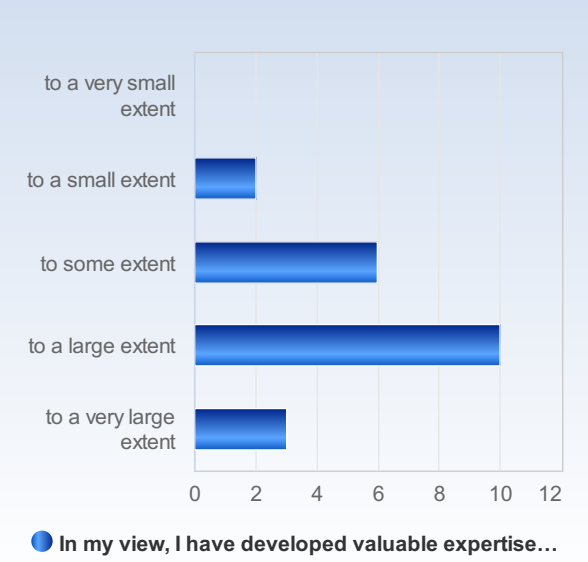
General course evaluation survey (5MT006-HT21)

Respondents: 28
Answer Count: 21
Answer Frequency: 75.00%

In my view, I have developed valuable expertise /skills during the course.

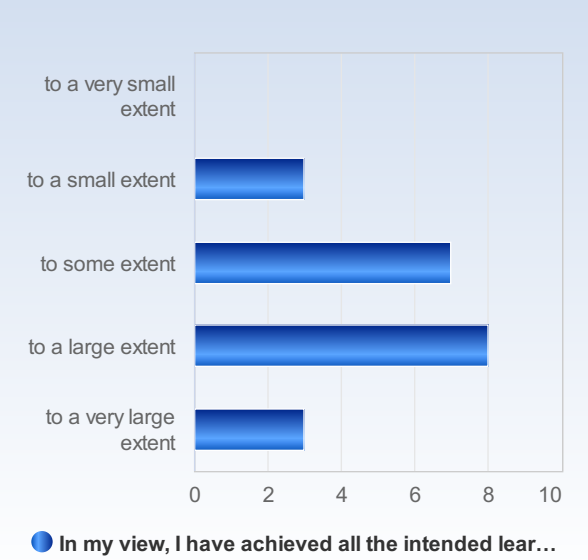
In my view, I have developed valuable expertise /skills during the course.	Number of responses
to a very small extent	0 (0.0%)
to a small extent	2 (9.5%)
to some extent	6 (28.6%)
to a large extent	10 (47.6%)
to a very large extent	3 (14.3%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
In my view, I have developed valuable expertise/skills during the course.	3.7	0.9	23.4 %	2.0	3.0	4.0	4.0	5.0

In my view, I have achieved all the intended learning outcomes of the course.

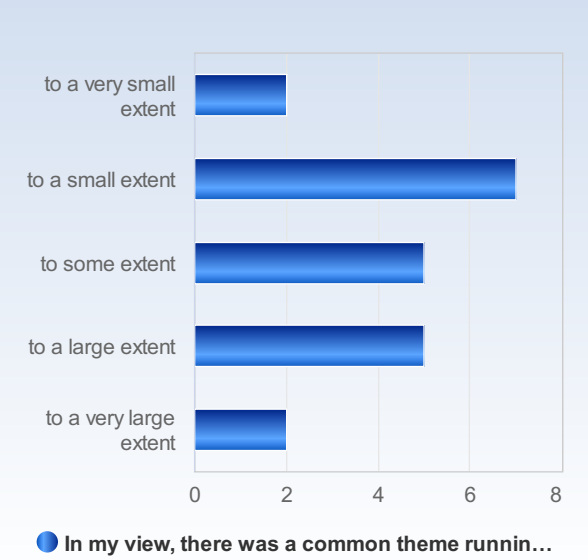
In my view, I have achieved all the intended learning outcomes of the course.	Number of responses
to a very small extent	0 (0.0%)
to a small extent	3 (14.3%)
to some extent	7 (33.3%)
to a large extent	8 (38.1%)
to a very large extent	3 (14.3%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
In my view, I have achieved all the intended learning outcomes of the course.	3.5	0.9	26.3 %	2.0	3.0	4.0	4.0	5.0

In my view, there was a common theme running throughout the course – from learning outcomes to examinations.

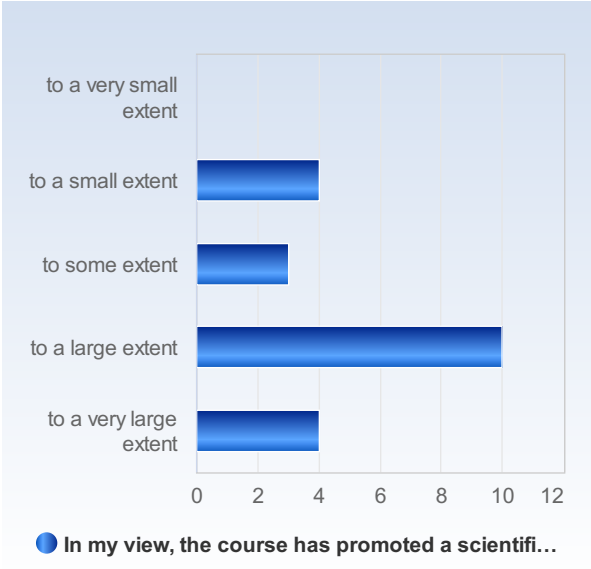
In my view, there was a common theme running throughout the course – from learning outcomes to examinations.	Number of responses
to a very small extent	2 (9.5%)
to a small extent	7 (33.3%)
to some extent	5 (23.8%)
to a large extent	5 (23.8%)
to a very large extent	2 (9.5%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
In my view, there was a common theme running throughout the course – from learning outcomes to examinations.	2.9	1.2	40.6 %	1.0	2.0	3.0	4.0	5.0

In my view, the course has promoted a scientific way of thinking and reasoning (e.g. analytical and critical thinking, independent search for and evaluation of information).

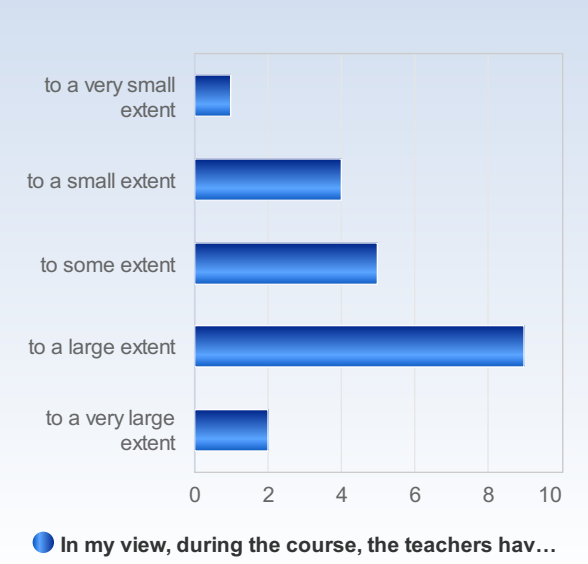
In my view, the course has promoted a scientific way of thinking and reasoning (e.g. analytical and critical thinking, independent search for and evaluation of information).	Number of responses
to a very small extent	0 (0.0%)
to a small extent	4 (19.0%)
to some extent	3 (14.3%)
to a large extent	10 (47.6%)
to a very large extent	4 (19.0%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
In my view, the course has promoted a scientific way of thinking and reasoning (e.g. analytical and critical thinking, independent search for and evaluation of information).	3.7	1.0	27.7 %	2.0	3.0	4.0	4.0	5.0

In my view, during the course, the teachers have been open to ideas and opinions about the course's structure and content.

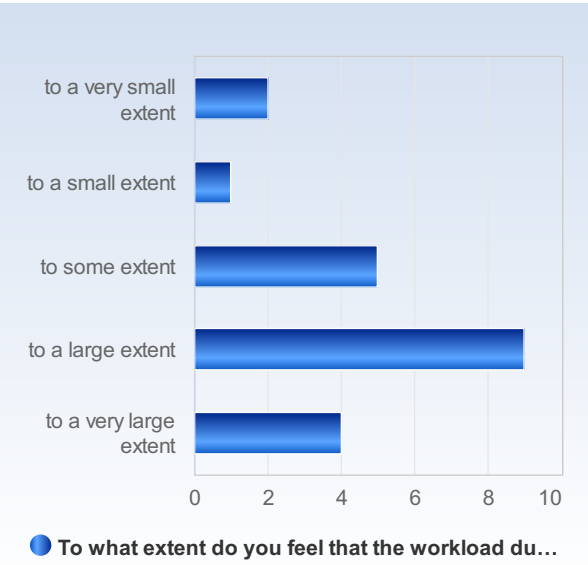
In my view, during the course, the teachers have been open to ideas and opinions about the course's structure and content.	Number of responses
to a very small extent	1 (4.8%)
to a small extent	4 (19.0%)
to some extent	5 (23.8%)
to a large extent	9 (42.9%)
to a very large extent	2 (9.5%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
In my view, during the course, the teachers have been open to ideas and opinions about the course's structure and content.	3.3	1.1	31.9 %	1.0	3.0	4.0	4.0	5.0

To what extent do you feel that the workload during the course was reasonable in relation to the extent of the course/number of credits awarded?

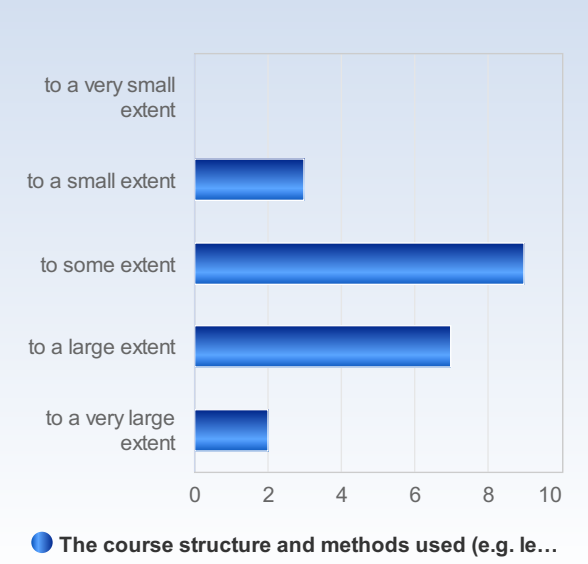
To what extent do you feel that the workload during the course was reasonable in relation to the extent of the course/number of credits awarded?	Number of responses
to a very small extent	2 (9.5%)
to a small extent	1 (4.8%)
to some extent	5 (23.8%)
to a large extent	9 (42.9%)
to a very large extent	4 (19.0%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
To what extent do you feel that the workload during the course was reasonable in relation to the extent of the course/number of credits awarded?	3.6	1.2	32.6 %	1.0	3.0	4.0	4.0	5.0

The course structure and methods used (e.g. lectures, exercises, seminars, assignments etc.) were relevant in relation to the learning outcomes.

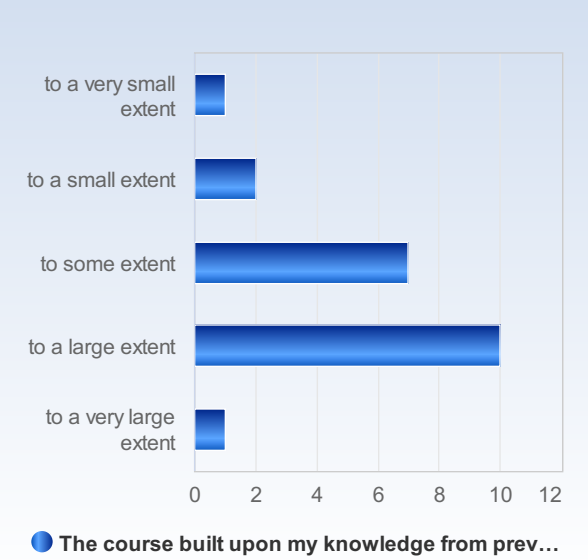
The course structure and methods used (e.g. lectures, exercises, seminars, assignments etc.) were relevant in relation to the learning outcomes.	Number of responses
to a very small extent	0 (0.0%)
to a small extent	3 (14.3%)
to some extent	9 (42.9%)
to a large extent	7 (33.3%)
to a very large extent	2 (9.5%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The course structure and methods used (e.g. lectures, exercises, seminars, assignments etc.) were relevant in relation to the learning outcomes.	3.4	0.9	25.6 %	2.0	3.0	3.0	4.0	5.0

The course built upon my knowledge from previous courses in the programme.

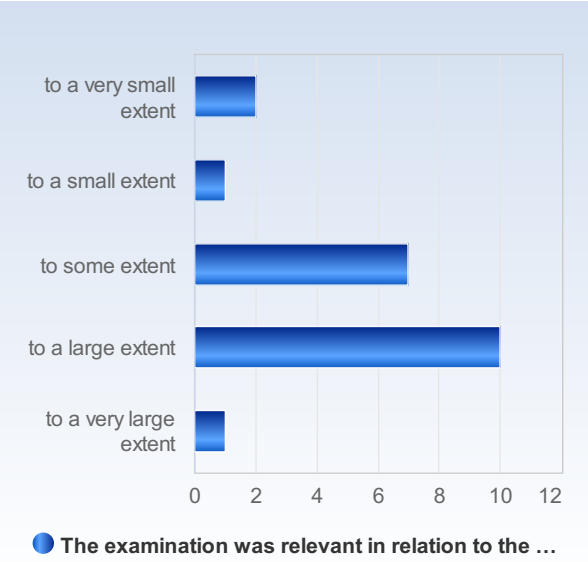
The course built upon my knowledge from previous courses in the programme.	Number of responses
to a very small extent	1 (4.8%)
to a small extent	2 (9.5%)
to some extent	7 (33.3%)
to a large extent	10 (47.6%)
to a very large extent	1 (4.8%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The course built upon my knowledge from previous courses in the programme.	3.4	0.9	27.2 %	1.0	3.0	4.0	4.0	5.0

The examination was relevant in relation to the learning outcomes.

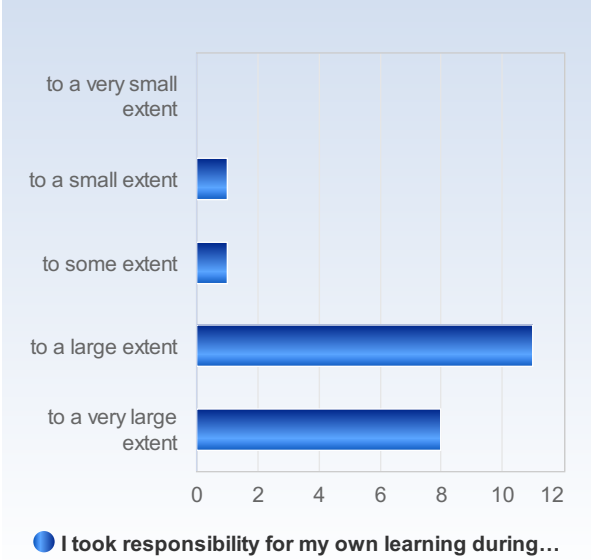
The examination was relevant in relation to the learning outcomes.	Number of responses
to a very small extent	2 (9.5%)
to a small extent	1 (4.8%)
to some extent	7 (33.3%)
to a large extent	10 (47.6%)
to a very large extent	1 (4.8%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The examination was relevant in relation to the learning outcomes.	3.3	1.0	30.5 %	1.0	3.0	4.0	4.0	5.0

I took responsibility for my own learning during this course.

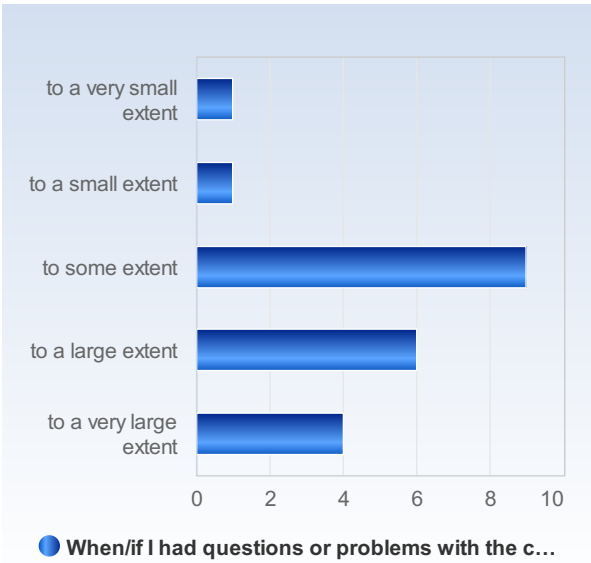
I took responsibility for my own learning during this course.	Number of responses
to a very small extent	0 (0.0%)
to a small extent	1 (4.8%)
to some extent	1 (4.8%)
to a large extent	11 (52.4%)
to a very large extent	8 (38.1%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
I took responsibility for my own learning during this course.	4.2	0.8	18.1 %	2.0	4.0	4.0	5.0	5.0

When/if I had questions or problems with the course content, I felt that I could turn to my teacher/supervisor for guidance.

When/if I had questions or problems with the course content, I felt that I could turn to my teacher/supervisor for guidance.	Number of responses
to a very small extent	1 (4.8%)
to a small extent	1 (4.8%)
to some extent	9 (42.9%)
to a large extent	6 (28.6%)
to a very large extent	4 (19.0%)
Total	21 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
When/if I had questions or problems with the course content, I felt that I could turn to my teacher/supervisor for guidance.	3.5	1.0	29.2 %	1.0	3.0	3.0	4.0	5.0

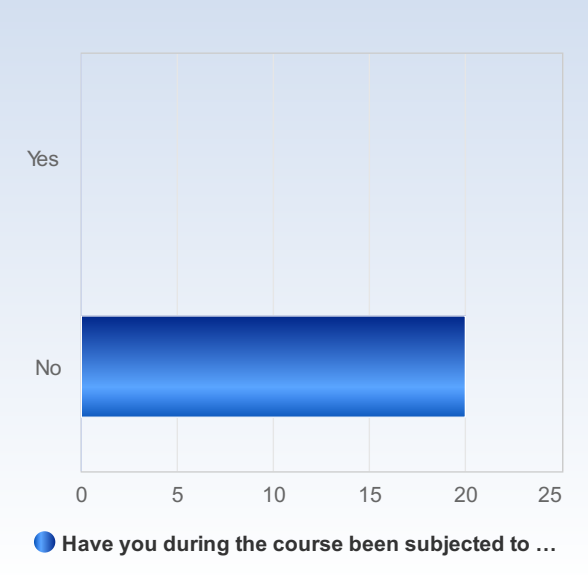
The feedback that I have received has been important for my development and learning.

The feedback that I have received has been important for my development and learning.	Number of responses
to a very small extent	4 (19.0%)
to a small extent	1 (4.8%)
to some extent	8 (38.1%)
to a large extent	5 (23.8%)
to a very large extent	3 (14.3%)
Total	21 (100.0%)

	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The feedback that I have received has been important for my development and learning.	3.1	1.3	42.0 %	1.0	3.0	3.0	4.0	5.0

Have you during the course been subjected to negative discrimination or insults because of your gender, ethnic origin, religion, disability or sexual orientation? If the answer is yes, the programme advises you to contact the study advisor or the student ombudsman; see KI webpage for Contact information.

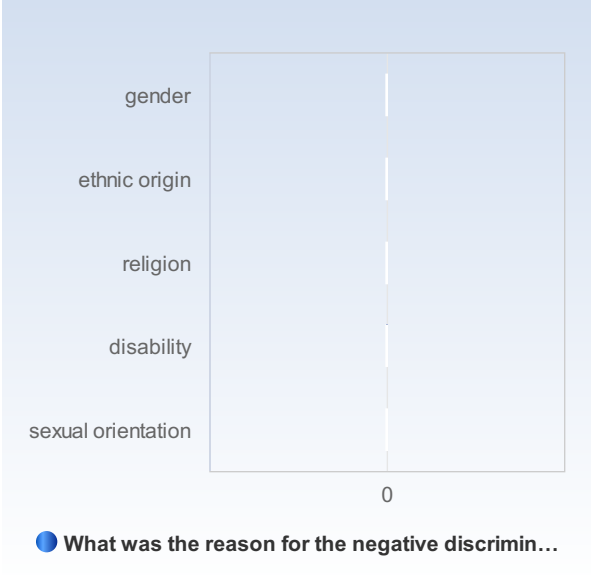
Have you during the course been subjected to negative discrimination or insults because of your gender, ethnic origin, religion, disability or sexual orientation? If the answer is yes, the programme advises you to contact the study advisor or the student ombudsman; see KI webpage for Contact information.	Number of responses
Yes	0 (0.0%)
No	20 (100.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Have you during the course been subjected to negative discrimination or insults because of your gender, ethnic origin, religion, disability or sexual orientation? If the answer is yes, the programme advises you to contact the study advisor or the student ombudsman; see KI webpage for Contact information.	2.0	0.0	0.0 %	2.0	2.0	2.0	2.0	2.0

What was the reason for the negative discrimination or insult?

What was the reason for the negative discrimination or insult?	Number of responses
gender	0 (0.0%)
ethnic origin	0 (0.0%)
religion	0 (0.0%)
disability	0 (0.0%)
sexual orientation	0 (0.0%)
Total	0 (0.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
What was the reason for the negative discrimination or insult?	0.0	0.0	NaN %	∞	0.0	0.0	0.0	-∞

What were the strengths of this course?

What were the strengths of this course?
The experience gained from the project in terms of planning budgets and protocols and coordination of different roles within a research team meeting deadlines
- topics covered, different speakers and way of teaching
The course is combined with lectures, projects, journal clubs, virtual labs, and programming, which is highly organized and extensively covered. The themes are relevant to the hot topics in biology as well as medicine.
A broad range of topics. Lecturers from different backgrounds. Labster simulation.
-The project work was a fantastic opportunity. I was in Azad's group and the project equipped me with skills and confidence I will take with me for the future. I specifically enjoyed working with the spectral flow cytometer, but it was also one of the first times I was exposed to basic laboratory techniques like pipetting or washing steps. -Many lectures were high quality and gave a hands-on insight into cutting-edge science. It was a great overview of where science is at at KI. -Both journal clubs that ended up being held were very nice and well curated. I really liked the articles of journal club 3 on precision medicine, but journal club 2 also had great discussions and great guidance from the tutor. -The zebrafish facility visit and the NPC visit were of high quality. The day dedicated to the human protein atlas was one of my favourites. -The biostatistics days held by Ian were very useful and well structured. I don't know if it is a component that should be part of the FTM course, but it should definitely be something taught in the first semester of the MTLS programme.
1. Diverse background of guest lecturers which allows the students to learn about different topics and the general approach of their research field. 2. Providing the opportunity for students to design and carry out their own projects. 3. The labster stimulations provided in the course were quite helpful, students can quickly be familiarized with a certain lab technique. 4. The biostatistics module was quite helpful. 5. Journal club topics and papers were well selected.
The breadth of information taught to us. The site visits were fun and informative. Having repeat lecturers was nice as we got to know them a little.
(1) There are many different lecturers or workshops from diverse research areas, which are very helpful. Some professors like prof. Ian Hoffecker, prof. Claudia Kutter and so on made a deep impression on me; (2) The papers chosen in the journal club are from cutting-edge filled and top journals; (3) The Labster used in the course is also pretty useful since we didn't have the opportunity and time to do all of the experiments, but we could do the lab simulation using Labster at home; (4) The final CRISPR project was also meaningful and beneficial to me, since this was the first time for me actually to perform a CRISPR experiment in the lab.
The course covers a broad spectrum for all the topics in translational medicine and I learned a lot about neuroscience, heart disease and cancer. The teachers for each lecture have diverse background and they presented their research in a scientific and inspiring way. I have never met so many Asian teachers in one course and it provides a good opportunity for them to communicate with the students about the research field.
When we have different lectures on one topic (ex CRISPR) and we have in-depth knowledge at the end To have an expert in the field for the lecture
This course had many interesting lectures by a variety of people in different fields and gave good examples of how these concepts can be used in research and in clinical applications. I really appreciated seeing the wide variety of applications. The project aspect of this course was fun and a good learning experience as well.
Learning about various diseases and disorders and the clinical applications associated. The project work was certainly the highlight of the course and I got to learn a lot from it.
- Cutting-edge lectures about current research at KI - Lab-based project - In person facility visits
I really appreciated that we had the opportunity to hear about different fields within translational medicine. In this way we could explore things we might like to do in the future, as well as see things we otherwise would not have come into contact with. I also liked the small project at the end, this was a good way to see how much effort goes into research and writing a paper.
- it is nice to be exposed to current research that is happening at scilifelab and other places. Very nice to be in direct contact with researchers and get insights on where the field is standing. - the journal clubs were generally well moderated. I especially enjoyed the one where groups were assigned a specific paper to ask questions about, it helped to deepen the discussion a lot. - the review session before the exam with the TAs was good. - having a mentor for the project was very helpful.
Exam before Christmas, the exam questions were relevant to some parts of the course material, scored appropriately. Good to include a practical part and longer team projects. Labster is very helpful and a great tool. Meeting various researchers in person is also very helpful to get an impression of which labs are there at KI.
Getting to have a broad perspective on the research and the researchers at KI and SciLifeLabs.
No strengths! The only good part about this course was the project but it was awfully organised.
• Introduction to a large spectrum of cutting edge research topics from talented and involved researchers. • The variety of topics covered is very valuable, it gives us powerful tools for our future career and potential contacts for future research projects on Stockholm. • Course coordinators were highly and very seriously involved into their tasks. They have my gratitude. • Journal clubs and Research Project are also very valuable, I encourage their development. • Labster is a valuable tool but unfortunately do not match a real wet lab experience (not in the pandemic context) • The (unevaluated) supplementary materials (articles, reviews, book references) provided by some teachers is of great value as well, as it allow students to deepen their knowledge in specific fields they are interested in, have a clearer idea of research curent state, and a documentation base for potential projects on these topics.

Do you have any suggestions as to how to improve this course? (Give as constructive suggestions as possible!)

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In my opinion, the lectures were aimed more towards specific applications of the techniques, but I feel like I would have gained more knowledge if there was a lecture(s) solely based on each technique itself (protocol and technical considerations etc., how the machines actually work) and then to delve into the different applications after this lecture and why this technique would/would not be chosen over others. Also, I believe the project would run a lot smoother if the exact requirements for the final marking/submission would be made available before the beginning of the project. e.g. it was unclear until very late whether we needed to submit our project plans and project pitches or if these were just for ourselves.
Better organization for the schedule of lectures and project work. Better communication on canvas.
The announcement for the project should be more precise and previously delivered to students. Maybe the video clip is not that necessary. The instructions could be more specific for the project plan and report. The lectures could be organized in a centered way, there are a lot of topics that are not directly related to the exam, maybe students could select those lectures and decide if they're going to take them.
-Some lectures were either low quality or redundant (e.g. the in vitro brain lecture on the 25th of November was very similar to the Alzheimer's lecture on the 20th of October). I would suggest being very purposeful in choosing the lecturers/lecture topic. They are all very interesting, but in the interest of time and for the purposes of the course it would be beneficial to have fewer lectures with clearer learning purposes. (Maybe coordinate with SU&KTH about which topics will be covered in the future) -Better communication about guidelines for project components, time of the exam, exam follow-up etc. A simple email about a change would suffice in most cases. -The course had great potential and it is visible that a lot of work went into it. I'm wondering if separating it into two courses (a content course and a project course) would make organizing easier.
1. PLEASE PUT MORE EFFORT ON THE CANVAS PAGE. The canvas page of this course is among the worst ones I have ever seen. Some suggestions: i) put on everything IN ADVANCE so that students can know what they are expecting (and feel less confused), e.g. create a tab for each week or for each topic under "modules", and put the lectures/assignments in that week/topic under that tab. ii) use a unified channel for announcements (not randomly from announcement page/canvas inbox/KI email/personal email). iii) if you are going to use canvas calendar for schedule please make it more clear. Minimize sudden changes in schedule (if a site visit/lecture is not decided yet do not put them on?) 2. About the lectures: i) they can be organized under different themes; ii) some background knowledge can be made shorter or given out using a flipped classroom format, so that the lecturers would have more time to talk about their actual research 3. About project work: i) give clearer instructions on the timeline and evaluation schemes. ii) duration for the actual lab work can be longer 4. About exam: could reconsider the format, e.g. more open book essay type questions, or break down to closed book exam at the end + several written assignments throughout the course
Bring in fewer guest lecturers; it’s only a 2 month course, we can’t have a new lecturer everyday, it is very disconcerting. Have a schedule and a syllabus, clearly outlining the expectations of the coordinators. For assignments and projects, detailed written down instructions would be helpful.
I think the communication part can be improved in the next year. It would be better if the deadlines in the project part could be set more clearly and earlier.
1. The course can be more organized that two weeks have one topic (heart disease, neuroscience or cancer) consisting of one or two days for background introduction and then research from different teachers. Otherwise each teacher repetitively talk about the introductory part and leave no time for their own research which supposed to be the most interesting part of the lecture. If it is impossible to put every lecture of the same topic within one week, it is also an option to make the introduction to flipped classroom or literature or a summary report and students can be prepared in advance. 2. The project work can start from the beginning of the course, so we can flexibleby arrange everything, including ordering experimental kits, wet-lab schedule and so on. It is a good practice for students so I think it definitely deserves more time and energy.
The theoretical knowledge we were suppose to acquire were not clear (lectures about subjects not found in the exam for exemple system biology or drug development) we should know from the start if it is a lectures for own interest or mandatory to know. The idea of a practical project is good but it was in the middle of Christmas break what is not ideal. Lectures should be separated in modules for a clear view (ex: cardio-vascular, neurology, cancer etc...)
Please consolidate communication style and choose one way to organize information. It was very difficult to 1) find lecture slides 2) understand when assignments were due and 3) understand assignment requirements. It would be fine to either have this through 'announcements' or the 'calendar' or 'modules', but please pick one and stick to it. Since there are many different lecturers, it also makes sense to attach their slides somehow to their lecture or their 'module'. Additionally, it would be helpful to streamline the course content and have a 'cardiovascular disease week', 'alzheimers week', 'cancer week', 'crispr week', etc. because we had multiple courses on each topic but they jumped around and it would be more beneficial and easier to integrate information if the lectures on the same topic occurred during the same week. I understand this is difficult logistically but even having some similarity in the weeks would be nice (I think we had a few days like that with alzheimers). Additionally, a lot of the lecture material did not appear on the exam, and it would be nice to know at the beginning what will be expected on the exam content wise.
- Improve overall communication - Do not block Canvas pages because students may feel overwhelmed - Prepare project work in advance and communicate accordingly (also what the expectations are) - Have more interactive lectures. Less topics but more reflection and discussions - Think less of us as students but more as young adults that also have their life (as everyone else does) - Be more quantitative in the grading
The communication about the prokect work could be greatly improved. It was very unclear what exactly had to be done when, to who things should be handed in, and what the actual graded components of the project were. Moreover, the deadline and exact contents of the final grade were not known until 5 days before the end of the course. For me also the roles in the group work were not super useful, as a group we didn't really stick to them. I think it would be nicer to as a group decide on who is responsible for what rather than having that tacked onto the assignment. I also was not a huge fan of having to change the final project while in the middle of another full time course. We were told the final report would only have to be resubmitted if the group failed it. However, in the email send out to all students the grader was very positive about all reports. Yet 4 had to be handed in with changes. Those two things seem rather contradictory. This would be fine if we were still doing the FTM course, however, now the whole group was busy with a fully new course in a new university and it was quite stressful to have to go back to the previous course to change these things. In the future it would be nice if it was more clearly communicated under what circumstances the report would have to be resubmitted.
- it would be good to curate the course a bit more. As nice as some of the lectures were, it was hard to identify a common theme. It felt like little snippets of knowledge everywhere, instead of really getting to really create deep understanding of things. Furthermore, some of the lectures were also of quite poor quality, some more control over this would be beneficial. Because the styles and levels of lectures was so diverse, it was hard to understand what we were supposed to take from them and how to study them. Overall it all felt quite scattered. - the course was very lecture heavy. A lot of knowledge absorption. Besides the big project at the very end, there was barely any creativity or critical thinking required for participating in this course. One or two assignments throughout the course which are more challenging and require us to apply our knowledge (e.g. design a theoretical project, write an essay, ...) would be good for digesting everything. - the project at the end felt like it should have maybe been its own course. I enjoyed the amount of learning I did there, but the process around it felt very chaotic. Communication about timelines, requirements, deadlines, expectations, etc. was very unclear. Also merely having a few days to analyse the data and write the report felt rushed.
Clarify what are the ILOs for each lecture, provide researchers with a structure to follow. Some presentations were outstanding, others not as much, hard to make sense of all the material. JC do not seem to promote critical thinking. Project deadlines and expectations were handled and communicated sparingly and poorly. Having three course coordinators instead of one only added to the confusion.

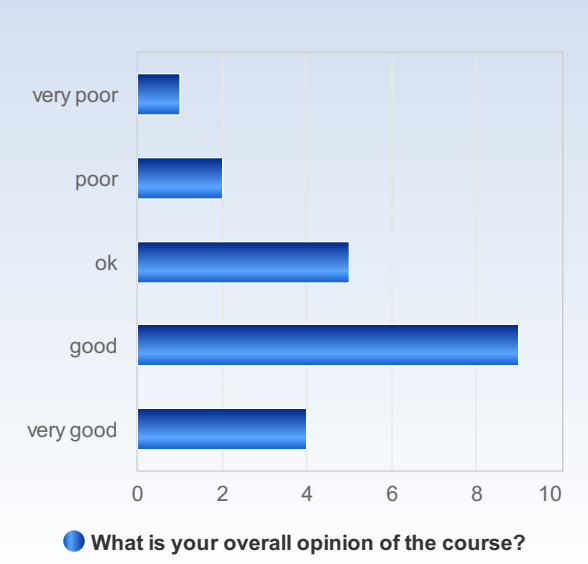
I'd suggest to be more clear on the grading and requirements regarding the project. Probably you'll get this several times; but the project was quite messy in the organisation. And questions regarding grading, and the documents which needed to be handed in were not clearly answered until less than one week before the hand in date.

Have a clear structure of the course. Communicate well with students and do not change the rules of the course on the way. Give more time for doing the project and do not postpone it until the last week before the project defence.

• Despite the obvious advantages of an informal system for the organization and coordination of such a large number of lecturers, the announced standardization of the course structure within KI will, I hope, facilitate student access to relevant information (course schedule, assignments, deadlines).
• Standardization of information structure (files tree/type/nomenclature) should also be emphasized among lecturers within the course (!)
• The take home message (up to ~400 words) is to remain clearly emphasized for all lectures.
• It would be really valuable to systemize courses recording and online sharing (+ having Zoom open in parallel of on-site lectures for students)
.
• Despite my appreciation of lab visits, I would rather encourage the diversification of concrete lab experiences (with hands on manipulations)

What is your overall opinion of the course?

What is your overall opinion of the course?	Number of responses
very poor	1 (4.8%)
poor	2 (9.5%)
ok	5 (23.8%)
good	9 (42.9%)
very good	4 (19.0%)
Total	21 (100.0%)



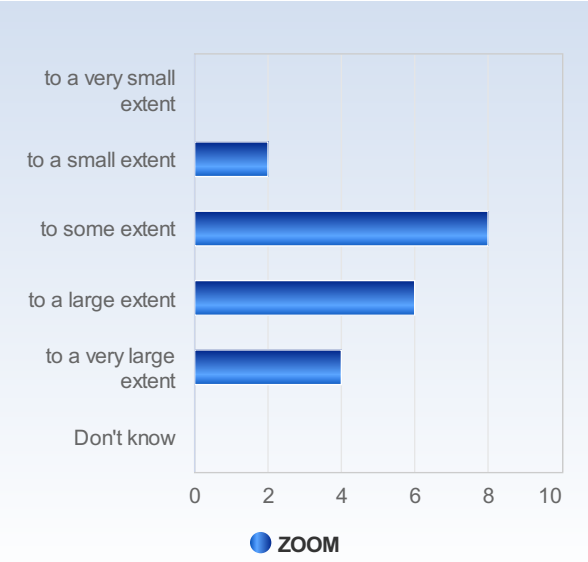
	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
What is your overall opinion of the course?	3.6	1.1	29.6 %	1.0	3.0	4.0	4.0	5.0

Course-specific questions

The online tools has been helpful for my learning remotely.

ZOOM

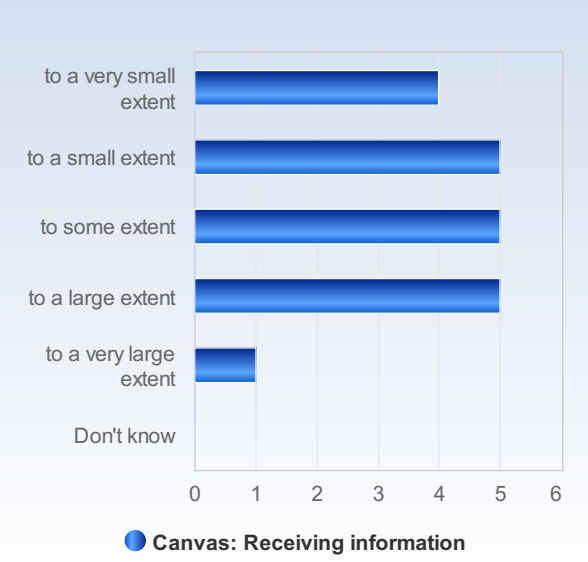
ZOOM	Number of responses
to a very small extent	0 (0.0%)
to a small extent	2 (10.0%)
to some extent	8 (40.0%)
to a large extent	6 (30.0%)
to a very large extent	4 (20.0%)
Don't know	0 (0.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
ZOOM	3.6	0.9	26.1 %	2.0	3.0	3.5	4.0	5.0

Canvas: Receiving information

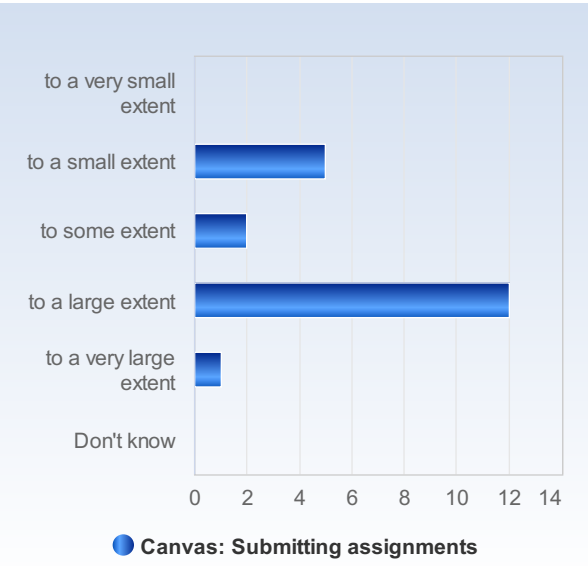
Canvas: Receiving information	Number of responses
to a very small extent	4 (20.0%)
to a small extent	5 (25.0%)
to some extent	5 (25.0%)
to a large extent	5 (25.0%)
to a very large extent	1 (5.0%)
Don't know	0 (0.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Canvas: Receiving information	2.7	1.2	45.1 %	1.0	2.0	3.0	4.0	5.0

Canvas: Submitting assignments

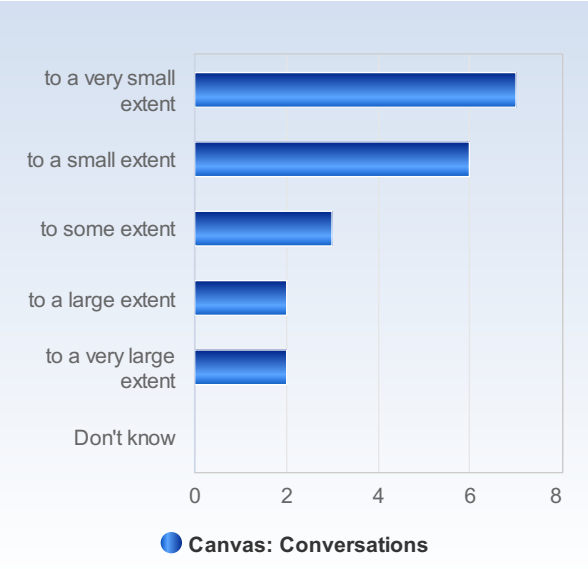
Canvas: Submitting assignments	Number of responses
to a very small extent	0 (0.0%)
to a small extent	5 (25.0%)
to some extent	2 (10.0%)
to a large extent	12 (60.0%)
to a very large extent	1 (5.0%)
Don't know	0 (0.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Canvas: Submitting assignments	3.4	0.9	27.4 %	2.0	2.5	4.0	4.0	5.0

Canvas: Conversations

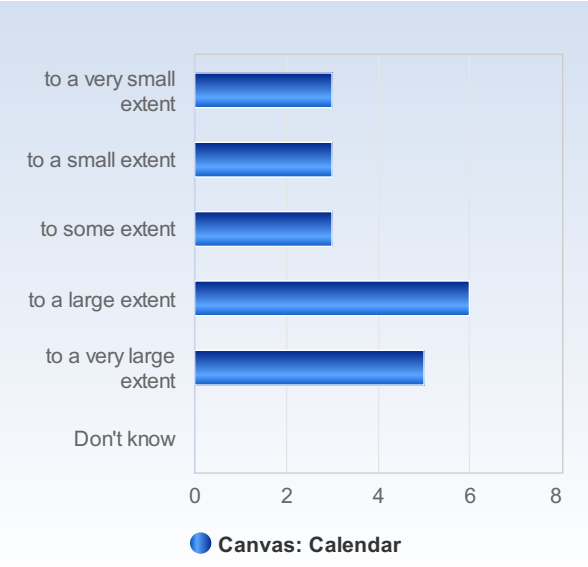
Canvas: Conversations	Number of responses
to a very small extent	7 (35.0%)
to a small extent	6 (30.0%)
to some extent	3 (15.0%)
to a large extent	2 (10.0%)
to a very large extent	2 (10.0%)
Don't know	0 (0.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Canvas: Conversations	2.3	1.3	58.3 %	1.0	1.0	2.0	3.0	5.0

Canvas: Calendar

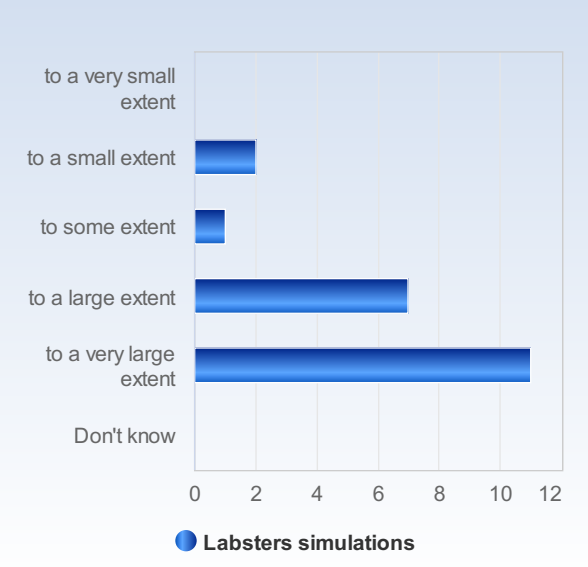
Canvas: Calendar	Number of responses
to a very small extent	3 (15.0%)
to a small extent	3 (15.0%)
to some extent	3 (15.0%)
to a large extent	6 (30.0%)
to a very large extent	5 (25.0%)
Don't know	0 (0.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Canvas: Calendar	3.4	1.4	42.5 %	1.0	2.0	4.0	4.5	5.0

Labsters simulations

Labsters simulations	Number of responses
to a very small extent	0 (0.0%)
to a small extent	2 (9.5%)
to some extent	1 (4.8%)
to a large extent	7 (33.3%)
to a very large extent	11 (52.4%)
Don't know	0 (0.0%)
Total	21 (100.0%)

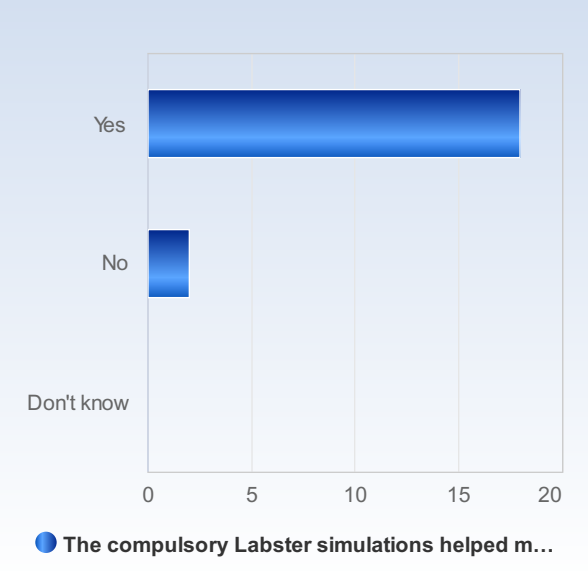


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Labsters simulations	4.3	1.0	22.3 %	2.0	4.0	5.0	5.0	5.0

Comment
Announcements should be centered in one place, and the way of communication was scattered. We communicate with lab instructors by KI mail, but some information was sent to our private mail, and announcements could be either published on the announcement or modules or inbox on Canvas, which made us feel lost.
Sometimes the zoom stream was not very accomodating as the professor would not stand close enough to the microphone to be able to understand what is going on. I understand that in person attendance is preferred by some professors However, during a pandemic it would be nice if the lectures were also understandable while on zoom.
canvas was very hard to keep track of, i often had to spend 20 minutes finding guidelines or critical information. This was unfortunate, as I rather spend this time on actually learning about molecular biology and medical science.
• Although imperfect, I don't think there is a better system than Zoom. • Unfortunately, as I already mentioned it, having several lecturers each doing things their own way scattered the information on the Canvas course. • The Canvas mailing system is useful and sufficient for conversation with teachers. Conversation among students through Canvas is not optimal and would hardly be. • The calendar is a very powerful tool. Unfortunately, we had to experience inconsistencies and outdated information.

The compulsory Labster simulations helped me to attain the intended learning outcomes of this course.

The **compulsory** Labster simulations helped me to attain the intended learning outcomes of this course.	Number of responses
Yes	18 (90.0%)
No	2 (10.0%)
Don't know	0 (0.0%)
Total	20 (100.0%)

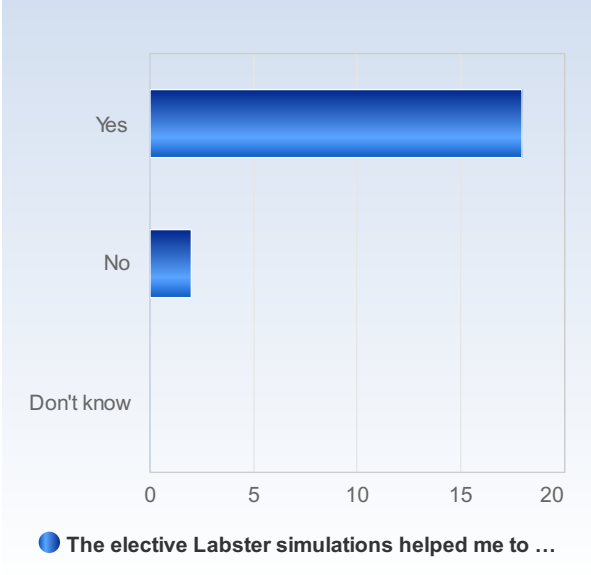


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The **compulsory** Labster simulations helped me to attain the intended learning outcomes of this course.	1.1	0.3	28.0 %	1.0	1.0	1.0	1.0	2.0

Comment
overall nice
The labster is indeed very useful.
Labsters are really good and useful
Labsters were fun and informative
i liked them! nice to have all available too, very accessible way to gain more knowledge about a specific topic.

The elective Labster simulations helped me to attain the intended learning outcomes of this course.

The **elective** Labster simulations helped me to attain the intended learning outcomes of this course.	Number of responses
Yes	18 (90.0%)
No	2 (10.0%)
Don't know	0 (0.0%)
Total	20 (100.0%)



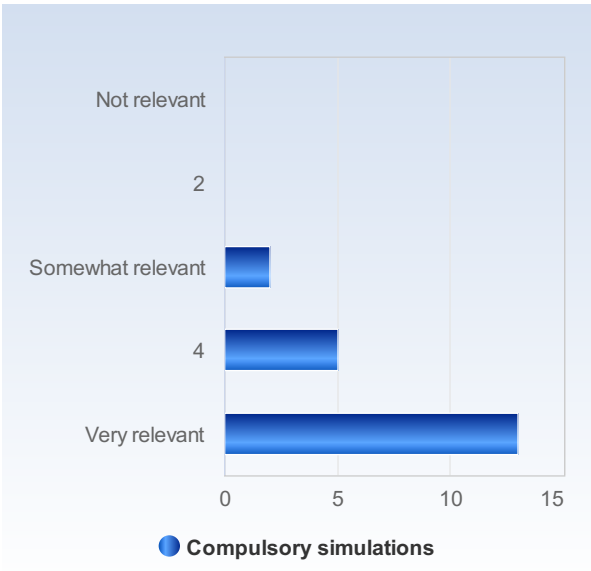
	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The **elective** Labster simulations helped me to attain the intended learning outcomes of this course.	1.1	0.3	28.0 %	1.0	1.0	1.0	1.0	2.0

Comment
I really liked the option for additional Labsters, it was very helpful in imagining the lab. I used one to refresh my knowledge on pipetting and one to learn how to do PCR.

The Labster simulations were relevant for the intended learning outcomes of this course.

Compulsory simulations

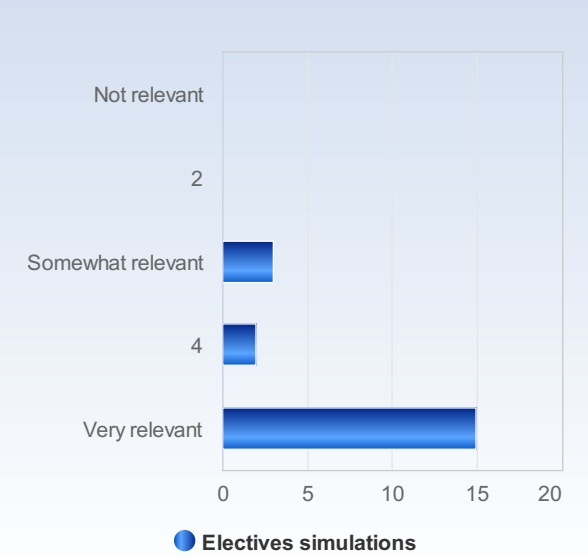
Compulsory simulations	Number of responses
Not relevant	0 (0.0%)
2	0 (0.0%)
Somewhat relevant	2 (10.0%)
4	5 (25.0%)
Very relevant	13 (65.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Compulsory simulations	4.6	0.7	15.1 %	3.0	4.0	5.0	5.0	5.0

Electives simulations

Electives simulations	Number of responses
Not relevant	0 (0.0%)
2	0 (0.0%)
Somewhat relevant	3 (15.0%)
4	2 (10.0%)
Very relevant	15 (75.0%)
Total	20 (100.0%)

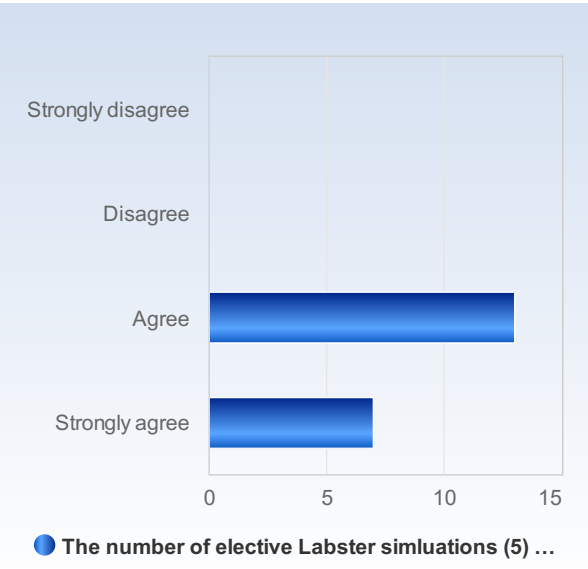


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Electives simulations	4.6	0.8	16.4 %	3.0	4.5	5.0	5.0	5.0

Comment
They were relevant, I just did not feel learning much new things.

The number of elective Labster simluations (5) was optimal.

The number of elective Labster simluations (5) was optimal.	Number of responses
Strongly disagree	0 (0.0%)
Disagree	0 (0.0%)
Agree	13 (65.0%)
Strongly agree	7 (35.0%)
Total	20 (100.0%)

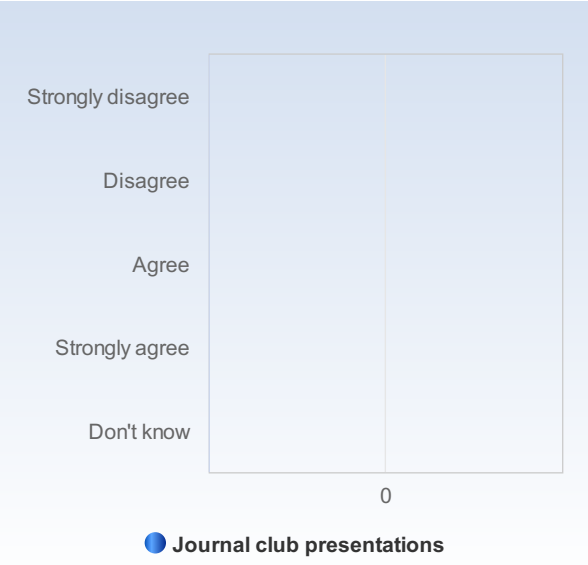


	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
The number of elective Labster simluations (5) was optimal.	3.4	0.5	14.6 %	3.0	3.0	3.0	4.0	4.0

I am satisfied with the arrangements of the assessments online.

Journal club presentations

Journal club presentations	Number of responses
Strongly disagree	0 (0.0%)
Disagree	0 (0.0%)
Agree	0 (0.0%)
Strongly agree	0 (0.0%)
Don't know	0 (0.0%)
Total	0 (0.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Journal club presentations	0.0	0.0	NaN %	∞	0.0	0.0	0.0	-∞

Online written exam

Online written exam	Number of responses
Strongly disagree	0 (0.0%)
Disagree	0 (0.0%)
Agree	0 (0.0%)
Strongly agree	0 (0.0%)
Don't know	0 (0.0%)
Total	0 (0.0%)

	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Online written exam	0.0	0.0	NaN %	∞	0.0	0.0	0.0	-∞

Project presentations

Project presentations	Number of responses
Strongly disagree	0 (0.0%)
Disagree	0 (0.0%)
Agree	0 (0.0%)
Strongly agree	0 (0.0%)
Don't know	0 (0.0%)
Total	0 (0.0%)

	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Project presentations	0.0	0.0	NaN %	∞	0.0	0.0	0.0	-∞

Submission assignments

Submission assignments	Number of responses
Strongly disagree	0 (0.0%)
Disagree	0 (0.0%)
Agree	0 (0.0%)
Strongly agree	0 (0.0%)
Don't know	0 (0.0%)
Total	0 (0.0%)

	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Submission assignments	0.0	0.0	NaN %	∞	0.0	0.0	0.0	-∞

Peer assessments

Peer assessments	Number of responses
Strongly disagree	0 (0.0%)
Disagree	0 (0.0%)
Agree	0 (0.0%)
Strongly agree	0 (0.0%)
Don't know	0 (0.0%)
Total	0 (0.0%)

	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Peer assessments	0.0	0.0	NaN %	∞	0.0	0.0	0.0	-∞

Extra questions for research

Recently Karolinska Institutet became part of a new Erasmus+ strategic partnership, aiming to develop virtual laboratory training and teamwork in biomedicine education.

We would be grateful if you can answer several questions about virtual lab. By answering the following questions, you also give consent to allow us use, analyse and distribute the answers for research purpose.

Do you think that virtual laboratory simulation is a reasonable way to study biomedicine?

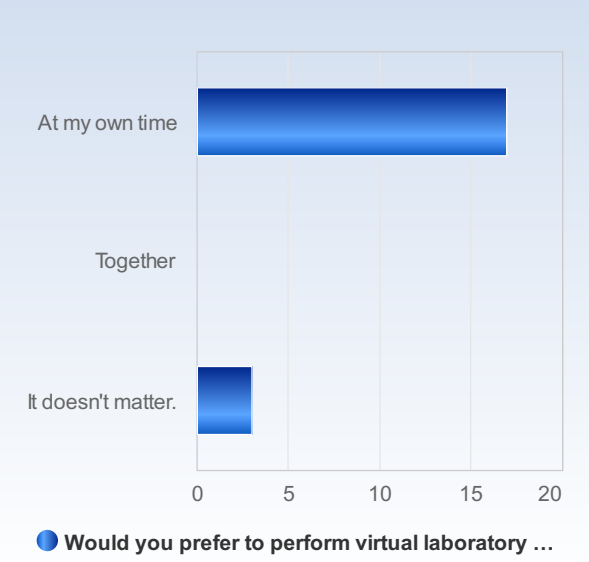
Do you think that virtual laboratory simulation is a reasonable way to study biomedicine?	Number of responses
No way!!	1 (5.3%)
Nah	1 (5.3%)
No difference	0 (0.0%)
Worth a try	11 (57.9%)
Definitely YES!	6 (31.6%)
Total	19 (100.0%)

	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Do you think that virtual laboratory simulation is a reasonable way to study biomedicine?	4.1	1.0	25.3 %	1.0	4.0	4.0	5.0	5.0

Comment
It is a great initiation to the lab! I think it works best if it is followed up by real life practice, but it saved a lot of time in the project work that I did the labsters before.
They can be a good supplement but in no way can they replace actual lab practice.
Not exclusively but as additional learning is a very good complement
it is by no means a replacement, but a nice complementary tool to get a bit more familiar.

Would you prefer to perform virtual laboratory simulations at your own time alone or at classroom with other students and teacher?

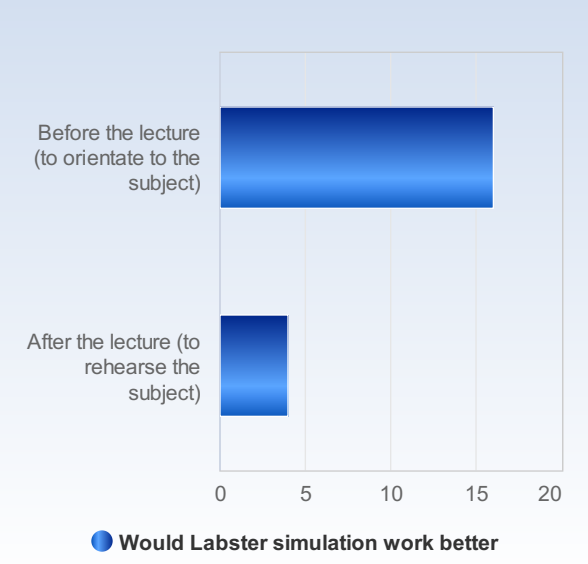
Would you prefer to perform virtual laboratory simulations at your own time alone or at classroom with other students and teacher?	Number of responses
At my own time	17 (85.0%)
Together	0 (0.0%)
It doesn't matter.	3 (15.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Would you prefer to perform virtual laboratory simulations at your own time alone or at classroom with other students and teacher?	1.3	0.7	56.4 %	1.0	1.0	1.0	1.0	3.0

Would Labster simulation work better

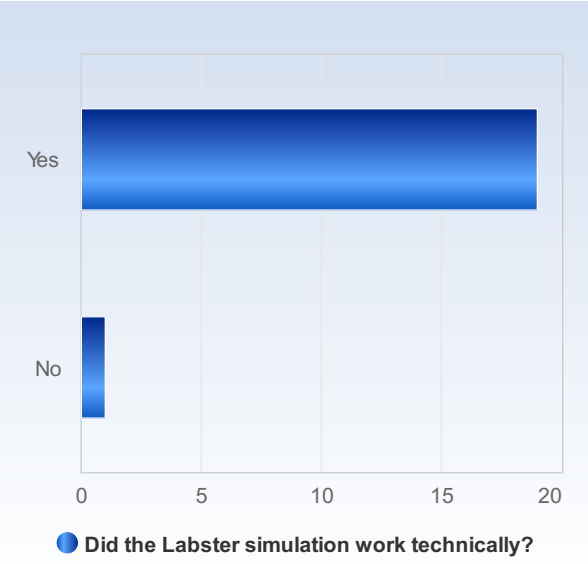
Would Labster simulation work better	Number of responses
Before the lecture (to orientate to the subject)	16 (80.0%)
After the lecture (to rehearse the subject)	4 (20.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Would Labster simulation work better	1.2	0.4	34.2 %	1.0	1.0	1.0	1.0	2.0

Did the Labster simulation work technically?

Did the Labster simulation work technically?	Number of responses
Yes	19 (95.0%)
No	1 (5.0%)
Total	20 (100.0%)



	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Did the Labster simulation work technically?	1.0	0.2	21.3 %	1.0	1.0	1.0	1.0	2.0

If not, please describe the problems:
Most of the time except for the C.elegans module
some glitches, but generally okay.

Would you like to have more

Would you like to have more	Number of responses
Theory quizzes	2 (10.0%)
Practical lab work	14 (70.0%)
Animations	1 (5.0%)
Everything was well balanced	3 (15.0%)
Total	20 (100.0%)

	Mean	Standard Deviation	Coefficient of Variation	Min	Lower Quartile	Median	Upper Quartile	Max
Would you like to have more	2.2	0.9	37.8 %	1.0	2.0	2.0	2.0	4.0

Any other comments to teachers or to Labster?

Any other comments to teachers or to Labster?
Labster was extremely helpful for me. I would have loved to practice some of the techniques myself in the lab afterwards if I had a chance though.
Small personal note: The biosafety labster is way too graphical with the blindness and all, it was very unpleasant to do.
Thank you very much for your teaching and all your efforts!