes problems for some students. But, one comment was that too much help was given. Some improvements to the software part were made during the course (templates, flowcharts, etc.). However, this can be elaborated on. A solution to address different student groups' needs and expectations is to differentiate the grading criteria.

The instructions regarding the final report, the expectations and how they link to the learning outcome will be improved. There was some variation in the student's project reports.

Other comments

This is the second time the course is given. This year's updates and improvements to the course gave results, e.g. smaller exercise groups, more scheduled access to the Laboratory room, updated instructions, software templates and a general adaption of the course material to fit the student's background. Students' feedback was crucial to the success.
Course satisfaction index: 84% (2025), 63% (2023)

I am overall satisfied with the course.

	Number of responses	Distribution (%)	Index (%) I am overall satisfied with the course	84
0 = I definitely do not agree	0	0%		
1	0	0%		
2	1	7%		
3	1	7%		
4	6	43%		
5 = I definitely agree	6	43%		
No opinion	0	0%		
Total	14	100%		

How much time have you spent on the course in relation to the course's study pace?

	Number of responses	Distribution (%)
Less time than the course study pace	0	0%
Corresponding to the course study pace	3	21%
More time than the course study pace	11	79%
Total	14	100%

The design of the course (teaching methods, literature, pedagogy, etc.) has been well adjusted to help me achieve the learning outcomes in the syllabus.

	Number of responses	Distribution (%)
0 = I definitely do not agree	0	0%
1	0	0%
2	0	0%
3	4	29%
4	7	50%
5 = I definitely agree	3	21%
No opinion	0	0%
Total	14	100%

Index (%) The design of the course (teaching methods, literature, pedagogy, etc.) has been well adjusted to help me achieve the learning outcomes in the syllabus.

79

During the course examinations, I have had the opportunity to show that I have achieved the learning outcomes in the syllabus.

	Number of responses	Distribution (%)
0 = I definitely do not agree	0	0%
1	0	0%
2	0	0%
3	2	14%
4	7	50%
5 = I definitely agree	5	36%
No opinion	0	0%
Total	14	100%

Index (%) During the course examinations, I have had the opportunity to show that I have achieved the learning outcomes in the syllabus.

84

I have experienced the social study environment as good during the course.

	Number of responses	Distribution (%)	Index (%) I have experienced the social study environment as good during the course.	
0 = I definitely do not agree	0	0%		
1	1	7%		
2	0	0%		
3	1	7%		
4	3	21%		
5 = I definitely agree	9	64%		
No opinion	0	0%		
Total	14	100%		87

Course satisfaction index

Satisfaction index % (summary of all statements)	84
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