Evaluation report:
GEO-SD304: System Dynamics Modelling Process

1. Information about the course

Course: https://www.uib.no/en/course/GEO-SD304

Semester: Fall 2020

Course coordinator: Birgit Kopainsky

Teacher: Birgit Kopainsky

Forms of assessment: Assessment consists of evaluating a modeling project. The modeling project consists of a simulation model (70% of the final grade), an oral presentation in the form of a video clip and response to examiners' questions (30% of the final grade).

Teaching methods: the course consists of live-streamed, recorded and stored lectures, seminars and computer labs with active participation by students, short in-class tasks, written assignments, and a major project requiring a written report, a model, and a presentation. Individual and group support will be provided in-person or remotely by teaching assistants and the professor.

2. Statistics

Signed up for exam:44

Absence: 10
Fail: 0
Average grade: B

Grade distribution
A=13
B=14
C=2
D=3
E=2

3. Self-evaluation

Assessment of the teaching program in relation to the objectives and results

   A. What did you focus on in the teaching plan? Give a short description of the teaching
       plan in the course, with emphasis on what was new this time.

In GEO-SD304, students conduct their first independent modeling study. In 2020, I
reorganized the teaching component quite a bit with an emphasis on providing more of a
library of useful model structures and model analysis tools. Contrary to previous years, we
did not jointly develop two existing models in detail during lectures but analyzed five
different models (one per week, with the exception of the last exam week). We also practiced
the various analysis tools with the respective model of the week.
Form, presentation and evaluation of the independent modeling study remained unchanged.

   B. What is your assessment of how well the teaching plan worked? Give a brief
       description of any evaluations that have been made, and give an assessment of the
       experiences with this year's teaching plan.

Overall, I am quite happy about how well the new course components could be
implemented. The independent modeling projects, overall, seemed to be on a somewhat
higher level than in previous years. With the teaching also being online due to Covid, there is
a confounding element so that it is unclear to what extent the new elements in the teaching
plan contributed to performance.

The course evaluation overall supports continuation of this new teaching plan but also offers some entry points for improvements (cf. point C).
Conducting the first independent modeling study necessarily is a roller coaster and it is not possible – and not desirable – to avoid all the problems and frustrations that student encounter on the way. The course set up, however, tries to keep those frustrations in check and limit them to those frustrations that are important to experience in light of the future master thesis. This year, however, I was extra impressed by students. Whatever barriers Covid-19 threw at them, they rose to the challenge and showed impressive extra-efforts.

C. What adjustments will you recommend for the next time the course is offered? Give a brief assessment of which parts of the teaching plan should be continued and what, if any, should be changed.
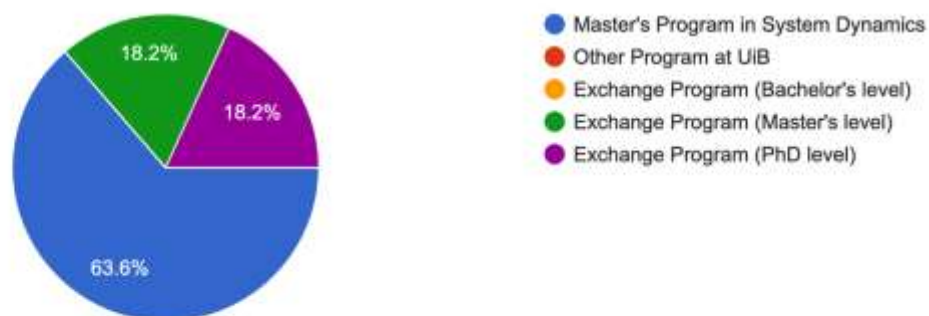
Overall, I will maintain the new structure with model, game and analysis tool of the week but I will make the following adjustments:
- Reduce lectures in week 5 of the course so that students can focus entirely on the independent modeling project.
- Allow for more time in week 1 to develop an initial plan for the independent modeling project.
- Provide a more explicit overview of how each model, game and analysis tool of the week contributes to the overall course objectives and particularly to the independent modeling project.

4. Results

I study GEO-SD 304 as part of:
11 responses

- Master's Program in System Dynamics
- Other Program at UiB
- Exchange Program (Bachelor's level)
- Exchange Program (Master's level)
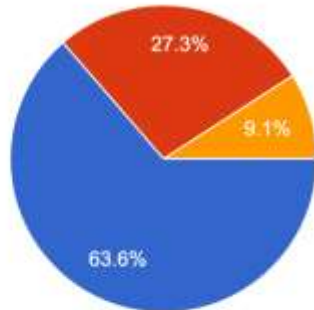- Exchange Program (PhD level)

18.2%
18.2%
63.6%

How many hours per week on average did you spend on this course? (include all time spent studying, doing homework, attending lectures and labs, etc.)

10 responses

- less than 5 hours
- 5 - 9 hours
- 10 - 19 hours
- 20 - 29 hours
- 30- 39 hours
- 40+ hours
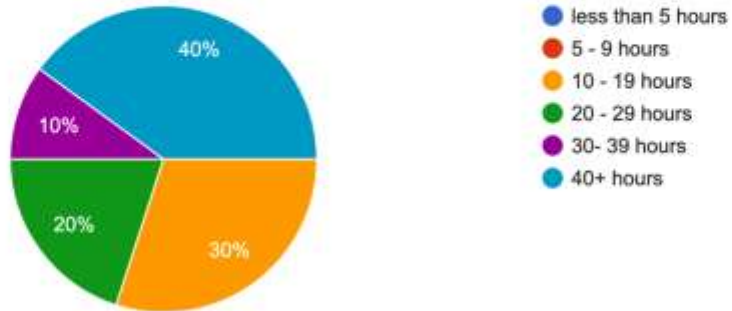
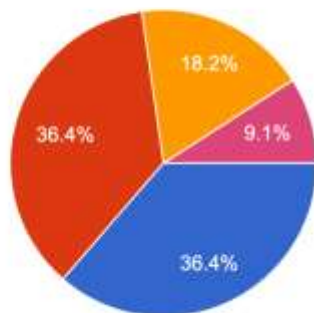To what extent did you participate in the lectures/labs?
11 responses

- Attended all of the lectures and labs (90%+ attendance)
- Attended most of the lectures and labs (60% –89% attendance)
- Attended some of the lectures and labs (25% - 59% attendance)
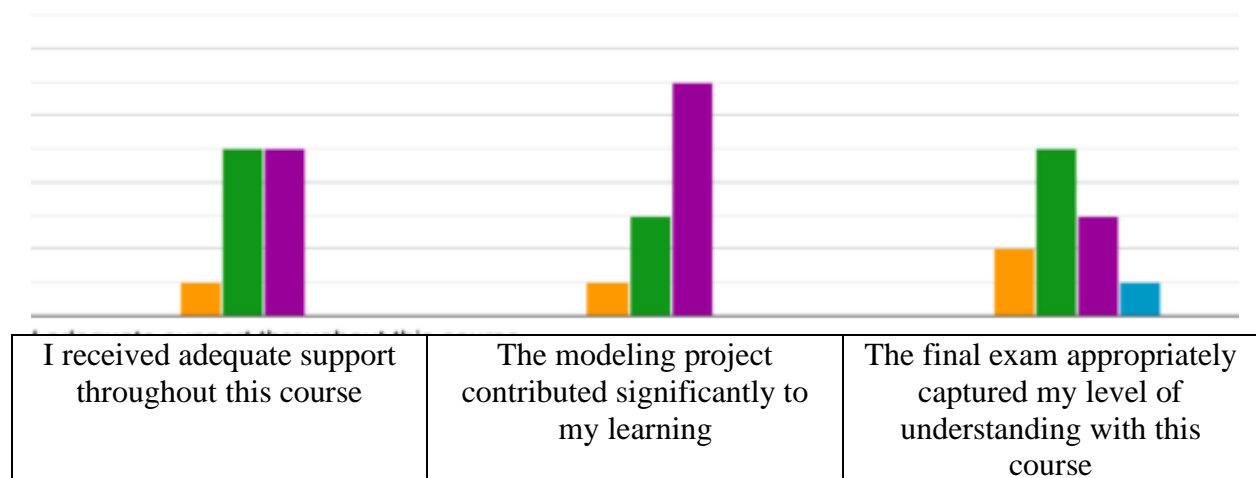- Attended few or none of the lectures or labs (less than 25% attendance)
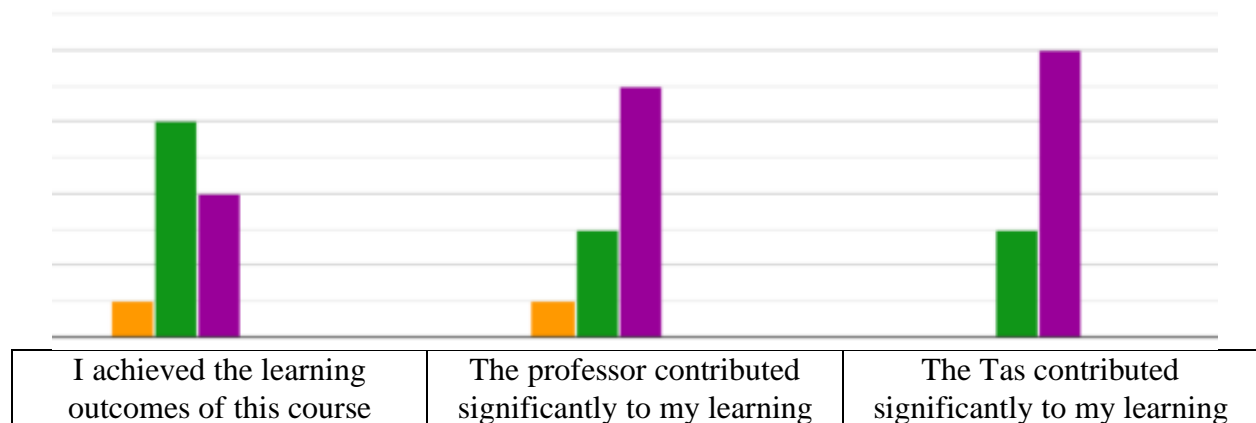
What grade do you expect to get in this course:
11 responses

- A
- B
- C
- D
- E
- F
- Unknown
- Prefer not to Answer

Please mark how you feel about each of the statements listed below:

| This course is relevant to my interests | I gained valuable insight and understanding from this course | I would recommend this course to other students |

| I achieved the learning outcomes of this course | The professor contributed significantly to my learning | The Tas contributed significantly to my learning |

| I received adequate support throughout this course | The modeling project contributed significantly to my learning | The final exam appropriately captured my level of understanding with this course |

Do you have any comments on your answers above? If so, please discuss here:
The TA contributed in my learning, however I would have preferred it differently. Right now it happened that I got feedback on my work with examples how to do it otherwise. It would have been more valuable to me if there was time to explain why these things were more useful and how I could have came up with those things myself. Besides there were only 2 moments that I could have a meeting with my TA. The third one was cancelled by her. I do understand that the pressure was high on her, however more moments and more explanation would have helped me in a better understanding and guiding through the course.
I'd really love to have more time in order to understand more proposed models

How do you assess different parts of the course:

Relevance of course content	Quality of course content	Interactions with the professor

Interactions with the TA	Clarity of feedback I received you received throughout the course	Course organization and structure

Teaching methods	Weekly lectures	Weekly labs
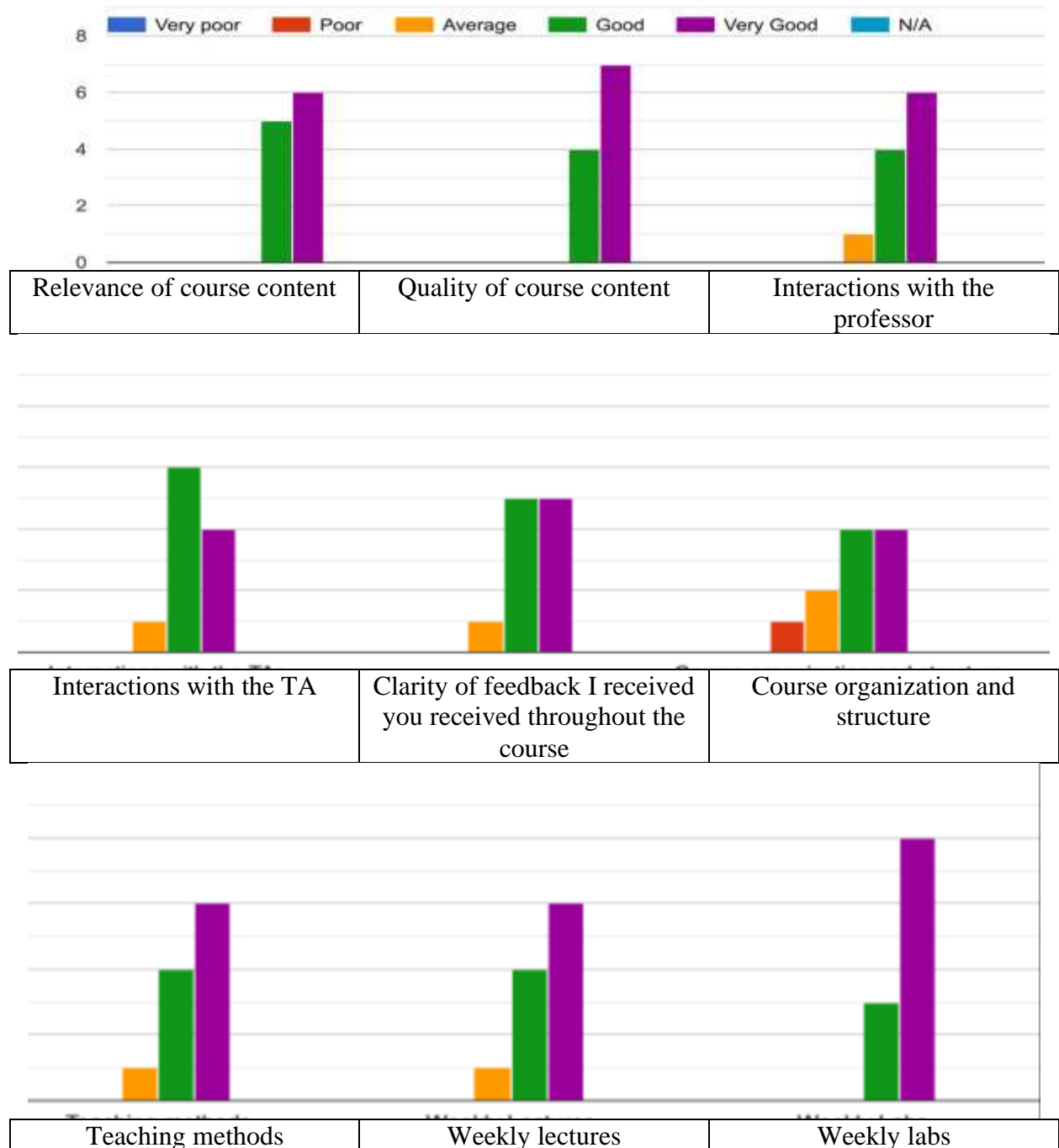
Do you have any additional comments on your answers above? If so, please discuss here:

The course was so long! But that is the result of the overall length of the semester here, at UIB. The last three weeks of the course were verz hard. It was very difficult to get some motivation. I did not feel exhausted, but for the last manz weeks I have been doing and focusing only on SD. I needed a change so much. The coronasituation did not help it, as the gyms were closed, and I really need sport to recreate myself. Meeting other people was also limited, so my life was limited to my room, PC, films, series, and hikes during the weekends. Sometimes I felt there is no reason, no need to even finish the model and the report :D Although I enjoyed this course most comparing with the first two, during these periods I did not fear any bad final mark, nor feel motivation just to go on.
Thus, I think its organisation could have been better if the first weeks contained more of the lectures - even four hours of lectures per day and two labs, but then finish the course earlier and use the time I had stamina to go on :D Also, when writing the report, I forgot many of the things taught during the previous lectures, so I had to remind them to me by watching the recordings and/or going through the lecture notes.

Gkini's feedback was absolutely amazing.

I feel like the course structure is not right in terms of learning the most as possible. For me I felt like I was not sure what I would have to do in the end and how everything would lead to that. It would have been more valuable to my learning to have more time to write the report, so a chance is given to perform more tests on my model and thus learn more. Now I felt, I had to rush things in the end. I think this was also a combination of not too many moments of feedback, so I was not sure whether I was on the right track or where I could add more/less.
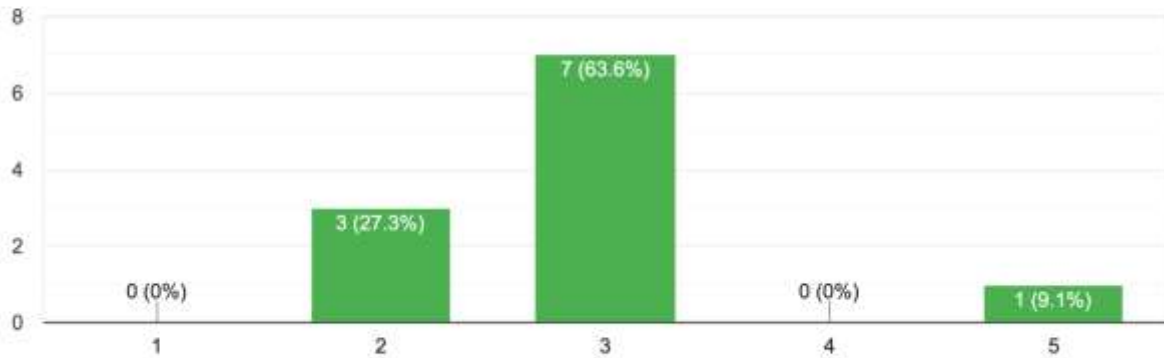
Why would you recommend or not recommend this course to other students?

An own modelling project is crucial to understand many topics, to motivate, and to experience the difficulties of modelling. I also appreciate the "toolbox" of SD topics, which is very valuable. Getting insight into existing high-quality models is also a strong plus. I very much appreciated also the modelling sessions with colleagues during the lectures from video/text, or the GMB session etc. And that we got insight into every aspect, including e.g. statistical screening methods, but also story making.

it is fun. And I have my own model and go through the whole process.

The course was very enriching. The most important thing it brough to me was the understanding that the more complex té model is, the more time it requires to elaborate and to solve all mistakes it has. Also, the ability to trz to model our own research focus was very helpful. Due to that I will know how to approach such projects in the future better.

First, in this course I learnt more advanced topics and tools. Second, the project was the first step of modeling real life issues.

I would recommend it. I wish this course is longer. cutting 302 and extending 304. I learned something from 302 but the learning process is frustrating and with the amount of time, effort, and frustration spent in 302, the grade is low. I learned more in 304 in a positive way.

practically good

Christina was great

I would recommend this, because it really is interactive fun and you learn a lot.

I would recommend that before enrolling in this course, taking classes about fundamentals of dynamic systems

Yes

Its their own level of interest, if someone asks me about this course, i will recommend them.

What did you expect to learn upon starting this course?
It was even more applied than I thought.
NA
I had no clear idea
To be more professional in extracting a model from a problem.
to be able to build a model on a real life problem.
more insights and idea about modelling.
No expectations in that regard
I did not really have expectations.
Modeling Project
About the stages of the modelling process
It was good.

What do you feel you have learned by the end of this course? Have you met the learning objectives?
Definitively, not because I am so proud of my model, interface and report, but because I know what I could improve, where my deficits are, and where I can find relevant information (I feel we got a quite good overview of all related topics). Also I learnt how much time model analysis and writing up takes and how important iterations are. The learning effect was huge and I feel quite comfortable with my own modelling project despite knowing that I have to learn a lot of things still.
It is ok. But I need re-watch the recordings.
Many things, some of them have already been expressed. Now I am able to model a situation and test the model and analyse it better than before :D
Yes, I think I moved forward in the direction it was supposed.
Yes. The model is a beginning. I want to continue work on the model. And improve its credibility.
Yes
I got a better sense of how to communicate SD and what role we can take with this expertise
I don't exactly know what the learning objectives are, but I think I learned how the big lines of a research in SD are shaped. Besides learned some general tests I could perform.
Yeah
Yes learning objectives met
yes

To what extent did the 'distance learning' style of this course affect your experience with the course and your ability to achieve the learning outcomes?

11 responses

In what ways did the 'distance learning' style of this course make the course more difficult?
Interaction with TAs and professor and other students as well. The "feeling" was just missing a bit.
There was missing the part, the time, when after the lecture I go home and allow all the learned things just to settle down. Now, it was harder, a the onlz change was to get from my accommodation room to the kitchen and make a meal.
i feel way less interaction with other students in this course. i think this course is way better in person while 303 should be recorded as no one can absorb information of 4 hours lecture.
Time zone and few working days
Following lectures
Interaction with peers was much more limited than it would have been in person.
For me, i dont feel comfortable to speak up in a group full of people, that are connected to me only by zoom calls. Physical interaction would help me get to know teachers and classmates and hence, develop a level of comfortness to discuss course contents. Also, by staying at home, I have to get involved(willingly/unwillingly) in many family and social matters and works due to which i have to miss classes and cannot focus on doing homeworks effectively. Many unwanted and unavoidable Distractions.

In what ways did the 'distance learning' style of this course make the course easier/more convenient?
It was very convenient to have the possibility to just share screen etc, and also the experience to actually learn how to use SD and interact online - because that's what we might need to do anyway more often.
More sleep
not being late
More interaction with TA, lecturers and students
More participants due to corona
I really liked that the lectures and labs are recorded. If I miss some explanation during the lecture, I can always rewatch and make myself understand even better.
Easier to attend lecture
Nope, distance learning made me feel responsible for playing two characters in real life. I have to be a student and do homeworks and stuffs. On the other hand, I have to be active at my native place, do works , manage time zone difference.

You can expand upon/comment on your answer above here:
I also liked the fact that we are all in front of a screen and thus can do exercises together like, how do tests work. If we would be in a lecture room, it would be harder to do these exercises together without screen sharing through some kind of program.

What could the instructor have done to improve your learning experience?
A bit more guidance in what is feasible for this course and how much (what extent of the model is expected).
If there is a little quiz before every week, this might help push me follow the schedule. When I can not catch first lecture, and there are a lot group discussion, I feel better to join the rest lectures.
Can't say
It was perfect in my opinion.
extend one week. I think the schedule that leads us finishing the model is usually a week before due date. it means that we need to complete interface, story, video, report all in one week - the last week (in my experience and a few other students i have talked to). Our experience can be really improved if there is just 5 more days, not asking for more.
More lab
Stop talking about the secret of system dynamics, or that we are not supposed to understand what we are learning. Organise the course content clearer, don't take up double space in the students calendar. Record only the teacher and powerpoint, there is no reason for recording the students, but there are reasons against.
Making more clear how certain parts of the lecture could relate to our own projects and how we could use it. Now it was sometimes difficult to find the connections or use it.
More feedback
Nothing comes to mind
They were all helpful, it was me who could not manage enough time.

What could you have done to improve your learning experience?
Better planning and time management ;)
Follow her schedule, can read all the material before each lecture.
Can't say
I wasted a lot of time in primary stages of my project, so that I had a little time to write my report. It was better if I managed my time better.
i m not sure. I was initially advance in the assignment progress, but ended up with handing in incomplete assignment. perhaps not building my own model but using other published model for this course. also, try not to be distracted by assignment and more prepare for the classes (reading the papers)
Participate in all the group modelling activities
Structure my life and get more self discipline...
Invest more time in the first 2 weeks, although in those weeks it was really vague to me what was expected and I didn't really know what to do. If I knew how to start of what to do, I would have invested more time then.
Making more efforts
More time devoted to the course
Get along with the course understandings but could not do because of time zone difference and something comes up unwantedly at times which i could not avoid.

How would you reflect on your learning process throughout this course?
In the beginning I learnt a lot theoretical stuff, and towards the end I learnt a lot about myself and the difficulties related to time management and accept imperfection :)
roller coaster from the assignment part. Did not get much out of classes because I did not prepare well ahead of classes.
I am well known about the concept and results
Sneaky, like nothing in the start, then a lot when delivery came close so we had to read scientific papers and we had guest lectures.
The TA's were helpful and the recorded videos helped me a lot.

What did you find very helpful or useful in this course?
The modelling tasks with colleagues during the lecture, and the own modelling project from A-Z. The lab with the broken model was also great and seeing every sensitivity test live with Will! And Andrew's GMB inputs when modelling from the video. It was also very useful to facilitate the GMB session and see how difficult it can be to extract information. And as said above, many things including the "toolbox" and sources.
TA section
Understanding the complexity of the project and th model creation and analysis process
The methods in lecture (like sensitivity analysis, calibration, arrays, ...) - Group modelings activities - Some of games
i think a number of methods being introduced in this course is very useful.
Labs and group activities
Gkini and Lars
The sample video's and reports. It made really clear what the final result should be and how you could write about it.
Help of TAs
Support from the TA's and instructor
it was good.

What do you wish you could have learned more about in this course?
Nothing, I think the "purpose" of modelling and maybe some examples where modelling is not adequate or where it is very difficult would have been helpful, but that would have been too much for this course. And overall together with the other classes in the master program I think it is perfect as it is.
NA
Can't say
I have no idea.
I think i will need to revisit the materials. I was not able to focus properly at class because i was distracted by the assignment.
Presentation
Idk
How to perform tests on my own model. Of course we practiced tests on other models, but it is a different situation in determining what tests are suitable for your own model project and which aren't. Next to that, how to incorporate the test in your own model.
More modeling projects and contests
Unsure
It is good. I hope to learn more.

What do you feel could be improved about this course and what suggestions do you have for ways to improve it?
Can't think of anything. Maybe the TA's could be motivated to be more critical about the purpose of the model, what variable and behavior we want to show, what and if to include as policy, where model formulation could be improved... but I know that it is a loooot of work and much to ask, and TA's and lecturer did a great job overall!
NA
Can't say
It was perfect. The only thing is that in writing a report I usually revise my method or model. I mean, I find a better approach during writing. For this reason, I think it could be better if we write and deliver the report and interface first. Then few days later, the 3-minutes video would be presented. In this way, I can present my final project after modifications. However, I am sure the current arrangement has a reason. Perhaps helping us to improve our model based on comments we got after presentation.
I think that the sample reports are great but they give me the idea that my assignment should be on par of that level. with the pressure to produce good work, i spent too much time on assignment instead of focusing in classes.
More participation
Organise. Don't say we shouldn't understand what we are learning. Get to the point in the lectures early, like a scientific paper, and repeat it during the lecture.
Give more clearity about the project in the beginning, so no one will be rushed in the end. Give more clearity on when and how feedback is given by TA's. Give more connections from the lectures to our own projects. Give a week extra in the end, so there is a week to finish our reports.
Way of organizing the course (2hours for lectures is not enough sometimes)
Unsure
Digital class, which was unavoidable... so no other issues

Any other comments can be made here:
THANK YOU! I feel that this was the course with the highest learning effect I have ever attended.
Overall, I get a lot out of these 5 weeks course. It is great work from Birgit and all TAs.
Gkini

5. Follow-up

Comments on previous evaluations (if any)

How do plan to follow-up on the basis of the course report

Cf. point C under 3. Self-evaluation