



Final report

HT2024_DVGC19_45486_Datasäkerhet I

First time registered students: 141

Answer Count: 40

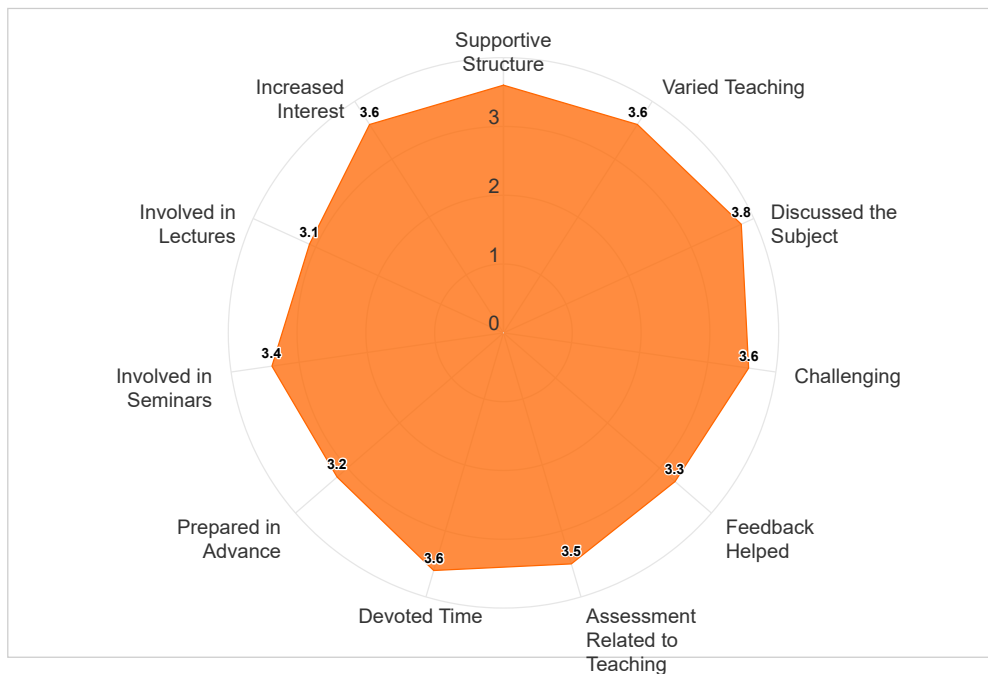
Answer Frequency: 28.37%

The course evaluation could be answered during the period:

18/01/2025 - 01/02/2025

When collaborative courses, several course codes are shown below:

DVGC19 Datasäkerhet I, End date: 2025-01-19





Mean value for each question. Highest value = 4.

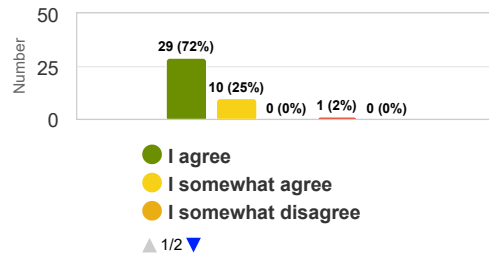
	Mean
Supportive Structure	3.6
Varied Teaching	3.6
Discussed the Subject	3.8
Challenging	3.6
Feedback Helped	3.3
Assessment Related to Teaching	3.5
Workload	2.0
Devoted Time	3.6
Prepared in Advance	3.2
Involved in Seminars	3.4
Involved in Lectures	3.1
Increased Interest	3.6

Results of learning

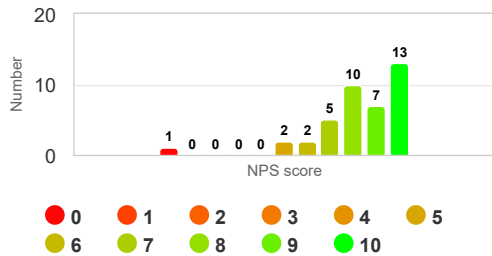
All in all, the course was valuable for me.

Courses that were considered valuable were related to personal development, acquisition of new knowledge and skills, understanding of something. Higher ratings can refer to students' perceived development (learned a lot, and it was useful). Lower ratings can refer to scanty development of knowledge and skills or not understanding certain themes or their parts, not understanding the necessity and significance of the course, problems in the learning environment.

	Mean
All in all, the course was valuable for me	4



How likely would you be to recommend this course to a friend or colleague?



Net Promoter Score (NPS) = 37.5

Promoters = 20 (50%)

Passives = 15 (37.5%)

Detractors = 5 (12.5%)

The Net Promoter Score (NPS) is a metric that measures student experience and predicts the effectiveness of a course. It calculates an NPS score based on a key question using a 0-10 scale, asking how likely students would recommend the course to others. Respondents are grouped into Promoters, Passives, or Detractors based on their score, and the NPS is calculated by subtracting the percentage of Detractors from the percentage of Promoters. The NPS is a core metric for course evaluation programs and is trusted by educational institutions to engage their students and improve their learning experience performance.

Comments

Course supervisor's comments



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The feedback was very positive. The assignments and the teaching staff were particularly praised. Of the 141 first-time registered students, around half regularly attended the classes and the assignment lectures. At the beginning of the course, the students were presented with the course feedback from the previous year and were informed about its structure, changes, rules regarding the use of AI tools, and updates to the course.

Selected quotes:

- "This has been one of the best courses during my time at KAU"
- "I enjoyed every lesson. The teacher has reached his perfection."

The direct quotes from the entire students' feedback are included at the end of this report.

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A Record Number of Students:

This year, DVGC19 had 141 first-time registered students, more than double the past four years' average (65) and almost twice as much as DVGC19's previous record (73). To adapt the course to the larger cohort and not decrease the course's quality, I made a few changes to the course structure:

- Additional assignment lecture slots were added to keep the number of students in the classroom adequate for the assignment's length.
- Two additional lab assistants (to a total of four) were assigned to help. I organized their work so the two most experienced ones were assigned to lab rooms. In contrast, the others corrected the lab reports.

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The Use of AI Tools:

I gave the students an AI-crafted prompt, named the AI Tutor, to help them self-study for the second consecutive year. The crafted prompt can be copied and pasted into any LLM chatbot, such as CoPilot or ChatGPT. I also created a custom invite-only GPT in ChatGPT called KAU-DVGC19, which is available to non-subscribing ChatGPT. The tool was not mandated to be used. The link to the tool and its limitations were communicated in the classroom and posted in Canvas. The AI prompt is meant to be used individually and at home for studies and to revise the language and structure of the lab reports. I did two checks during the course to verify the use of our AI prompt, one in the middle of the course and one on the last lecture day using Mentimeter. Around 74% of the respondents had used it by the middle of the course and 84% by the end. On the first check, around 88% of the students responded that the AI Tutor helped them in their studies, which dropped to 75% on the second check. The drop in the ratio of those who considered that the AI Tutor helped was in line with the past year's numbers (80% and 60%) but better than the past year's results as those reporting that the AI Tutor helped was proportionally more.

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Exam Results:

The passing grades were also adjusted following a discussion with one of our program leaders to conform to including multiple-choice questions in the exam. The new grading was communicated to the students in the classroom and announced in Canvas. The exam had 100 points and five bonus points that could be earned by participating in the two assignment courses. The passing grade changed from 50 to 65 points to accommodate the weight of multiple-choice questions in the exam (75% of the total points). The grading scale used was: 3 = [65, 80) points, 4 = [80, 95) points, 5 = [95, 100] points.

One hundred twenty-three students completed the exam (n = 123), 78 passed (63%), and 45 failed (37%), which is close to the historical course average of 67%.
Of those passing, six students score a 5 (5%), 29 a 4 (23%), and 43 a 3 (35%).

AVG score= 67,3
STDEV = 18,1
MAX score = 105/100
Q3 score = 81
MEDIAN = 70
Q1 score = 54,75

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Student Feedback-----Q: What enhanced your learning in this course?

- I had a good teacher. Chatgpt, the 2 oral meetings.
- The assignment session was good way to learn. And i loved the collaborative tools used which allowed students to answer questions under the lecture.
- Having a enthusiastic and motivated teacher in the subject such as Leo makes things the course much more interesting
- The assignments were good to see what i remembered
- Labs
- Leo did a great job teaching us about cyber security. His lectures and seminars were always involving the students, especially in the first half of the course. It was a fun course, especially if interested in cyber security.
- The laborations and assignments + menti
- I learned a lot about the course, teacher was sublime
- the way leonardo used menti to open up a new way for everyone to get questions out even if they are shy
- The course educators!
- Very helpful in the learning process. Another great thing that helped was the study-buddy prompt that Leonardo was nice enough to provide, made it easy to setup a ballplank through GPT to rehearse/practice.
- Getting real practice through the use of Webgoat, the tailored GPT persona was a nice touch, the podcasts were interesting and I felt an interest in the subject outside of just studies.
- The assignments were really good at making sure that one has to actively learn and understand the information given during the lessons.
- In addition to practical knowledge, a good understanding of theoretical knowledge pairs and their use and consequences
- Assignment sessions
- The assignment questions and lectures helped a lot in actually understanding what it is that needs to be learned.
- The lectures were really good, doing the assignment also helped to further and set remember what was said in the lectures. The labs also helped to further your knowledge and really learn how things works in practice.
- The use of AI, and following some tips in the labs, such as using the logs in the Firewall laboration.
- The power points slide. To have access to them after the lecture was helpful. I could watch them again and take notes
- The enthusiasm, and apparent knowledge of the teacher
- The interaction in class. The teacher interacted with the class in a way to let the students not only listen but also try to think for themselves.
- The positive attitude of Leonardo, I've really appreciate it. With information behind presented to us students in a professional manner. One of the best teachers I've come across. Keep going! I also enjoyed the guest lectures to get real insights from experts.
- Discussing with leonardo inside and outside the classroom
- The assignment questions and labs were useful.



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-What improved my learning in this course was the possibility of working independently and labs. I often learn better when given work in the form of exercise, this is how I understand how to apply my knowledge in the real world and in concrete cases
-Guides on youtube and chat gpt.
-Good lessons and the assignment I think forced me to learn.
-I liked the assignments
-As Leonardo says multiple times, do the assignments. Not because they are top class quality, but it will trigger your ability to learn something well early on and improve your understanding at an early stage. Which will definitely save you time when doing the laborations and study for examination.

-----Q: What enhanced your learning in this course?

-I've would kept it all the same, but the labs was a bit challenging and was hard to be honest. But I'm happy to complete them all.
-Restructure Lab 3. Otherwise it was great
-Some of the labs may need some tweaking, but i am assured that this has already been thoroughly stated
-Probably having one lecture just showing the tools that where gonna be used in the labs, there was alot of functions you dont know about that could have made the labs easier
-OBS! This I didn't read the course literature i.e. the books referenced to which might would have solved this issue. When reiterating some of the lectures before the exam some parts of the slides where hard to understand especially if you missed or misunderstand something said in the lecture. So maybe a bit more text in the slides or references to some resources explaining things in more detail.
-I would try to learn the concepts from the core and base. It is important to understand the why and how aspects, not just to memorize concepts.
-It would've been nice with a lecture after new years, just to force myself to fix my sleep schedule a bit earlier
-The last lab had a poor documentation around the steps. Itl do say which task to do on the website but alot of the hints or tips was misdirected and it ends up with having to google alot
-Remove one of the labbs, maybe the last one. The last labb felt outdated, was too close to the christmas holidays and took time away from -studying and practicing on the material from the lectures.
-Put abit more information on the slides so that it is easier to go back and extract information later on in the course.
-The course is in need of an overhaul regarding the third laboration. It's outdated in some parts due to recent updates in the tool required to solve some challenges. It felt like what we were taught in the class was not enough for some of the challenges within the lab 3. Time allocation for seminars and the the two questionnaires. It's heavily scewed towards the first half right now.
-Not applicable
-The 3 lab is way to difficult. Especialy when Leonard have not talked about how to solve it.
-Change a little bit in the slides, there are some typos and i got a bitt confused of the slide. For example when the good teacher explained ETM (I belive that did not have its own slide, i would love to have a seperate slide for that. Also more example of false posetives and false negatives. I felt that was hard to grasp at first.
-Nothing
-The lab 3 felt slightly outdated, I would have liked to see some sort of in-house solution for this, since the WebGoat labs have 100% solutions online and can just be bypassed that way, if one doesn't care about actually learning. Other than that, though, I wouldn't really change anything drastically - the course was great!
-Study more
-There is not really anything to complain about
-Probably use different slides in the presentation that is more friendly for beginners, it could sometimes be hard to follow a new concept.
-Provide clearer examples than those on the current powerpoint. It was difficult to go back and gain any information from those.
-if I had to change something, I would give 1 week before the assignment reading a document to be completed by all, in order to know who wants to be questioned orally, it was a source of stress for me who does not like to be taken unprepared. In addition, I will give the opportunity to the elevents not wishing to pass orally to earn the 5 bonus points by giving me a small task to allow them to get bonus points too.
-Keeping 50 points limit for 3 in exam like past years, why would we have it more difficult than past students
-The slides used in this course is okey when you are in class and have you talk about the subject. But if you miss a class or want to refresh your memory of a subject, the slides contain very little substance.
-Nothing
-I think there was too much informaion because we almost always had a double lecture. It moved to fast for me to get a understadnig of all the contents in the course.
-Try to demo more instead of just talk about the subjekt.
-It's UNBELIEVABLE that in 2025, this course doesn't have recorded lectures. Institute of learning? More like an institute of bureaucracy.

-----Q: Recommendations for learning for future learners.

-Go to the lectures. Go to the practicals. Go to all the in person events it helps understanding the course material a lot. Also after the in person events, write down the concepts talked about to see if you understood them and to have something to practice on later the exams start closing in.
-Study
-Do everything as Leonardo says.
-Ask leonardo, he is very knowledgable, and likes security
-Explain more, where is this used (only examples) (ETM, DMZ) why are they used
-Try to get a deeper understanding of the fundamentala and how everything works to get a better understanding
-GO TO THE FRICKING ASSIGNMENTS!! It's FREE 5% exam points, literally no reason not to - it greatly helped with learning, hearing others perspectives on some of the questions. And don't waste too much time on stuff that isn't related to the course on whichever half of the week the course runs on - Monday, Tuesday and every other Wednesday were COMPUTER SECURITY days.
-Listening to the podcast supplied has really widened my view on the subject and made me try to go in this direction in my work life.
-Watch the extra links that Leonard puts in canvas.
-Some of them are very long (you don't have to see them). But some of them are shorter and you can easely reed them.
-Very interesting course that everyone in the IT field should know this course. Since data security and ethics are an important part of the IT field.
-To pass the course the students need to attend to the assignment. Not just to attend and ofcourse prepare.
-- Prepare for the lectures/look at the slides before the lecture if possible. - Answer the assignment questions and attend the assignments even if you don't want to answer any questions/get the extra points. Because it's a good way to check if you understand the concepts and content mentioned in the lectures.
-In the current state of the course please do spend time with the material with your study friends, especially in the latter part of the course. Lab 3 is a different beast in its current form, and might need some knowledge in scripting to solve one of the tasks.
-If a student isn't from the Computer Science programme, I would advise to invest extra time to close the gap that could be lacking. I've enjoyed the ride, none the less.
-Generally might be good to repeat data communication if you feel a bit shaky on ARP, packets and diff betwee http and https
-Do the assignments, listen to the podcasts, check canvas the day before the lectures in case there is an episode from a pod you're expected to have listened to
-The assignments where really good for learning, it becomes more like a study circle than anything
-Not applicable
-Put in the time right away, read up on the things that has been discussed during lectures.
-Study hard and go to the assignment
-Attend assigment questions and learn why and how things work. Be curious and not just memorize.
-You should attend the lectures since they are very good and the exam is based on the lecture.
-My only recommendation is do the assignment.
-Spend time as a group and discuss about the course material.



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-I think it is important to attend the different lectures and to be invested in the realization of the labs. I personally did not attend all the lectures because of too many courses in my schedule but I think that is what allows the best to follow the course and ask questions if necessary.
-Go to the lectures and assignments

-----Q: Please explain your evaluation.

-The course was interesting and the exam just shows that it is not enough just to memorize previous exam questions instead student need to have deep knowledge about how and why things work?
-10/10 course, can't wait to go into the CompSec II course next year as well as the ethical hacking course. This course just fueled my love for computer security.
-Some of the main reasons for this is how awesome Leonardo is as a teacher, and how good and knowledgeable the lab assistants are.
-Leonardo is an exceptional teacher. He demonstrates extensive knowledge of the subject and actively incorporates student feedback to improve the course. His recommendations are well-informed, drawing not only from his expertise but also from the experiences of previous students.
-There is some flexibility in how you approach the course, whether you prefer actively engaging in discussions or passively reviewing the material, both options are available. I enjoyed the labs, they were both fun and interesting.
-Fantastic basics into security
-Really interesting subject, incredibly well structured, it's the first course where I could nerd out for so long that my friends had to stop me
-I enjoyed every lesson. The teacher has reached his perfection. The course was absolutely perfect and exceeded all expectations. The teacher demonstrated exceptional knowledge and professionalism throughout. Moreover, the teacher's wonderful sense of humor made the learning experience truly enjoyable!
-The teacher does a great job of teaching and growing interest in the field of computer security. 2/3 labs are great and teaches practical skills that help understand the course material further. The only reason I can't give the course a higher evaluation is because the labs, like most other computer science courses, take the majority of the study time while only being a fraction of what's actually tested in the final exam. Either the labs should be worth more points and be a bigger part of the course evaluation or there should be less of them and they should take less time to do to properly reflect what is actually studied upon.
-Since I am interested in computer security I'll recommend it to any person but also for the good course and teacher.
-This has been one of the best courses during my time at KAU
-I really enjoyed this course but I found it lacking in a few areas.
-It was perfect, but I never give a 10/10
-In its current state it's a decent course with a lot of potential to become better. Right now the time that is allocated for the lectures are heavily in favor of the first half of the course. It feels like we rushed through the latter half of the course which did affect the learning rate. This was a recurring problem in both the seminars and in the questionnaires we did in groups. Too much time was allocated to the first half so the second part was rushed through and the result was a lack of knowledge due to it. Lab 3 was a mess. The course had basically ended due to the teacher going abroad (which is understandable but unfortunate for us). It did not help that this lab was the most difficult one, with deprecated tools and not being covered due to the lack of time teaching us about it. The guest lectures were interesting, but it was difficult to make connections to how and where it could be applied within the knowledge we obtained during the course. The ICA guest lecturer sure loved to complain a lot as well, which took away some of the seriousness unfortunately. Also, the course exam was outright bad in some aspects. Some questions were not even questions, nor telling us what was asked for. There was one question that only consisted of the words "ARP spoofing", which does not really tell what was asked for. Putting in a random question about a niche podcast episode that was not part of the lecture material was also a low blow. I rather spend time with learning material than listen to all the podcasts that were linked in the course. Lastly, upping the amount of points to pass up to 65 from 50 is a bit harsh, isn't it? I do understand this if it was only multiple/single choice questions but this was not the case due to it being 75% multiple/single and 25% writing questions.
-The course is all in all good in content and amount but I can feel that I wanted to learn more but the subject is too large and will have to improve after the course but the course is good foundation
-I did a good evaluation please use if you want to.
-Good professor and lab assistant. The labs were good. Good lectures. I like the mentimeter thing. But the 3rd lab is a bit difficult. It's interesting but either the lab gets easier or Leonardo prepares the students better for it.
-It was a good mix of learning and fun that made the course enjoyable.
-It was a good course teaching the fundamentals about data security but since I'm somewhat interested in this topic a lot of the stuff mentioned in the course wasn't new to me. Still it furthered previous knowledge and I got some hands-on experience in the labs which was fun.
-I found the course interesting and good for not only computer security but Day to Day computer use
-Me love security
-It's a good course that gives you a good introduction to the field. Good teacher and great course material.
-I think the course was good overall but with some concepts it moved too fast for me to understand it all.
-Although the course has been valuable and interesting, it did not always match with what we did practically with the laboratories. I think that the laboratories could be modified a bit so that they correlate better. Also the pacing was a bit off. There could be 4 lectures in two days and that is a lot of information to take in order to be prepared for the upcoming lectures the same or the next day.
-I think the slides are complete and relevant to understand the different concepts of the course but I did not always see how to answer the questions at the end of the course without having to do some research. In addition, the assignment lectures were a source of stress for me and did not allow me to learn for the better. This course is still very interesting and we come out with skills that are useful for the rest of our academic career.
-The most useful resource of all, explanation and lecture videos was completely absent.

-----Q: Other opinions and comments about the course.

-Good work with everything and keep the same structure!
-The teacher truly deserves the title of the best teacher in the school. Leonardo consistently demonstrates exceptional knowledge and professionalism, making even the most complex topics engaging and easy to understand. He goes above and beyond by ensuring that the course remains updated with relevant and current material, which clearly reflects the significant time and effort he dedicates to improving it. His unique combination of dedication, humor, and teaching excellence creates a welcoming environment where students are inspired to learn and succeed. Leonardo unquestionably deserves to be nominated for Teacher of the Year, as his passion for teaching and commitment to his students set him apart as an extraordinary educator.
-Keep it up! <3
-Leonardo Martucci is a nice guy. I feel like he'd be the uncle that comes in and buys you an expensive gift out of nowhere only to then steal your oranges while you're not looking.
-Leonardo might honestly be one of the best teachers I've had through this program
-I have now listened to about 14 episodes of Darknet Diaries because of this course. It made me switch my application for the next semester's courses to include Ethical Hacking.
-I think that some things should be discussed more in-depth, one particular example was CSRF, by the end of the course I kinda knew what it was, but I could not explain it very well and had no idea how to protect from it. The third lab with SQL injections was HORRIBLE, to be able to do the required tasks for the lab you had to do almost all the tasks, and we were not well equipped from the lectures to do this. We also had ZERO knowledge on the tool we needed to use, a 10 min introduction to it would have saved A LOT of headache for many people.
-Although labs were very fun, some parts might need some updating, or at least the lab specification should be updated with more details for things that will need a new way of solving them (example. Blind injection) where we had to make a script. Which was fine that we had to do, but it took a long time to figure out that was the way forward.
-Leo is King
-:-)
-I did not like the ICA guest lecture, hard to hear and could not understand what he said. did not want to be rude. I like the other guest lecture, think I wanted more time with him instead or replace ICA guest lecturer with your experience and what you think.



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- The labs are somewhat outdated and needs to change a little bit so that they become easier to understand and complete.
- All in all it was a good course, especially for people that has not indulged in cyber security before. I do understand it was difficult logistically due to the amount of students we were this year as well. However, it can get a lot better if lab 3 gets a bit of a touch up. The time allocated for all the course material needs to be better managed, since half of the course felt very rushed and unfortunately a bit unserious due to it. Fix this and you got one of the best courses in computer science! =)
- Having an exam question about a specific podcast episode feels wrong. Sure, that is one way to make sure the person in question was active in the course, but it does NOT have anything to do with ones knowledge on the subject matter; It is completely irrelevant. So to reiterate, to potentially get a lower grade because you did not listen to a random episode of a random podcast feels wrong. Otherwise, the course was a 10 /10 in terms of course and laboration- quality and content!
- I think it's unfair that we have to pass with 65 when other have to just get 50
- My only improvement is that i was not quite happy with some if the exam questions, particularly the one asking about a Darknet diaries episode. I think it was bad to have a question on the exam that involved a person from a podcast.
- For the exam, i dont feel like the question about darknet dieries was a very good thing to have a question about. It is quite fine to have questions about topics from the series but not as blunt as "what was this specific episode about". This has no merit for learning the subject of computer security and only tests if you listened to the specific episode. A better question would be something like "In that episode they talked about XX, in what context is this bad/good?", or something like this.
- I really liked Leonardo's enthusiasm, he's a very cool dude.
- Beyond disappointed. I wish the staff had announced beforehand that there would be no prerecorded videos before I even applied.

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SUMMARY:

As seen from the student quotes, the feedback is really positive, and the teaching staff is extremely happy about it.

Concerning the exam: the exam's passing rate (63%) returned to the expected ratio from past years. The passing rate for those who attended both assignment lectures was 92%. For those that didn't, it was 28%. Out of the 78 who passed the exam, 9 of those reached the passing score thanks to the bonus points granted. One of the multiple-choice questions in the exam that aimed to cover ethics in cybersecurity caused unhappiness. The podcast episode was mandatory listening material for a lecture on ethics, and its contents were discussed in the classroom. However, the possibility of including them in the exam will be highlighted next year.

A pressing point to be addressed in the future concerns the 3rd lab exercise. Right now, it is a point of dissatisfaction in the course evaluation. Hence, the top priority for next year's course is to redesign and rework Lab 3.

Part of the course felt rushed to some course participants. This year, the course advanced at a slower pace, and its second and final part might seem to be delivered in a rush. I'll investigate how to better distribute the time in its second part and look into candidate parts of my course material to remove to ease the DVGC19's pace, especially in its 2-3 final weeks. An intrinsic disadvantage of this course concerning its schedule is that this course is offered in the last teaching period of the year, which is the shortest of all teaching periods, with the Christmas and New Year's break between its last lecture and its exam. This course is listed as an on-campus course, and not a distance course, so video recording is not available.