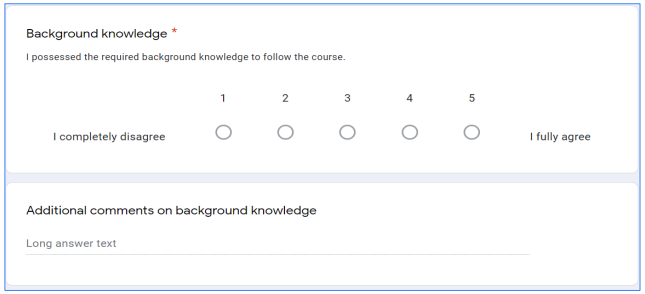
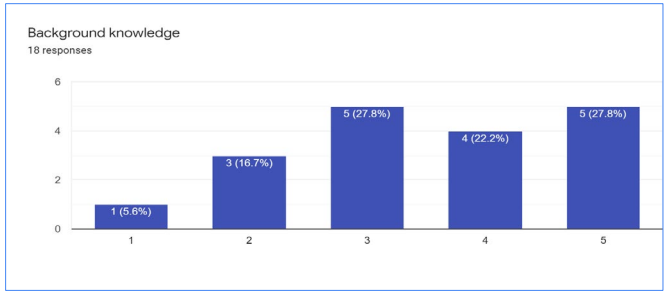
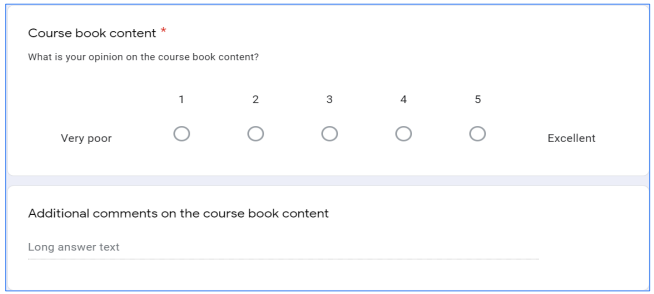
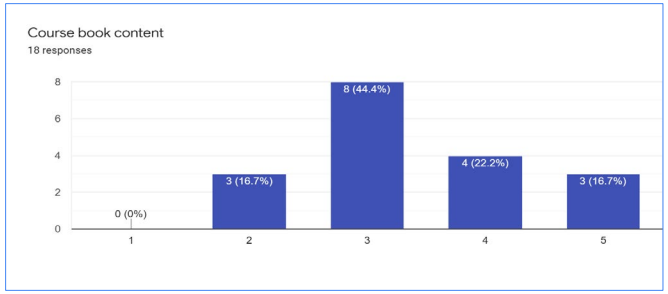




Comment:
Expected result, it shows that the students attending EJ2201 have a wide background (from "tabula rasa" to "I know electrical machines already").

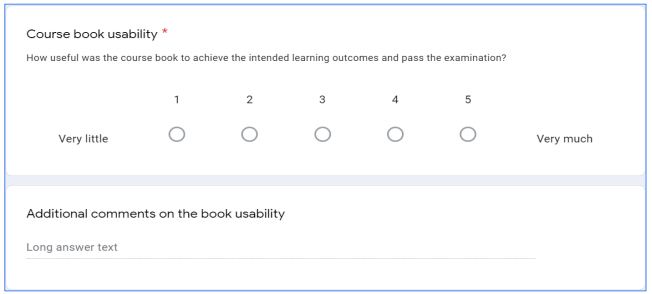
Background knowledge	5	3	4	2	3	3	1	2	2	5	5	4	5	5	4	4	3	3
Additional comments on background knowledge							I believe I need some more knowledge of simulink simulation.			Yes I did but it was still very good to have the introduction lectures going over the electrical, magnetic and especially mechanical analogies. There were however a lot of things that I needed to review on my own and things I needed extra help with but thanks to you staying in touch and providing the support I needed this was not really a problem		I would have been happy to see some references on designing filters (related to assignment 4).	You went through most of the things that we needed to complete the course. I would however like to a have a brief introduction to magnetic saturation since whole concept of apparent and instantaneous inductance felt foreign and hard to grasp initially.	I had absolutely no problems following the course. And the repetition of most needed material as well as the questionaire at the beginning of the course make sure that everything is known.			Consider the difference of student background when entering this course, the content is relatively large for only one semester.	

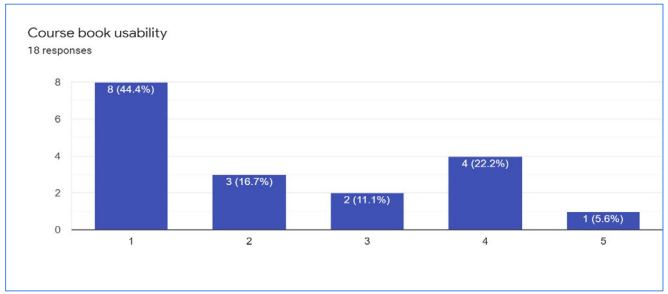




Comment:
Expected result, EJ2201 is currently using "third-party" books while waiting the compendium to be ready (several years from now...)

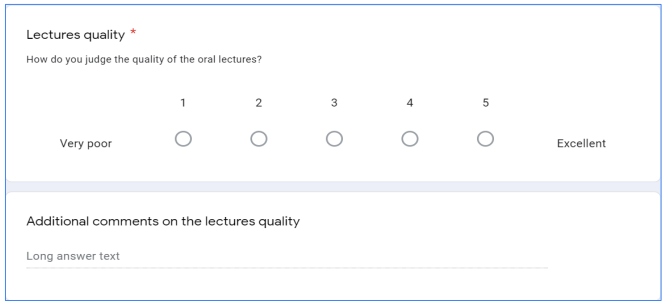
Course book content	5	2	3	4	3	4	3	2	5	5	3	4	3	3	2	3	4	3
Additional comments on the course book content			Didn't use the books, only used the lecture material		To be honest during the entire course I didn't find the need to refer the course books. The slides are really good, well structured and contains all the information.				A lot of information and the content was very advanced level	I have used the book Krause a little bit but I find your lecture slides to be very good and your lectures have been excellent. Therefore the book was mostly a complement	I followed the course without the book	I didn't use the book so much(and only Krause), but it was good to have it for reading more on some concepts.	I didn't read any of it.	I have not had a look at the course book. The lectures were suffienct for me to understand the material ie. do the assignments.				

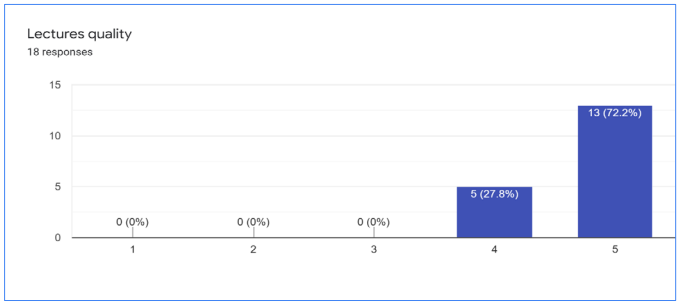




Comment:
Again expected result, since the compendium is not ready yet. At the same time, the books do not really help in Matlab/Simulink based examinations, which... is good!

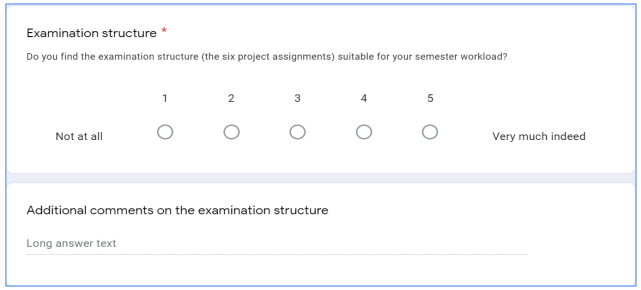
Course book usability	5	1	3	4	1	2	2	1	4	4	3	2	1	1	1	1	4	1
Additional comments on the book usability			Didn't use the books, only used the lecture material		During the whole course I never referred to the course books.				Very good to understand the learning outcomes but sometimes not enough to help us doing the assignments	I put 4 because I didn't use the book that much because your lectures were so good. I know the book contained a lot of the content you spoke about and some content in your lectures was not part of the book, hence I put a 4. All course content was great!	I followed the course without the book	I found the most useful information in lectures/slides .	I didn't need it. The slides sufficed.	Well as I said they were not needed. That might be different if there is a written examination though.	The course book did not really help with the assignments			I actually never used the course book. I only used the slides and videos which were sufficient to complete the course!

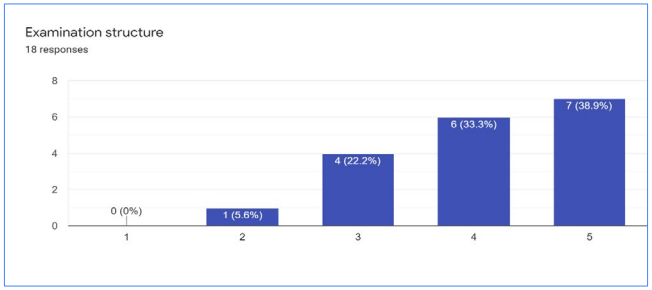




Comment:
Thank you.

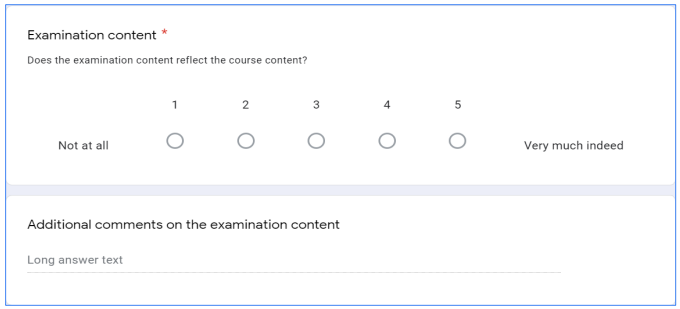
Lectures quality	5	4	4	4	5	4	5	5	5	5	5	5	5	5	4	5	5	5
Additional comments on the lectures quality		I think the lectures were very well structured and easy to follow but they did however unfortunately not help a lot with the assignments.	In general, the best Zoom-lectures I've had. The green screen and the direct chat response was superb! Sometimes the lectures were a bit hard to follow with a lot of detail right away, maybe this is "inevitable" though... I found myself sometimes confused about the difference between the different machines, since we went through many variations. It became for me just different equations and it was hard to grasp the different characteristics. For me, I would have liked some more general introduction which focused more on an intuitive understanding (especially the AC machines) before diving deep into equations. I get that it is difficult to have Zoom-lectures and not seeing your audience.		The quality of oral lectures is amazing. Specially they become more engaging and interesting due to your style of using a green screen.				Very well explained and the green screen was great. It is nice to see a teacher so involved to make the students understand and to make the course interesting. Even though sometimes the pace of the lecture was very fast.	Excellent in pase, amount of content and how you carried out the lectures. Was very entertaining also because you made it very interesting while I still got to learn a lot	The lectures were very good, the set up with the green screen and the recordings is the only structure that I've found good during this semester with covid. They were easy to follow and I appreciated all the small comments and figures, it made it more fun.	Sometimes a little slow.	You were pretty much the only lecturer that had made a visible effort to actually make our experience as smooth as possible.	Very good. Everything is well explained even complicated topics like the induction machines were easily understandable. Also making the videos available allowed me to watch the lectures again when I got stuck somewhere in an assignment.		I like your lectures very much.	Frankly speaking, Luca's lecture has the best efficiency and quality among other online courses I chose under this COVID pandemic, and his lecture is even better than some of the offline classes.Thanks for his great work!	Everything was great. The slides are excellent as you can follow them without the video. One small thing that could be better is the audio and video quality. You should demand professional microphones and cameras from KTH as a minimum in this situation! Some lectures could be a little too heavy on the mathematics, as I lost focus after many slides of equations.

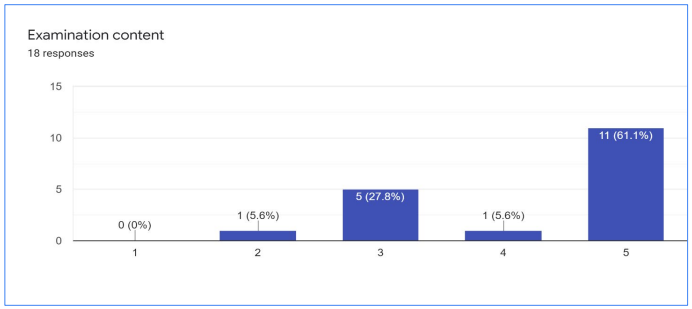




Comment:
Very good that the students appreciate the project-based examination. Some minor adjustments could move the curves up, some ideas are there already.

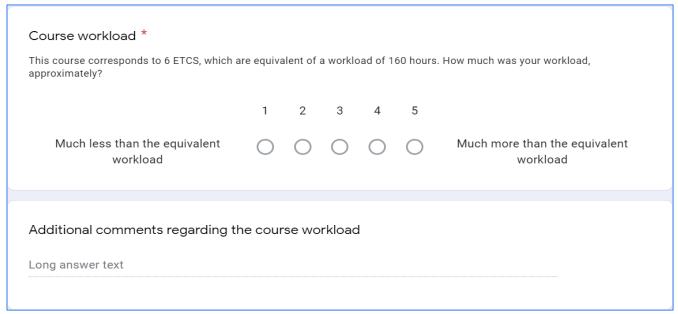
Examination structure	5	2	4	4	4	4	4	4	3	5	5	5	5	5	3	3	3	5
Additional comments on the examination structure		The first four assignments were suitable work load but the last two took a lot longer.	Project assignments was a great way to be examined continuously throughout the course		I think from the point of view of work load the first four assignments were fine but assignment 5 and 6 were really time consuming and consumed time more than I was expecting. According to me the number of assignments can be reduced to 5.				The assignments requires a lot of personal work and many questions were not about the understanding of the course but more about MATLAB programming. I was stuck many times and I couldn't find the solution on my own (I had to ask many questions to the teacher)	I felt I have never developed so much skills in Matlab or Simulink as I did here in any other course which I got in combination with learning the course material to solve the projects. Also the fact that you stayed in touch so much and really tried to guide me in the projects when I needed it made it stimulating to learn more, proceed and keep working. This is also the reason to why I find the examination very good because. Your dedication made the assignments an excellent way to learn while getting grades, hence it felt like focus was on learning rather than just getting grades which is something very rare I feel.	I thought the projects were a great examination, I find it better than an exam since you put more time and effort in to the understanding, and I think it is more "realistic" than exam problems.	It was very rewarding to work independently on the assigments and especially the two last where we were introduced to research papers. It was also great that conecpts from previous assignments could show up in later assignments (the current control in assignment 5). Also important that you were clear that we were not expected to know everything from the course, but rather aquire additional skills by performing the assignments. Although you did a great job answering questions it would probably be a good idea to have some assistants to help answer questions related to the assignments. Maybe be a little more clear on how much we are allowed to discuss with our fellow students. Discussion among students is important and should be encouraged, but it is also important that the examination is fair.	I feel like a learn way more when I have to solve projects instead of writing an exam. Especially in this subject since there's quite a lot to actually process.	I like the assignments as the main examination. To me written exams always feel artificially constructed and have hardly anything to do with real engineering work. The matlab assignments recreating measurements from actual papers feel like actual work and make a lot more sense in my eyes. I think maybe considering different submission dates would help the students to better distribute the workload. With one submission date per period most of the students (me included) will do all three assignments close to the deadline. Distributing the deadlines throughout the period forces students to distribute the workload throughout the period as well which might in turn help them towards the end of the period. Maybe considering a bonus system for early submission might be a compromise between the current and my proposed system.			But I procrastinated. ..sad (ㅜ_ㅜ)	

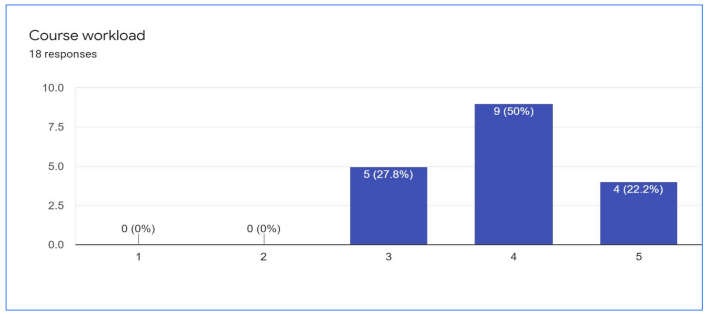




Comment:
Some students felt the learning of Matlab/Simulink was too heavy - but overall the result is very good here. Some further help in learning Matlab/Simulink can be given next year to improve these results.

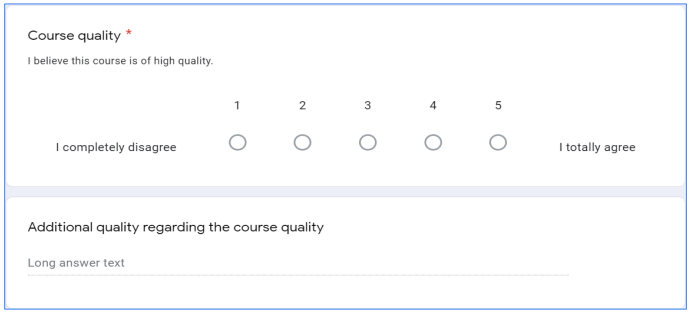
Examination content	5	3	3	5	5	3	3	4	3	5	5	5	5	5	2	5	5	5
Additional comments on the examination content		The first three matched the lectures and one could use those in order to get through them. However the last three did not follow the lectures in the same way, except for maybe part 1 of them and they therefore required a lot of extra knowledge. This especially applies to assignment 6 where there was a lot of extra knowledge required in order to be able to solve it.	Sometimes they were too difficult and felt more about MATLAB-coding than actually increasing understanding of the concepts in the lectures. However, maybe I don't see the picture until upcoming courses.		The examination content is exactly on point with the course content and helps in learning the practical aspect of taught content.				A lot of the examination was about knowing how to do advanced programming in MATLAB and Simulink. I didn't have that knowledge so I lost many hours trying to figure out how to the questions	Yes I think so as the projects required a lot of understanding from the course material to solve and as a bonus I got to develop skills in Matlab and Simulink, especially in Simulink which I had almost no experience in before the course.	The only thing regarding the projects was that it was sometimes hard to know whether it was something wrong in the syntax or if you'd misunderstood something in the course content. By this I mean that some commands that we were supposed to use was hard to interpret and this might be solved with, for example, additional tutorials. Also, I found assignment 6 a bit more difficult than the others, maybe this was intentional, but I felt like there were a lot of things that could go wrong.			As I already mentioned, using these kind of assignments as examination makes it feel a lot more like actual engineering work.				

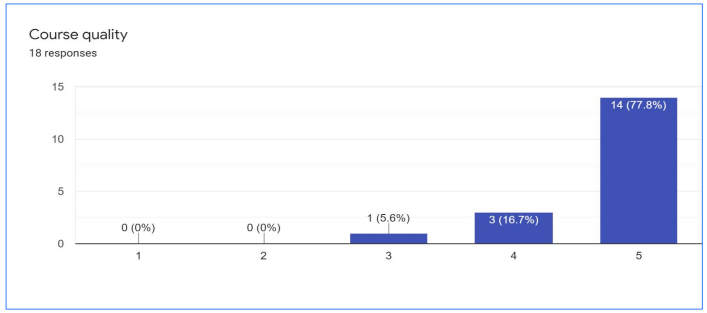




Comment:
Expected. The ideal result would be 3. Here the problem is a mix of excessive workload from the first semester of the master, and the increased (perceived?) workload due to the project-based examination. To be re-tuned next year.

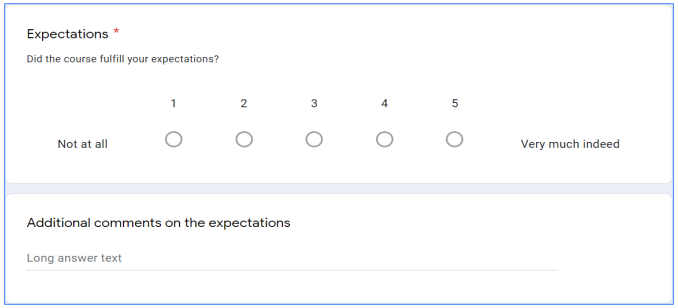
Course workload	3	4	5	4	4	3	5	5	4	4	4	3	3	3	4	5	4	4
Additional comments regarding the course workload			The projects took up a huge amount of time.		I think from the point of view of work load the first four assignments were fine but assignment 5 and 6 were really time consuming and consumed time more than I was expecting. According to me the number of assignments can be reduced to 5.		As I don't have the enough background knowledge on it, the time I spent on the course is way beyond other 6 ECTS courses.		MATLAB and Simulink	I am very sure I spend more than 160 hours on the course in total.	You had to put a lot of work into the projects, but I mean, this is approximately as much time that you would have studied for the exam. It is always hard to balance several courses at once, but I thought it was good to have 3 projects at a time, otherwise it would have been too hard to manage the other courses' assignments as well.	To be honest I have no idea about this. I worked with it every week of course, attending all lectures and watching all tutorials. On top of that the assignments took a lot of time.	The only project that I found that I had some trouble with was the last. Had to use around a week to solve that, which was a little bit stressfull even though I had begun in advance. Although it should also be mentioned that I appreciated the challenge of that project as well.	seems fair		The 6 assignments are really difficult for me.	This course may include more knowledge points than other.	I spent a lot of time on the assignments. As you work alone you can easily get stuck on a rather small issue and not get on for a whole day sometimes. The discussions in canvas helped, but it is a pretty rough tool for getting help. I think you should be able to work in pairs for at least some of the projects.

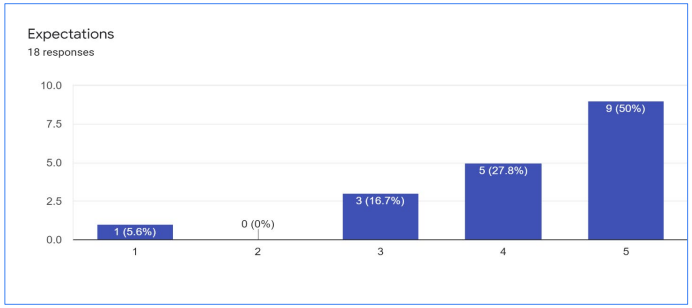




Comment:
Thank you.

Course quality	5	4	5	5	5	4	5	4	5	5	5	5	5	5	3	5	5	5
Additional quality regarding the course quality		Even though the assignments were quite different from what I would have expected I do think that they will be very useful knowledge for going into the area of machines and drives in the industry							Very high quality ! A lot of information and very well structured ! Luca did his best to make the course interesting (especially in remote learning)	Very good course in general	This is one of the best (if not the best) courses that I've followed during my time at KTH.	Very interesting and diverse topics were covered. I believe I have aquired very valuable skills and gotten a much clearer picture for what I want to learn more about. Good balance between equations/maths and concepts as well as implementation in Simulink.		This was one of my favourite courses ever. I came to Stockholm to study power engineering because I want to build electric cars in the future (ideally racecars) so the topic is obviously very interesting for me but also the quality of the lectures and the support for the assignments was excellent. This was also one of the best-adapted courses to the ongoing covid situations.			Luca is one of the best lecturer I have known in KTH.	It is clear that you (Luca) really know this subject in and out. And you are very good at explaining the rather complex situations in electrical motors that was a mystery to me before.





Comment:
Very good, overall. I think there is possibly some work to do in advertising the couse BEFORE the students make their choice.

Expectations	5	3	5	4	5	4	3	3	4	5	5	5	5	5	1	4	4	5
Additional comments on the expectations		Was not expecting so much control theory to come up since it is a basic course and the first course many take on machines and drives. Was expecting more calculations about the machine itself.								Yes it did. Before I started the course wanted to learn more about the design of electrical machines from a physics perspective and how to control an electrical machine with a drive system. I got knowledge in both parts and got acquainted with "real" problems one could encounter when controlling an electrical machine through the projects. I had already before the course read a bit about dqz transformations and I knew we would learn about that and apply it to electrical machines which got very exciting for me when we started working with those transformations.	I did not think I would appreciate this course as much as I did, I think the course topic is very complex and without a good structure and a good teacher, I think this would have been much harder and a lot less fun.	The course didn't actually fulfill my expectation, they rather surpassed them. I believe I will continue to revisit the lecture in Canvas from personal interest.		It surpassed them. I remember watching lectures and wanting to watch the next lecture after finishing because it was that good.				

What was best?	The lectures, the explanation, the course structure,organization and the teaching methods were the best of parts	I think the remote teaching was solved in an extremely good way where there was put in some extra effort in order to make it as close to teaching in a classroom as possible. Really nice to have a teacher that really tried to make this good.		The Park transformation and the corresponding multiphase one			Luca has provided us the best environment for online learning, and he always answers our questions in no time.	Awesome adjustment to online teaching. Great engagement from the teacher with the green screen and recordings.	Luca, the green screen, the high quality of the presentation, the way of teaching	The best was that I've never had such a dedicated examiner/teacher who support and want to help the students to develop. This was very stimulating that I knew I could try out some ideas, ask questions, learn more and improve more on my work. Like I said before, focus felt to be on making the students learn as much as possible and have them grow and develop skills on the topic, rather than just grading once the deadline is reached which is much easier for a teacher to do. Thats also why the examination of projects worked out very well in this course in my opinion. The lab was also a very good way to learn and the assistants helped out very well so focus was on learning about the electrical machines. Also good that no obligatory preparatory work was needed more than the knowledge gained from the lectures as we had to do the projects.	The fact that you were able to make the online lectures work very well. A lot of other courses have failed this.. I also appreciated that we were able to ask you for help during the assignments, my interpretation is that not many teachers are this open for discussion.	I believe the two last assignments were the most fun, maybe because I was also more used to the examination format by the time I solved them. Of course, the assignments were also fun because the related course material was very interesting.	The structure of the examination.	3 things: 1. quality of teaching. That has probably also to do with the fact that you have previous experience from working in the industry which always makes courses more interesting/feli more relevant. At least for me. 2. Adaption to the pandamic. Some might call buying a green screen and doing the lectures in that way overkill but it shows the determination to deliver a good course. Other courses have done nothing but move the lectures to zoom which resulted in a very bad experience. 3. recorded lectures. If there is one positive thing about covid it's recorded lectures. It allows students to watch whenever they want and also to rewatch at any time (for example when they are stuck doing an assignment). I think it is impossible to listen to a lecture and then remember everything that was explained until the next lecture the following week let alone until working on the assingments or the exam. Secondly it allows students to change the speed of the video. My attetion span is very short and I regularly drift off when watching lectures. By speeding the lecture up to twice the speed I have to pay more attetion to understand everything and therefore don't drift off. And it finally allows students to skip parts they already know (for examples the basics in the beginning of the course).		You recorded the lectures and tutorials, we can watch the records at any time.	The lecturer is really gentle and kind on teaching and transpositional consideration for students. The quality of online courses kept a relatively high level.	The Lab
What was worst?	I won't say it worst, but a thing or two regarding assignments grading part, the grading has been a bit unfair , it hasn't been consistent, like I got a very poor grade with just a single mistake and my friends who also submitted it , got the possible best grade in that assignment ,the mistake was overlooked. That's a bit too harsh and unfair I felt. I know, mistake can happen but that has cost me a lower grade			Winding function			I just hope to have more background knowledge to be able to follow the course.	I wish there would have been more example questions to practice on my own. Now my only chance of practicing was the examination. (There was one lecture where students got to present a solution and I would have liked some more like that and also just plain questions to practice at home)	MATLAB and Simulink. We don't have so much knowledge about this.	Nothing was bad but I could answer to the question: What was the least good? I think just to have something of a tutorial on Simulink for starters as I had no experience at all. I had to work a lot with basic things in Simulink in the beginning. For instance it took me many hours to just figure out how to run a simulink file from Matlab and send data from Simulink to workspace in Matlab. Things such as sampling time, different fundamental blocks that exist to try out/play around with when doing the assignments (very basic stuff). The tutorial on project 2 with the antiwindup was very good though and a great way to learn real simulation problems and some blocks that exist to use. Perhaps also a refresher on basic control theory but I know its difficult to include these things as well due to time limit.	This is not worse, but it would have been good with more laboratory sessions. This may be caused by the covid situation though...	I don't like being in the lab, so that was worst for me. It's probably good to have the experience anyway, though. Also sad not to be able to attend classes in person.	The only criticism that I have is that you allowed people to submit "late". I don't like this since I believe that everyone should be meeting the deadlines and consequence of this was that everyone else got their feedback really late.	Sometimes the quality of the zoom meeting was not great and also the recordings were a bit grainy/had bad sound at times. But given that I think that is reasonable given the situation. Also a tutorial on lookup tables in simulink would have saved me hours of debugging the assignments.		The assignments are too difficult to complex.	This course may include more content than other.	A little too much Simulink
Do you have suggestions for improvements?	I would say content of course is excellent, very informative . Just the thing, please be careful while checking assignments,rather to be precise I would say consistent for each student, as this inconsistency leads to sometimes unequal grading as happened with me and I haven't even complained or commented about it to you because you have been a fantastic teacher throughout this course and mistakes do happen I know.				1. The assignment question sometimes are not crystal clear and do not exactly convey what is expected from us. The phrasing of the question can be improved. 2. The number of assignment help session could be increased.			I liked the style of examination but I would want more TA sessions and preferably in the classroom where I can sit and work on the project and ask for help. I find it extremely hard to ask questions via email and it's also not time effective at all. I also would have liked TA sessions spread out during the semester, now the structure of the course invites the students to save all assignments to the last week(s) when in fact it would be possible to do the assignments straight after the lectures on the subject is done. 2-3 TA session for assignment 1 the week after topic 1 is covered by the lectures would have been great. At least I would have started the assignment to be prepared to ask questions on the TA session and also working on the assignments during the TA session. This way I would have started earlier and preformed better. Also due to all assignments and TA sessions were in the end this course got last in my priority list since the workload this first semester is terrible.	Less MATLAB and Simulink	Short Simulink tutorial and a short refresher on control theory.	As above, maybe more tutorials or hints about the more tricky commands in Matlab and Simulink. Sometimes you could be stuck for a long time and there was just something wrong in the code, however, this happens in all courses containing scripts of course.	1. Some lectures and tutorials when you explain Matlab code you explain very simple things in detail (such as why you use a certain expression to transform from radians to degres, which is trivial, or elaborating on how a Matlab command works which we can read about with 'help'...). I think it is better to focus on the important and new concepts/keep it short. 2. Rotating reference frames could have gotten one less lecture to give one more to the induction machine. 3. It wasn't always obvious why some matlab commands got their own tutorial and others not. For example, making the MTPA plot was quite straight-forward and the step-by-step tutorial made it possible to perform the task without the least understanding. I'm sure there are more than one way to make such a plot.. While look-up tables were new to most of us, and were not explained. Maybe you could make tutorials providing us with the tools in Matlab, but on situations that are different from the exam so that we would need to understand the concepts and tools to adapt them to the situation at hand.. Just a thought.	Implement hard deadlines. You're making people a disservice if you allow them to push things.	most of my improvements were already mentioned above.		It is better if you give more tutorials and more hints to the assignments! :)	Specifiy the course content and control the overall content in a resonable range.	Working in pairs!
Final comments on the course	Really enjoyed it, for this semester it has to be my best course taken by some margin from others and got a great deal of knowledge and useful insight more than expected				It was an amazing experience to be part of this course and was great to see you always there as a helping hand.			I would prefer a mix of online and in class teaching once corona is over. Lectures online, TA sessions in class. And also more example questions to practice on without being graded.	Good course !	A very good course as whole.	Once again, this is one of the best courses that I've followed, and I think this is very much thanks to your way of teaching, it feels a bit more easygoing than other courses and also I got the feeling that it was okay to struggle and ask for help. I find this way more rewarding, other teachers, they do their thing and expects you to understand everything. And again, you really succeeded with the online structure. A lot of courses this semester have been below all criticism, which have caused a lot of trouble for us students. So I really hope a lot of teachers adapt your way, or at least, I will recommend them to do so in their evaluations. Thank you for a great course, and thank you for being a great teacher!	Very fun, rewarding course. Inspired me during COVID, made me more excited about my studies and made me feel I was doing something interesting. Thank you!	Great concept, great execution.	one of the best courses I have had so far. Please keep the recorded lectures. I don't understand why this is not the standard for all courses yet. It helps so much!		You are a very kind professor, you are very nice and you always think for us. I appreciate all your help and kindness!	Hope I can pass the later complementary session...and overcome procrastination sooner.	