

DT4020 (Data Security for Embedded Systems, VT 2026, Halmstad, V3999)

Number of possible respondents: 51

Answers: 22

Response rate: 43,14 %

Study pace: 50 %

Examiner's course analysis

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

Almost half of the respondents (45%) reported that the study environment was good. Another strength was the course design and ambition. This year, the course was delivered by new teachers, and a revised course design was introduced, with a stronger focus on connecting teaching, learning activities, and assessment to current research topics in data security for embedded systems in V2X applications. Despite some mixed feedback on implementation, several students appreciated the “learn by doing” approach, as well as the opportunity to work on real research topics and write a scientific paper. It is worth noting that 7 out of 11 student groups successfully wrote and submitted scientific articles to V2X-related security conferences, demonstrating strong engagement and achievement. These aspects align well with the intended course redesign. In addition, more than half of the respondents (59%) reported spending time in line with the expected study pace, suggesting that the workload was manageable for most students.

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

The main weaknesses are related to alignment, communication, and the course introduction, rather than fundamental issues with the course concept itself.

The satisfaction index (30%) and course design index (24%) suggest that a group of students did not clearly understand how the different components of the course supported the intended learning outcomes. Several comments pointed to an unclear connection between the labs, research paper, and exam, and some students perceived more emphasis on research than on fundamental concepts.

These challenges can partly be explained by the fact that this year the course was redesigned and delivered by new teachers. The integration of research-oriented activities, while beneficial, may not have been sufficiently introduced or scaffolded for all students.

Some students also reported challenges related to workload and timing, particularly due to overlap with the bachelor thesis.

However, these results should be interpreted with caution. With a response rate of 43% and several similar comments, the feedback likely reflects the perspective of a smaller group. This is supported by feedback received during the final lecture, where many students expressed overall satisfaction with the course.

Comments about the collaboration with the course ambassadors

No course ambassadors were involved in this course.

Conclusion and suggestions for course development or already made decisions

First, we would like to thank all students who took the time to complete the course evaluation.

This year, the course was redesigned and delivered by new teachers, replacing the original teacher who was on a temporarily leave.

The course shows strong potential through its research-oriented, practice-based approach. This is also reflected in the outcome, where 7 out of 11 student groups submitted scientific papers to V2X-related conferences, highlighting the level of engagement and the practical relevance of the



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course design. While the evaluation highlights some concerns regarding clarity, alignment, and workload, these appear to reflect a subset of students rather than the entire cohort. Improvements should focus on clearer communication of expectations, better alignment between course components, and adjustments in timing, especially in relation to the thesis period, to reduce perceived workload pressure and further enhance the learning experience.

Other comments

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I am overall satisfied with the course.

	Number of responses	Distribution (%)	Index (%) I am overall satisfied with the course	30
0 = I definitely do not agree	8	36%		
1	4	18%		
2	6	27%		
3	0	0%		
4	3	14%		
5 = I definitely agree	1	5%		
No opinion	0	0%		
Total	22	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	2	9%
Corresponding to the course study pace	13	59%
More time than the course study pace	7	32%
Total	22	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	8	36%
1	9	41%
2	1	5%
3	2	9%
4	1	5%
5 = I definitely agree	1	5%
No opinion	0	0%
Total	22	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.

24

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	6	27%
1	3	14%
2	7	32%
3	4	18%
4	0	0%
5 = I definitely agree	2	9%
No opinion	0	0%
Total	22	100%

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

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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	3	14%	65	
1	1	5%		
2	4	18%		
3	3	14%		
4	1	5%		
5 = I definitely agree	10	45%		
No opinion	0	0%		
Total	22	100%		

Course satisfaction index

Satisfaction index % (summary of all statements)	39
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This year the course introduced a new approach where the labs, research paper, and presentations were closely connected to recent research topics in V2X security. To what extent did this approach help you understand the course topics and develop practical skills in embedded systems security?

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0 = I definitely do not agree	10	45%
	6	27%
	1	5%
	2	9%
	1	5%
5 = I definitely agree	2	9%
Total	22	100%

The course assessment included group research work, lab presentations, a scientific paper, and a written exam. To what extent do you think this evaluation format reflects your learning and effort during the course?

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0 = I definitely do not agree	6	27%
	7	32%
	1	5%
	5	23%
	1	5%
5 = I definitely agree	2	9%
Total	22	100%

What aspects of this year's approach worked well, and what could be improved?