Final report HT2023_DVGC19_42748_Datasäkerhet I

First time registred students: 64
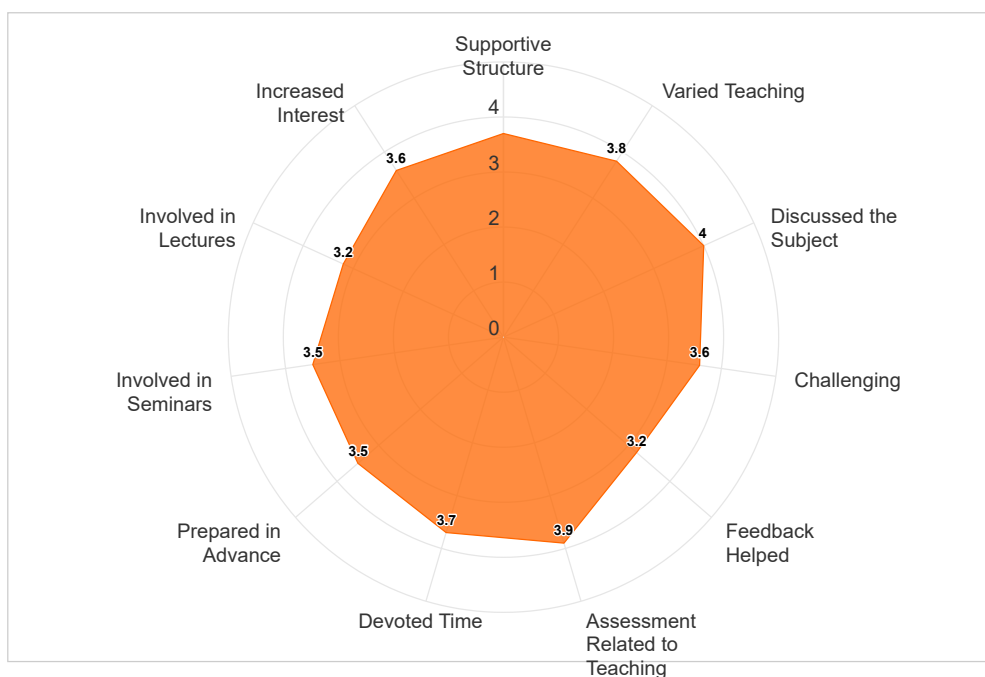**Answer Count: 27**
Answer Frequency: 42.19%

The course evaluation could be answered during the period:

13/01/2024 - 27/01/2024

DVGC19 Datasäkerhet I, End date: 2024-01-14

Mean value for each question. Highest value = 4.

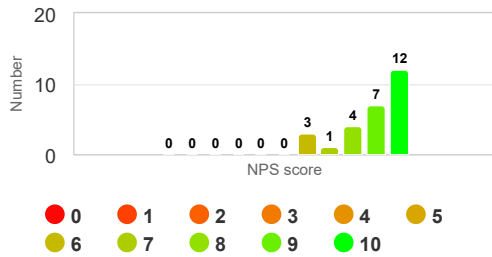|	Mean
Supportive Structure	3.7
Varied Teaching	3.8
Discussed the Subject	4.0
Challenging	3.6
Feedback Helped	3.2
Assessment Related to Teaching	3.9
Workload	2.1
Devoted Time	3.7
Prepared in Advance	3.5
Involved in Seminars	3.5
Involved in Lectures	3.2
Increased Interest	3.6

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

- ● I agree
- ● I somewhat agree
- ● I somewhat disagree

▲ 1/2 ▼
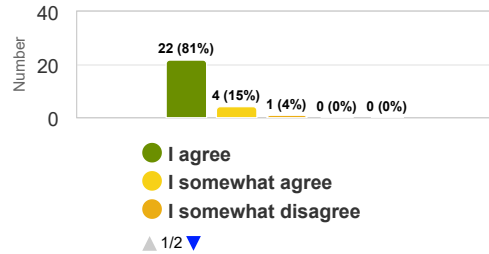
How likely would you be to recommend this course to a friend or colleague?

- ● 0 ● 1 ● 2 ● 3 ● 4 ● 5
- ● 6 ● 7 ● 8 ● 9 ● 10

Net Promoter Score (NPS) = 59.3

Promoters = 19 (70.4%)

Passives = 5 (18.5%)

Detractors = 3 (11.1%)

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

This year, I introduced ChatGPT as a (AI) tool to support the student's learning. I briefly explained the tool's limitations and crafted a prompt for them to use, which I distributed in Canvas. Such a tool was voluntary and utilized individually and at home for studies and revision of their lab reports. I did two checks during the course to verify the use of ChatGPT, one in the middle of the course and one on the last lecture day using Mentimeter. In the middle of the course, around 1/3 of them have used it, and by its end. Improving the lab reports was where the students extracted the most value from the tool - we noticed that the quality of reports increased from past years (we requested all those that used ChatGPT to provide the prompts they used to us and include it in the lab report). ChatGPT was initially considered valuable for close to 80% of those who employed it as a support tool for self-studies. However, this number dropped to 60% by the end of the course, as the students realized that the tool is not always factual or correct in its answers, especially as the course topics get more advanced. The assignments were once again praised as one of the most valuable tools for enhancing learning. The labs were also praised as an essential learning tool to put into practice what is learned in the classroom. Last year, we introduced multiple-choice questions in the exam - and last year's feedback indicated that the students were positive about it and requested more of those. For this year's exam, I increased the weight of the multiple-choice questions from 60% to 75% of the exam. The passing rate of the first exam after the course, which historically has been around 67%, has risen to 98% this year. The amount of students scoring a top grade (5) has increased from 3 to 6, and those with an outstanding grade (4) have grown from 16 to 28 in similar universes of students (N=52 and N=58). The increase in the passing rate is, of course, positive, but such an increase over a single year is remarkable. While the underlying reason cannot be pinpointed, there are several hypotheses that I am investigating and will test in the following years: (a) the increase in multiple-choice questions, (b) the use of AI tools in learning, (c) better prepared or interested cohort of students, (d) an administrative failure - the exam that I have first prepared for this course was made public by an error of one of our administrators, and I had to prepare a new exam in short notice, which still contained elements of the first exam. I plan to keep points (a) and (b) unchanged in the next course iteration and expect no administrative errors. There seem to be no significant problems with the course structure and organization. Nonetheless, there are some minor adjustments that we would like to implement in the course, namely: - Book an additional 30-60 minutes for each assignment lecture. The allocated two hours were barely enough to cover all the exercises. - Review the lab specs and possibly release a docker-based CLI-only strip-down version of Kali. - Review and update lectures. - Expand the list of additional reading material. Overall, the course feedback was very positive. :-) ================================ Q. What enhanced your learning in this course? Assignments: - The 2 assignments were very good. Even if you missed some lectures the assignments made sure that you could catch up on the ones that you missed. The labs were interesting and not boring. - The extra credit assignments, very good for repetition and discussing key topics in the course. The extra credit is a bonus, but probably necessary for students to show up at all. - Assignments were really good. It is like free exam-experience and is very good in a course with many different concepts/fundamentals. Should have been nice to have this in other CS courses that have that many concepts such as OS or datacommunication. - The assignment questions - The teachers approach to the two assignments based of the questions given after each lecture was very valuable. Even though I was nervous and somwhat scared the experiance was made good by the teacher and it was a great way to learn and repeat the material. - The assignments for sure, very good to get the same idea as your own explained by other fellow students in their own words - The assignments and the labs enhanced my learning. The lectures did not enhance my learning, they did contribute to my learning but they did not enhance it. Laboratory: - Well the fact that the specification for the firewall lab said "find a way to defend against port scanning" meant I sat for an entire weekend in the computer lab trying "defend against port scanning". Through this I learned that you cannot in fact eliminate port scanning by only using a simple firewall. The closest I got was a ban list by using flags. - I found that the labs, most of the times, where engaging and fun! I liked the labs and the lectures in general! I liked the quiz that went through yesterday's lecture. - The labs really helped you to understand the course content, as you were allowed to work with the course content instead of just reading about it. The podcast episodes from Drake's Diary were very interesting and encouraged to continue learning. Chat-GPT: - Using ChatGPT as an extra teacher/tool was very useful. It could help you understand things, by asking questions about unclear things. At the same time, it helped you realize on your own what knowledge you were currently lacking about the subject discussed with ChatGPT. It could also help you verify that you understood things by asking things like "Is it true that A and B ...". Overall it was useful, but it could also be misleading. Because it could be wrong sometimes. Which would be implied when it told you something that seemed unlogical in the context. - ChatGPT =) Lectures and lecturer: - When we answered questions in class and discussed the answer together. - It's Leonardo. I am sure a lot of students find him one of the best teachers in the university as well. His way of teaching must be taught. You do not only love the courses, you get a new hoppy as well. Thanks Leo <3 - The teacher was very interact with the class, making the content fun and more accessable - Leonardo - The way of learning during classes and the assingments - The in-class question answering, which I felt was a bit of a pain at first but ended up being a fun activity which both led to good discussions about course topics and overall learning. I appreciated that it wasn't gung-ho about having the exact right answer, but that you try and answer as best you can and then be corrected if wrong, or have a discussion about the topic with everyone. This discussion-rather-than-an-exam removed any stress, and ended up making it a valuable activity. ================================ Q. What would you do differently in the teaching of this course? Laboratory: - For the labs, some instructions were unclear, for example with the recent module for iptables, there could be some explanation, or a link that explains the recent module in more details. The feedback for the labs could have been better with more details. - In the case of the firewall lab, clearly state what "defend against port scanning" means so that purists don't bash their heads against the desk trying to eliminate port scanning while simultaneously allowing legitimate traffic. - Lab 1 - great,   -- Lab 2 - great,   -- exam - good a little easy maybe but for testing the fundamentals of the course it does it really well   -- assignment 1,2 - great   -- Lab 3 - terrible   -- everything was good except lab 3: First the technical difficulties. The lab was run on a VM that did not support snapshots. The VM's had a tendency to freeze (about 12 times during the course of the lab) as well as the setup of the lab took 5-8 minutes so the lack of snapshots cost over an hour of sitting around doing nothing. The contents of the lab was also bad. The other labs were very connected to the lectures and one could easily apply to the lab. Lab 3 was way too varied and disconnected to the lectures especially the SQL part since the civil engineers have not had a database course yet, so the lab experience was mostly look things up on google and trial and error which maybe is the point of the lab but it was really boring and frustrating when the VM froze every 20 minutes. - I would have more feedback from the labs, like one or two comments even if you passed. I would also have more of those "yesterday's lecture" quizzes! Course organization: - More discussion sessions, like the assessment question lectures. Because it helped you understand better by partly reading up on things and also that Leo would put things discussed in a context and more into detail than at regular lectures. - Keeping the times set by the schedule for the assignment sessions. It would drag out on time, so probably just make the session longer on the schedule and add breaks so everything is covered. - It is very good as it is, but I would love if there were more lectures, assignments and labs. - Maybe I am a good student but I guess the course should be a bit more challenging. - Having recorded videos for every lecture or reference to other videos on internet - If I had been in charge of the course, I would have added 1 refresher lecture in January a week or so before the exam. This lecture goes through the most important material from the entire course. This lecture is in addition to the 2 seminars that take place during the course. - I'd try to also accomodate people on Zoom for the in-class question answering, because some people were probably sick and whatnot and couldn't attend (well, it was only 5 bonus points for the exam) Lecture material: - More text/keywords/descriptions in the slides. It was difficult to repeat content because some slides only had titles. - More text in the lecture pdf - Perhaps have more clear and intuitive slides, they can be quite confusing at times even with annotation - I want the presentations to include more information so you can look back at the lectures and understand better when studying for an exam. I do know you should make notes but I would appreciate more explanation in lectures. Laboration was good but too easy I want to be a hacker (ethical) not a tech support. A lab should take days to complete not one day. - Maybe give more reading material - I'd try to keep the lectures a bit more concise /on topic, maybe I'd move away from Kali Linux No changes: - Nothing, I really enjoyed the course. - Not much, found it super useful to have the assignments and to "force" everyone to speak and actually talk! ================================ Q. Recommendations for learning for future learners. - Attend the assignment lessons. Be prepared for them and participate in the discussion of the questions. It's a great way to learn from the provided material and it's a good preparation for the exam, plus you get bonus points for the exam if you attend both. - Focus on the labs, they are very important for preparing for the exam. - Refreshing the DVGB02 knowledge about networks, packets, protocols, routers, etc, will help the understanding of this course. - Attend the seminars, they take a while but they're worth your time. - Do the assignment questions with someone, and also write down the answers discussed on the assignment sessions. - Study for the assignments, it's like free exam practice since questions are similar on the exam - Idk man it's good as it is. - It would be nice to have access to some security exercises, like super small labs, that was optional and do not award credits. - Answer the assignment questions and go to the assignments! - Prepare to learn a little bit of everything and not everything about a little bit - 1. Be active in learning from start of the course. 2. Do NOT leave it for the last week, before exam. 3. Use ChatGPT and other AI tools :) - DO THE ASSIGNMENTS, LISTEN TO LEONARD and GO TO THE LECTURES they are super usefull and be active in them aswell - Listen to the darkest diary!!! - See if you can take some time to do parts of the laborations at Kau, as working with four virtual machines over RemoteLab has a lot of layers which made things slow. ================================ Q. Please explain your evaluation. - Perfect - The course offers both red and blue team perspectives and is immersive. - It was interesting because it combined several fields of computer science and at the same time put them into applications. And also helped you understand more about how computer networks work and possible flaws. - Everyone should learn data security, wheter one studies computer science or not. It's relevant for

anyone today to understand the threats out there. - It's a great entry into the world on Computer Security and just gets you very informed on how to secure your own data and strengthen your personal integrity. - overall good course except lab 3 - The course teaches you important vulnerabilities in various areas in programming (web security, dangers of C programming, networking/firewall). If you learn what the course has to offer then you will certainly cause less security flaws in the software projects you are apart of. - fun course - As I previously said, Leonardo is a perfect teacher - As said earlier, the teacher was very interactive with the course. Providing a lot of scenarios. - The two assignments where also very giving. - No course is perfect and even this one have some flaws, most of my complains is regarding the feedback of the labs. Despite that, I think this has been an incredibly good introduction to data security and would absolutely recommend it to anyone who has an interest in the subject! - If you are interested in network and cyber security this course is a great startingpoint. I found the security from a developers perspective to more interesting than the hacking aspect. - Very interesting and engaging course and it shows throughout the course that the teacher(s) has put a lot of effort into the course, making it fun but at the same time quite challenging at times! - Bra kurs och trevlig lärare (Leonardo), rekommenderar starkt - It was a fun course. - Great course, i think its my favourite in the whole Datavetenskap-programNeutral students write like this: - I think computer security is very important, so for that reason I would recommend the course, but overall the course kind of got a "hacker" atmosphere that I didn't quite like. - I'm personally not a huge fan of "movie hacker" vibes I got, and felt like a lot of the stuff mentioned was stuff I already knew, but the course teacher is a great guy who's both funny and knowledgeable :) I'd also say that the course content is important to know and as such is worthwhile learning about. =============================== Other opinions and comments about the course. - Perfect - The structure of the lectures and the assignment lessons was very good. Before the assignment lesson all the lectures that was involved were all before the assignment lesson. Because of that, you knew what to actually read up on in order to answer the assignment questions. - The 8 design principles defined by Saltzer and Schroeder should be explained more because they were abstract and difficult to understand, in the sense that it was difficult to see real applications of these. Like, identifying them in a given context. - Pleasure to have you as a teacher Leonardo, you did great :) - (: - Thanks for the course. I hope to be able to join ethical hacking next year /Eve - Keep up the good work. Great layout of the exam. - I want to point out that our virtual machines kept crashing while performing the lab on the lab computers. It was annoying to have to restart and log in to the vm every time they crashed. - Martucci is funny and a good lecturer, but sometimes he goes on longer tangents that doesn't really relate to the course. - I was somewhat unhappy that we had to go up to the board during the seminars, it was much better, and we were allowed to stay in our seats, as you didn't feel as singled out anymore. - Can you replace Kali Linux with just e.g. Debian? If you're security conscious I think you should install a clean Debian image and the tools you know you'll need, from trusted sources, and not just use Kali which comes with a bunch of crud :-)