

## SVF-8054 THEORY OF SCIENCE ASSESSMENT

Based on end-of-term, mid-term student feedbacks (both attached), Anniken's remarks and my own notes.

### Preparation for and work during the course

- Most students have read both prior to and during the course and by the time the course has ended, they have read at least 50% of the assigned readings.
- Some students complain about too much reading, the difficulty of the material (abstract, philosophical) or about the relevance (so they had to choose). By 'relevance' they seem to mean mainly relevance for their own work (= doctoral dissertation).
- One student mentions that we should have some kind of prior training for how to read philosophical texts. (Compare to SVF-8060 where there is a library course, although this offers usual literature search training only.)
- Students generally are happy with their own contribution to the course. (I agree: they were active and interested, most of the time.)

**MAIN TAKEAWAYS:** *Possibly reduce required readings; offer a session on how to write a philosophy essay (plenty of material available); offer a Library session on sourcing and literature search.*

### Common lectures

- I think we can say that students are generally satisfied with the lectures (nearly 50% rate them highly), but it is also clearly that (i) the lectures somewhat polarize opinion (there is a ca. 25% who didn't like the lectures) and (ii) many students (26%) thought the lectures were at best average. So there is clearly room for improvement. The mid-term evaluation is in line with this, although the sample is less representative.
- Several students complain again about relevance (meaning: for their own research/topic/field).
- Some point out that the lectures were too much oriented towards the philosophy of natural science and the social or human sciences. (Mentioned concrete misses: hermeneutics, interpretation). The mid-term evaluation is very clear on this – this is the most often mentioned problem.
- Some students point out that the lectures were difficult, exhausting, hard to understand at points. The mid-term evaluation has specifically asked about this and although most students think the level was appropriate, they do complain about organization, the lack of introduction to what is going to be covered and why.
- Some students complain about too wide a scope; too much included in the lectures. They want at least then an introduction that also explains to them why the discussed topics are relevant for them and how they connect to the required readings.
- The student-lecturer interaction is generally rated high (65%). This is even better in the mid-term evaluation. (Some students don't like that teachers also engage in the discussion but other students disagree.)
- Some students do complain about unorganized discussions (some persons dominating), lack of interactive teaching (more group work and follow-ups), lack of clear structure to the lectures. (I agree: we should pay more attention to making the lectures active and structured.)

- Students generally considered the level of lectures appropriate, although some point to parts that were difficult to comprehend. (Note: over 20% of students thought the lectured were too difficult. We should strive to reduce this number.)
- My own observation: Three days of lecturing in a row don't work, too much, there has to be breaks between teaching days. Or we could break it up into more diverse teaching, perhaps on more specific topics that are also more suitable to the interests of the students.

**MAIN TAKEAWAYS:** *make the lectures more focused and relevant for the students; engage them actively (case studies and presentations; PBL - forming groups of five, say, with a philosopher and a specialist and work a problem/challenge/question); provide clear structure for the lectures (what will happen, why, how does it relate); work out a better structure for these lecturing days.*

#### Specialist seminars

- Almost all students like the specialist seminars (over 90%). They frequently mention relevance, feedback, lecturer and seminar leader qualities as their main reasons.
- Same kind of assessment regarding student-teacher interaction. Very positive.
- Regarding level of difficulty, students are generally happy. Some point out that there were some difficult readings and that there was not much teaching. (I agree: the seminars were geared to discuss the student's own contributions. There was time for mini-lectures only, if at all. This is a point that Anniken also makes in her own assessment and considers to be the biggest problem with the course.)
- My own observation: the course at the moment is unbalanced. The students are not required but are likely to write their final essay on a topic related to their doctoral work. As a result, they look at the common lectures as largely irrelevant, whereas the specialist seminars become their main focus since these function as supervisory sessions. I think neither is good a thing – in any case, we need to re-assess if we want to continue this practice.

**MAIN TAKEAWAYS:** *these seminars are generally considered good and useful but teaching – lecturing, focusing on the theoretical syllabus – is missing and must be provided for (with time and occasion). There is also the question of what purpose these seminars serve (and how they relate to the common lectures).*

#### Entire course

- Overall satisfaction with the course shows a mixed picture: most students are more satisfied than unsatisfied (over 80%) but only about half of the students are (strongly) satisfied with the course. So there is room for improvement.
- Students were also asked about what they have learnt from the course. It is hard to pinpoint many common points, but it is clear that, one or two unsatisfied students aside, the course was seen as useful by the students. They seem to appreciate the philosophical perspective it offers. This is also clear from their views on the relevance of the course (over 80% are positive).
- Having said this, although students clearly found the course useful and its content have met their expectations (over 60% in clear support, another 21% is in the middle), the two parts of the course are seen differently: students overwhelmingly prefer the specialist seminars to the common lectures. This is underlined by their evaluation in the mid-term

form as well where many – albeit not the majority – report that the lectures didn't increase their interest in the subject (significantly).

- In the last part, students give diverse recommendations:
  - As often, many point out that that the common lectures were not relevant for them. By this they mean, their doctoral project/work.
  - Some ask for more teaching – lectures – in the specialist seminar part.
  - One student recommends splitting the course along specialization lines and another agrees that one lecturer would be better.
  - More active teaching (group work, individual assignments).
- As Anniken also points out, there is also an issue with the exam assessment in the course. Students think about their final essay topic only after the common lectures, but there is no time set for discussing them with the specialist teachers outside the seminars.

**MAIN TAKEAWAYS:** *There is a clear need for this course, that much is obvious. However, the unclear function of the common lectured – and, in my view, the generally undecided purpose of the course – plagues the course. We need to decide what we do and why we do it. The lectures need to be more relevant, but how relevant? How much time should they take up? Etc.*

## **WHAT IS TO BE DONE? PROPOSALS FOR CHANGING THE COURSE**

I think the course runs good enough to survive with some tinkering also in its present format. (We could change somewhat the topic of the lectures, the form of assessment etc.) However, for it to be a truly better course, some more fundamental structural questions has to be decided. Two questions underlie these issues:

1. What exactly is the purpose of the course? Is this a *philosophy* course that is to be offered for the rest of the Faculty as an interesting background for doctoral students? Or is this *service* teaching where philosophy staff is brought in to teach what is, by others, considered to be directly relevant for doctoral research in the Faculty?
2. Who, therefore, runs this course? Is it IFF that offers this course on its own terms or is this a Faculty course where IFF is asked to contribute according to terms mainly set by others?

A comparison with another doctoral course I teach in – SVF-8060 – helps here. It is clear that we provide here service teaching and we are brought it in to serve specific interests and needs.

It seems to me that at the moment it is unclear what purpose SVF-8054 serves. It often appears that philosophy is expected to serve the interests and needs of the Faculty. This is fine, but then the next problem is that it is unclear what exactly these needs and interests are.

Concerning this, the course at the moment operates with the – unofficial – aim that we help the participating students with their doctoral work. (It is fairly clear from the students' feedback that this is also their expectation – just read through the comments above the frequent criticism that the common lectures are not relevant for their work and take time away from it. It is for the same reason that they so much like the specialist seminars: these seminars function as prolonged supervisory sessions, sort of mini workshops on their doctoral thesis from the point of view the theory of science.) This is far from obvious. While it is clear that all/most of the advice/feedback above regarding the content and structure of lectures

should be heeded, this doesn't decide whether students should come to this course to receive help with their doctoral research *in the direct way we do this now*. Again, the comparison with SVF-8060 is instructive: here students do not normally submit their final essay on a topic related to their dissertation and no part of the teaching focuses on it. Instead, students are expected to learn more generally about the ethics and theory of science and it is left to them to relate this to their doctoral work. Their final submission is therefore often on something entirely unrelated to their doctoral work.

I wanted to note these more basic questions because I cannot decide them alone. In what follows I act on the assumption that the questions above might be answered differently. That is, the best would be to come up with a structure that can accommodate whatever answer is given above.

Here are two proposals.

#### PROPOSAL 1 (ANNIKEN'S PROPOSAL with some tinkering by me)

1. Teaching in the common part is reduced to one or a maximum of one and a half days.
2. The teaching in the specialization part is aligned with the common part and is given at least one and a half days.
3. In addition, each specialization gets a day and a half to discuss the sketches of the essays 3-4 weeks after, i.e. 3-4 weeks before the essay is to be delivered.

Re 1), the common lectures could either be configured to fit the specific needs of the specialist teaching or not so configured but still take on more of the relevant topics than before. What is important is that there would be less teaching and more focus would be needed.

Re 2), this should make it possible that the specialist teachers can also lecture/teach and not just discuss the essays of the students. This would also make it possible for the common lectures to not only focus on specifically relevant topics for the doctoral students but also for whatever is deemed important to know about the theory of science.

Re 3), students would deliver their essays either on their own dissertation or on some other topic. The structure itself doesn't decide this. The proposal's point is just that there would be extra time for supervision in addition to teaching.

In this structure, there would still be two clearly separated parts of the course – the common lectures and, probably weeks later, the specialist seminars – and IFF's contribution would mainly be confined to teaching in the first part.

I take it that this structure is compatible with any answers to the main questions raised above. Still, this proposed structure is more amenable to a service-teaching model from the IFF's point of view. This structure clearly puts the emphasis on the specialist teaching side of the course (specialist teachers are the primary supervisors and also get more time). Accordingly, to run a structure like this, IFF need not be the course's sole administrator.

PROPOSAL 2 (Structure similar to SVF-8060, see attached 2020 programme)

1. Teaching takes the form of lectures and seminars (and possibly other formats such as roundtable discussions or plenary debates) in a two-week period. Seminars are aligned with the lectures – i.e. the seminars that follow the lectures on a particular discuss topics raised in the lectures.
2. The lectures are to be offered on specific topics comprising both of what is now common lectures (IFF) and specialist teaching.
3. Supervision takes place after the course has ended, although of course students are encouraged to think and talk about their essay ideas throughout the course (see my remarks below).

Re 1), there would be no gap between teaching and we would no longer talk about the first and second part of the course. Presently, each student spends 5 or 5 1/2 days with the course. In this format more would be spent possibly, but not necessarily (in SVF-8060, 8 days are used, but two of those days is used only by those students who sign up for an extra Library course; for the rest we are talking about 6 days). The advantage would be, though, that students would get diverse teaching forms on each day and diverse lectures as well.

Re 2), lectures are offered on specific topics that are deemed relevant for the course – that is, this would be a mix of common lectures and specialist lectures using our present vocabulary. Otherwise, there would be no difference, except that in this format, the specialist lectures wouldn't be offered only to those students who 'belong' to the specialist group. I personally regard this as an advantage, but it is up for discussion (we can exempt students from attending specialist lectures that are not in their specialization). The seminar discussion need not be of a supervisory nature (in SVF 8060 they are self-managed discussions on assigned readings), but they could be.

Re 3), as I say above, the natural way to proceed is to leave supervision for after the course. If this is not acceptable, then the seminars could be used to gauge students' interests in certain topics. However, some (most) supervision would still have to be offered after the course.

This proposed structure requires a much more radical transformation of the present course (it should be added here though that SVF-8060 constantly receives high praise from students). It is also a structure that is more amenable to being administered by IFF as course-owner. In this structure, neither side – specialist or common/generalist – need dominate and we could just regard this as an interdisciplinary doctoral-level course with a philosophy course code.

## Rapport fra «SVF 8054 Theory of Science End of Term evaluation»

Innhentede svar pr. 19. november 2019 13:35




- Leverte svar: **23**
- Påbegynte svar: **0**
- Antall invitasjoner sendt: **34**

### Med fritekstsvar





## Questions concerning background, preparation and contribution

### What is your scientific background? \*





Please choose only one option.

Svar	Antall	Prosent	
Humanities	9	39,1 %	
Linguistics	3	13 %	
Social sciences	11	47,8 %	

### How much of the required readings had you read before the course started? \*

Svar	Antall	Prosent	
None	0	0 %	
Less than 25%	9	39,1 %	
25-50%	10	43,5 %	
More than 50%	1	4,3 %	
Almost/All	3	13 %	

### How much of the required readings had you read by the time the course ended? \*

Svar	Antall	Prosent	
None	0	0 %	
Less than 25%	4	17,4 %	
25-50%	6	26,1 %	
More than 50%	6	26,1 %	
Almost/All	7	30,4 %	

### In case your answer was not 'All/almost all', please explain why this was the case: \*

- Selected most valuable reading for paper/presentations.
- I did not get the time to read everything before the course ended. The texts in the field of theory of science is really abstract and theoretical that requires more time to read than more empirical texts.
- Some readings didn't seem relevant, expected that the essential points would be touched upon in the lectures, it was an extensive list.
- Partly because I was late to get hold of the books (they were loaned at the library), and partly because I found little of the required reading relevant for my exam paper, and felt that I had to prioritize reading relevant to that. Lastly - and more general, readings take time, and with teaching and other work with my project I were not able to get through all the readings.
- We're not at the end just yet. But ... A lot of the English texts are very difficult to understand when you don't have the basic knowledge. This meant I had to read a lot of theory of (social) science in Norwegian first. Then start on the English texts. All together I've read a lot, but not as much on the list as I like to.
- First time with social science. It's been a struggle, but finally I'm getting closer to understanding
- Due to a death in the family I had little time to focus on the course. I also had some problems finding the Benton and Craig book, but got it just before the second part of the course.
- My answer was all/almost all
- Didn't have time, and didn't see the relevance of all the literature for my area.
- Reading and writing is a process, so I will continue reading on the rest of the literature while working on the final draft for my paper.
- It takes a reeeeeeeaaally long time to read philosophical literature, if you are not used to it...
- Too much reading that I couldn't connect my work to. Plus how to read so much without knowing what to look for? There should be a part on how to read in the first place.
- -

- --
- Not finished the Toulmin book, because of time problems.
- A lot of the literature was irrelevant for my project (too much nature science focus), so I picked the literature that was relevant, and added more not from the required reading list.
- .
- Didn't find much of the reading interesting and these courses already feel like they take too much time away from your work.
- ?
- -
- too much to read on too little time, given that there were other things to do, that had to be done.
- Not enough time
- Because it is a bit difficult to read philosophical stuff during one month as I have other important things to do.

### How would you evaluate your own contribution (i.e. course attendance; reading literature; preparing for lectures; active participation) to the course? \*

1: very low; 5: very high

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	9	39,1 % 	
4	11	47,8 % 	
5	3	13 % 	

### Questions concerning the common lectures

#### How would you rate the lectures? \*

1: poor; 5: excellent




Svar	Antall	Prosent	
1	1	4,3 % 	
2	5	21,7 % 	
3	6	26,1 % 	
4	9	39,1 % 	
5	2	8,7 % 	

#### Please explain your rating: \*

- Other than the lectures being very long and exhausting, I enjoyed them.
- I think they were very good. They contributed in giving a better understanding of the field of theory of science in general and about central discussions about knowledge production. I miss more explicit discussion about how the naturalistic approaches are relevant to the fields of humanities and social sciences.
- Difficult to follow some, unclear roles during lectures, less relevant than presumed content wise
- I have answered this before
- Too general. Not possible to see the relation between the lectures and ones own PhD-project. No hermeneutics at all! That was a disappointment.
- Første samling: manglende intro og link mellom de forskjellige foredragsholderne gjør innholdet utrolig vanskelig å forstå. Kunne ikke bidra med noe på første samling fordi jeg ikke forstod. De som sa noe virket som de hadde mer bakgrunn med vitenskapsteori. Flere som sa det samme. Greide ikke linke det opp mot spesialiseringen. Siste samling med spesialisering og oppgavegjennomgang var veldig bra. Likte Håkons presentasjon veldig godt. Burde den kommet før? Usikker på om det hadde hjulpet. Har vært en modningsprosess for meg og da hjelper tid og lesing på
- Interesting, but hard to relate to my own project.
- Most lectures were interesting, but some of them were less relevant
- Covered several subjects and gave a decent introduction, but perhaps too broad and too much focus at times on certain topics (e.g. paradigms)
- The lectures given the first three days of the course were very little relevant for my field of study, so I struggled to be motivated. There was too much of a natural science focus on philosophies of science. The lectures in the social science specialisation were really good, relevant and interesting for my research and field of study.
- They were good! Sometimes a bit too fast, when it comes to difficult concepts.
- Boring and didn't quite help my work
- They were good, but a bit too (natural) science specific.
- Perfectly structured, highly relevant and with good sense of humour.
- The course was very much related to standard philosophy of science, but not that much about interpretation.
- The lectures were good, even though there is always the challenge of interdisciplinarity, where it is very difficult to make everything relevant to each of us.
- Some worse than others but none were particularly interesting. They're too broad and all of it has been well explored throughout my years in academia.
- These lectures was waste of time. Too much nature science focus, and literature that was not relevant (even though I tried to make it relevant).
- There was too much material for a limited amount of time.
- The lectures had a logical setup with references to the readings
- Most lectures were interesting, illuminating and easy to relate to the literature. Discussions in small groups was great, especially how it was organized the second day.
- Very informative and well structured
- Everything was perfect and very interesting to listen.

**How would you rate the student-lecturer interaction? \***

1: poor; 5: excellent

Svar	Antall	Prosent	
1	0	0 %	
2	2	8,7 % 	
3	6	26,1 % 	
4	9	39,1 % 	
5	6	26,1 % 	

**Please explain your rating: \***

- Students were encouraged to engage with lecturers.
- I think the lecturers had good contact with the students.
- It was ok
- I have answered this before
- Same as my last comment.
- Bare få personer i klasserommet turte å si noe første samling. Mange sa det i pausen. Ble så abstrakt. Skulle hatt mer spesialisering og mindre av det vi brukte de to første dagene på. Hva med helt eget kurs bare på social science.
- Lack of connection between parts, lack of relevance.
- Interesting tasks and discussions in most of the lectures
- Easy to ask questions during the lectures, input from lecturers during group work
- Independent of the quality or relevance of the lecture, I thought student-lecturer interaction was good. There was always room for questions and dialogues.
- Great!
- Lots of questions taken but lecturers need to take a grip of the direction otherwise pointless discussions scatter the class and thoughts away
- Mostly good attempts to bring in the students perspectives in the lectures.
- All my questions were answered, I had an opportunity to actively participate in discussion
- The lectures have been good.
- We did not have much interaction in the general lectures, but in the specialization there was a lot.
- The lecturers did a good job activating us as students and ask for input in research fields different from their own.
- not much for the lectures. Some people dominated too much bad management of classroom
- I didn't feel like the lecturers "listened" to students. They raced through the material and didn't follow up on group work. There wasn't enough time for discussion. We didn't have a plan (of content) outlined at the start of the each lecture. That could have been a useful tool for students to follow.
- The student-lecturer interaction happened excellently for the humaniora specialisation, but less so for the general part
- i've got nothing to complain about.
- It was good to have Group work, but it should have been followed up more closely by the teachers.
- The lecturers organized the lectures in such a way that the students had to participate. Its great!

**Was the level of the lectures appropriate? \***

1: too easy; 5: too difficult

Svar	Antall	Prosent	
1	0	0 %	
2	2	8,7 % 	
3	13	56,5 % 	
4	3	13 % 	
5	5	21,7 % 	

**Please explain your rating: \***

- Some harder topics along with some easier/more familiar ones. I'd say its appropriate for the Phd-level.
- I think the level was appropriate considering that this is a course on phd level.
- Some too high, some too low
- I have answered this before
- See other comments.
- Første samling: skjønnte ingenting. Manglet intro og link til hva de to første dagene betyr for meg
- Appropriate level of the lectures.
- The level was appropriate for non-philosophy students
- Too much time spent on certain topics (e.g. paradigm shifts) which didn't do much beyond the "base level", while certain topics seemed to be too far into linguistics, i.e. not appropriate/relevant for some.
- For me this varied according to the first and second part of the lectures. As said earlier, the first part was hard to follow, as it was quite far from my research field. The other part was easier to understand.
- It was definitely challenging, but manageable!
- Yes but not taught properly
- My background taken into consideration they were perhaps a bit easy, but for the general group it seemed appropriate.
- Yes
- The standard philosophy of science was close to an introduction.






- again, the general lectures take down the rating. They were not difficult as such, but they were hard to "grasp" because they were so far from my own field.
- The lectures were overall useful, although some were obviously more relevant than others.
- It's not that they were too easy but they were all too general
- At certain points I felt like it was difficult to follow along.
- In the lectures from the general part, some lectures were less appropriate because I felt they were remotely relevant for my thesis, thus more difficult to understand
- no, thank you.
- yes
- I had no philosophical background.

## Questions concerning the specialist seminars

### How would you rate the seminars? \*

1: poor; 5: excellent


Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	1	4,3 % 	
4	9	39,1 % 	
5	13	56,5 % 	

### Please explain your rating: \*

- I enjoyed getting feedback and the "workshop" quality of the seminars.
- I found the specialist seminars in the second part of the course to be particularly useful. It made me see more clearly the link between the larger theoretical and methodological debates with my own field of research. The paper seminars were also very useful. Even though the students work in very different topics I found it very useful to read the others papers and commenting and listening to the comments from the group. This was helpful for my own work as well. It also gave me valuable feedback on my own paper.
- Knowledge, passion, drive of lecturer. Supportive and constructive.
- ....
- Possible to relate to one's own project.
- Håkon er kjempeflink. Veldig interessant og relevant.
- Better, more specific relevance.
- Interesting topics, engaging lecturer, interactive lectures
- Good to have focus on the assignment for most of the time, the more general lecture-part seemed a bit misplaced.
- I think the seminars were really good, as it gave space to go deeper into social science discussions, and to focus on the relevance for your own study. I liked the approach that this was supposed to be useful for our work, and not just a matter of obligations. The part where we had the presentation of the papers was especially good, as there was a lot of time set for feedbacks and discussion around each student's paper.
- Great!
- Anniken is fantastic in giving coherence to everyone's work in a way that you feel connected to everyone's work and still learn from them
- I feel like I learnt a lot
- Highly competent instructor
- Very much discussion, but not that many lectures.
- The humanities specific lectures were excellent, and I especially appreciate how much time has gone into making the papers useful to our research and our dissertations.
- The lecture with Leifulsrud were made relevant for our own projects. This lecture opened up for our own thinking. I think that more of the specialization lectures could be made directly relevant for our projects. Btw; I also enjoyed and learned a lot from the lecture where we read and gave / was given feedback on the papers.
- Anniken was great. A very useful reader and although the students work varied hugely the small group led to some great discussions
- I feel like we were "heard" and the content is useful for my own research project.
- The lecturer had enormous knowledge about the subjects discussed which could be communicated in an understandable way
- it was ok.
- It would be useful to have more time so that we could discuss more of the syllabus.
- the seminars were a kind of provoking. AND I always had food for mind.

### How would you rate the student-seminar leader interaction? \*

1: poor; 5: excellent


Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	2	8,7 % 	
4	6	26,1 % 	
5	15	65,2 % 	

### Please explain your rating: \*

- Engaging.
- The schedule was well organized, assuring that everyone got time both to comment on the papers and receiving comments on their own work.
- Excellent
- ..
- Ok.
- .
- Good feedback and more relevant.
- Very interesting discussions, feedback on our argumentations. Very valuable
- Same as previously.
- Good. The strict structure of the chairing and presentations helped to distribute time for everyone to speak and engage equally.
- Learning based on interaction and learning from each other
- Smaller group, so there was a good discussion flowing throughout all of the seminars.
- Paid attention to all students
- As earlier, very much discussion.
- Seminar leader was clear and firm. She was clear about how to do it and her expectations.
- Anniken Greve has given each of us thorough and thoughtful supervision and guidance that I have found to be most useful to my project.
- I enjoyed the seminars and got something out of it.
- I liked having the opportunity to sketch out our final exam paper and discussing it with our peers.
- Great interaction, especially in the sessions on the draft discussions
- There was enough space for interaction between the two, not only to discuss one's own concerns and questions, but also in relation to others in a non-judgmental way
- i got the impression that the seminar leaders wanted to be helpful to the students.
- Useful
- Great!

### Was the level of the seminars appropriate? \*

1=too easy; 5=too difficult

Svar	Antall	Prosent	
1	0	0 %	
2	0	0 %	
3	11	47,8 % 	
4	6	26,1 % 	
5	6	26,1 % 	





### Please explain your rating: \*

- Fine for PhD-level.
- I though it was appriate.
- Level was good.
- ..
- The last two days were good! Getting comments on your drafts from other students and teachers and reading other students drafts was useful and interesting.
- Første samling: spesialiseringen greide ikke helt å linke sammenheng ml det vi hadde hørt to første dager. Burde hatt mer tid på spesialiseringen første samling. Evt så burde alle lærerne introdusert seg ved oppstart dag 1. Og så sagt litt om hvordan det legges opp
- Appropriate level of difficulty.
- Appropriate for our level
- The non-assignment-related part of the seminars was at an appropriate level, more or less.
- Yes, because the seminars were based on the work that we are doing.
- Not too difficult, lots of time for questions!
- Called for some confusing reading and discussion but the seminar leader helped
- Learnt new stuff, was possible for me to grasp.
- yes
- The seminars did not have a large amount of teaching.
- Read above about Leifulsrud. The lecture that started from 14 on Oct 28. was too abstract to be directly useful. I don't like lectures where we need to go in groups to discuss topics. We need to start thinking about our own projects, and that is easier if we are allowed to reflect on our own. (I normally like team works, so it has nothing to do with whether or not I like to work with people. This has to do with opening up for creativity, and for me that happens when I am allowed to think on my own before discussing in groups). Leifulsrud had individual tasks, and that was brilliant!
- Obviously, in some cases, the interdisciplinary nature of the course entails that I do not understand everything to the degree that I can comment and contribute to the discussions, but overall, the level of the lectures have been great.
- We just discussed us paper so it matches ability - my answer is neutral.
- Just right.
- Some of the readings were quite difficult and I would have liked to go more into the readings. Because this was not possible, it became also difficult to understand some subjects discussed
- it was ok.
- yes
- A bit difficult as I cant think so fast

### Questions concerning the entire course

### How satisfied are you with the course in general? \*

1=not satisfied; 5=satisfied

Svar	Antall	Prosent	
1	0	0 %	
2	4	17,4 % 	
3	8	34,8 % 	
4	7	30,4 % 	
5	4	17,4 % 	

**Please state the three most important things that you have learned as a result of participating in this course: \***

- Not three things, but framing the questions in a philosophical way is helpful as my background is theory of science "for social science". Considering the same questions with a philosophical perspective was very useful for me.
- The larger issues and concerns in the theory of science, the importance of theory in defining the research project and its contribution, transparency and the importance of spelling out the assumptions that we make.
- Expanded my understanding of the hermeneutic circle Learned a great deal about definitions and concepts Learned about and my fellow PhD-candidates' thoughts and Projects.
- ..
- Currently I find it hard to answer this question. I think most of all I've learned how limited my knowledge within the field is. But - I've gained some knowledge from reading and writing. Attending this course has made me to so.
- Hva vitenskapsteori er Hvordan en oppgave og vitenskapelig tekst bør se ut Bedre forståelse av posisjonering som forsker
- The course lacks direction and the general part lacks in organization. Canvas is messy and poorly organized.
- Argument structure Falsification arguments, modelling Attitude towards phd project
- Use of- and understanding of theory - Relation of theory of science to my PhD-project as a whole - Structuring and aim of assignment
- I am not so satisfied with the first part of the course, as explained above, but really satisfied with the second part. - I have learned to be more critical about the literature and theories I use. - Useful to learn from students making quite different theoretical and methodological choices. - It is important to also learn about the approaches to science you are opposing, to be able to make a more well founded argument.
- I need to reflect about the theoretical assumptions in my field and clarify the special challenges of social science compared to natural science. I am also inspired to reflect on notions of truth and accuracy in my research.
- 1. PhD courses have mediocre to bad administration 2. Would have loved to learn more 3. But alas
- Basic theory of science Freshening up of informal logic A lot of stuff relating to writing a good paper
- 
- Hermeneutics, different projects of others and interdisciplinary approaches.
- I have learned more about argumentation, method, and how my project comes across for scholars from different disciplines.
- Institutional approaches to arguments and essay writing. Helpful to be clearly stated Seminars with students and teacher are far more useful than abstract broad lectures PhD courses are largely a waste of time
- 1) I learned from the feedback I got on my own paper. 2) I learned interesting things about concepts (leiflursrud) 3) I learned something about writing paper (but I wish we could have more about that)
- Giving feedback to other students' projects Working through difficult aspects of my own project Learning how to review material
- 1. Approach to theory 2. Approach to methodology 3. Discussions and problematics between the natural sciences and humanities/social sciences
- practicing on reading and commenting others texts, and listen how others read and comment the same texts. repetition of basic science theories and introduction to some new concepts, problems, and realms of thinking about them. Scientists are divine creatures. the course improved my toolkit for critical thinking.
- \* informal Logic \* methodological issues in other Fields of research
- Two main approaches to linguistics Different sources of the data and their disadvantages

**Did the content of the course meet your expectations? \***

1= not at all; 5=yes, fully

Svar	Antall	Prosent	
1	1	4,3 % 	
2	3	13 % 	
3	5	21,7 % 	
4	9	39,1 % 	
5	5	21,7 % 	

**Which parts of the course (if any), did you enjoy the most? Please specify: \***

- The workshop presentations (mini conference).
- The specialist seminars, especially the lecture with Håkon Leiflursrud.
- Seminars by far.
- The students paper presentations with feedback
- The seminar.
- Håkons del var veldig interessant. Innledet veldig bra for å skape forståelse videre. Likte oppgavegjennomgangen veldig bra selv om det var tøft.
- Specialization parts were better, but still lacking in relevance for my specialization.
- Specialist part
- The assignment-specific lectures, and the seminar on theory
- I enjoyed the seminar of the specialisation the most, because it was directly relevant for what I am doing in my research project.
- Discussion of drafts, having to dive into the ideas and concepts of other PhD students and their research projects! Getting thorough feedback from both teachers and students.
- Humanities specialization

- The specialist seminar
- The existential crisis discussing logic of scientific discovery
- The discussion of others projects.
- 1. Reading the students paper, give and receive feedback (Oct 29. was a good day!) 2. Leifulsrud's lecture Oct 28. Very concrete and made me think about my own project. I also like that he gave us individual tasks. That makes us think about our own projects. And that is the point with the course, right?
- I enjoyed Anniken Greve's specific feedback and input on all our project.
- Seminars where you are critiques on your work
- Establishing an understanding of what the theory of science is
- The specialisation course was most enjoyable
- small-group discussions. first sections of day two.
- The common course.
- Specialized parts: The object of Inquiry

**Which parts of the course (if any), did you enjoy the least? Please specify: \***

- None in particular.
- The lecture on modeling, because I dont thin it was very useful for most of the participants in the course. I think we spent too much time on it.
- Joint lectures by far.
- ..
- The common lectures.
- Hele første samling. Ingen sammenheng. Ingen intro. Ingen god link til spesialisering. Rart at det hovedsaklig var lærere som stilte spørsmål og nesten ingen studenter. Ikke takhøyde til å spørre, da får man dårlig interaksjon.
- General part was interesting in a general way, but did little to enhance my knowledge of the theory of science in regards to my project.
- First day because less relevant
- Common lectures, due to them being too broad to easily relate to my own work.
- As said before, I think the first part of the course was hardly relevant for my work. It was to much focused on natural science.
- /
- The one seminar I attended in social sciences
- The common lectures
- linguistic seminars
- The introductory course on informal logic.
- The general lectures. (read above)
- It is demanding to spend two whole days critiquing other students' PhD project, many of whom are far from my field of knowledge, but this has been useful as well. Even better info to us as students about the run course, the syllabus, the required readings and the exams would have been appreciated.
- The lecture and the amount of time requires
- Parts of the common lecture that weren't presented in an interesting way.
- There were large parts of the general section that I did not enjoy, for example the part on pseudo science
- day one, although the themes were interesting and explained clearly, it was tiresome. although the lecturer seemed to be very well suited to give the lecture, he also seemed a bit unprepared. part about paradigms on day two. specialized session at the end of the third day was a bit confusing, unclear content (or exhausted mind)?
- discussions on social science
- General parts.

**Do you consider the course relevant for you as a PhD student? \***

Svar	Antall	Prosent	
Yes	20	87 % 	
No	3	13 % 	

**Do you consider the course relevant for your PhD project? \***

Svar	Antall	Prosent	
Yes	19	82,6 % 	
No	4	17,4 % 	

**Would you recommend the course to other PhD students? \***

Svar	Antall	Prosent	
Yes	15	65,2 % 	
No	8	34,8 % 	

**Do you have other suggestions for improving the course? \***

- Not really.
- No.
- My three last answers need comments: I consider having such a course a necessity for a PhD candidate, but I would not recommend this particular course as a whole. The seminar groups were however VERY useful. Wish we would have had more specified lectures earlier. Finally, as always with the compulsory PhD courses in UiT the workload is somewhat too much for so few credits.
- I would neither recommend nor advise the course.. concerning this survey - I answered the last one very carefully with the comments I felt important to give feedback on, and used a lot of time on this. Having to fill out everything all over again (like my first answer does not count) I think is a ridicule of my time. I am highly provoked and will not take the effort to do it all over again! I know that this form also is about the specialist seminar - thats fine. But questions about the common lectures shcould not have been included here. At least there should have been a possibility to skip these questions in this survey (for those who already have answered the first survey).

- Split the group and the syllabus. Separate courses for linguistics, humanities, social science. Use one teacher. We are encouraged by the seminar leader to write in Norwegian, but the syllabus is in English. Should be possible to find both English and Norwegian literature on the syllabus.
- I would recommend the course if it gets a better structure especially the first day. Vitenskapsteorikurs er Viktor, men det må være et godt kurs da.
- Increase relevance for different specializations. Improve organization and information, especially in Canvas.
- no
- I did not see the point of the very first 2-page assignment. I don't see how the questions asked there relate to the rest of the course, and we never used the text again.
- It would be good to try to make the first part of the course relevant also for social scientists.
- no
- Yes.. much better lecturing required!
- Be a bit more specific about humanist and social science in the general part
- no
- More lectures on interpretation and less on philosophy of science, possibly in the seminars.
- Divide the general lectures. Today I feel that If I had chosen not to participate in the general lectures, I would still have the same degree of learning as I got from participating. And yes, I was active. I asked questions and took notes. I also read some of the articles before the general lectures: (measurements in science, models in science, science and pseudo science, thomas kuhn, the mechanical mind). So, my opinion is vested in a real effort to make this work. Do you consider the course relevant for your PhD project: both yes (specialization) and no.
- See box above!
- Maybe one lecturer for whole course and choose one that's a really good teacher. It was way to much time and effort for 7 credits. If we just have one day of lecture followed by one day of seminar that would be plenty!!!
- More group work, participation from students.
- I would recommend the course on the condition that would in the future account for different perspectives that are non-Western. I missed the inclusion of gendered perspectives as well. Are there no female philosophers that are taking up the philosophy of science? Where does the philosophy of science stand today, in 2019?
- After discussing with fellow students I have got the impression that many some struggle to see how some of the topics discussed in the literature and the lectures are of any relevance to their subjects. Although i don't necessarily agree, i see their point. on the first day it could have been some form of introduction clarifying the aims of the course and what it is not about. Given that the syllabus contains hundreds of pages with text about rather unfamiliar terms and frames of references, it could have been circulated even earlier. Announce that there will be some sort of tasks/discussions (specify the questions/problems, it triggers curiosity and/or motivates reading as way of maximizing the probability of avoiding the shameful feelings of being unprepared) related to the required literature during the common sessions. Also, the tasks should probably be included as part of the lectures.
- To have more lectures, especially in the specialization part.
- No

Se nylige endringer i Nettskjema (v771\_1rc1)

## Rapport fra «SVF-8054 Theory of Science mid-term evaluation »

Innhentede svar pr. 19. november 2019 13:36

- Leverte svar: **10**
- Påbegynte svar: **0**
- Antall invitasjoner sendt: **33**

How satisfied are you with the lectures in general? (1=totally unsatisfied; 5=very satisfied) \*

- 3
- 2
- 4
- 2
- 4
- 2
- 3
- 4
- 3
- 5

Please explain why you were satisfied/not satisfied: \*

- Generally i think the lectures were to monotonous, when it comes to teaching/working methods. I missed more group work (Michaels lessons had some), where we could summarise or discuss how we could relate the theme of the lecture to our field.
- Most of the general part was not relevant (with few exceptions). Even the part regarding Representation, which could have been very relevant for human sciences, but was more nature science focused. E.g. Mathematical equations and astronomy doesn't work very well with human sciences. The lecture about definitions was relevant. But failed to engage because it was mostly read from the pdf. The specialization was relevant, but because most of the days concerned the general topics, I rate according to the general ones.
- They were interesting in general. Although I find the natural sciences to be interesting, I feel more work could have been done to connect the extended discussion of those kinds of knowledge-production to the fields of research relevant to most of the students participating in this course.
- Most lectures fail to explain the link between the material and why it is important, how it will make us be better researchers. Almost all examples linked to hard science, few examples for social sciences.
- I think it was overall really interesting. However, I think in the beginning a general introduction to the world of theory/philosophy of science would have been nice! (Why is this relevant for every PhD student irrespective of their field of research? How will this knowledge/understanding benefit us as researchers? etc.)
- Some of the topics of common lectures were not directly related to the Humanities. Sometimes group work was not monitored properly.
- Good structure on lectures, relevant and interesting content.
- A bit messy and monotonous
- 1st day: the lecturer didn't seem to be fully prepared, which caused some confusion. Otherwise ok. 2nd day: generally very good, especially the two first sessions. Great questions for the group discussions. In the last session too much time was spent on explaining Kuhn's example of a paradigm shift. Guest lecturer, really interesting presentation of a tool for doing simulations, but failed to make a strong connection to theory of science. 3rd day: common lecture ok. Group session social sciences was ok and helpful.
- There were too much focus on the natural sciences, especially on day 2, and it was difficult to see the relevance abd applicability for the social sciences.

Was the level of the lectures appropriate? (1: too difficult; 5: too easy) \*

- 3
- 2
- 3
- 1. Because of lack of introduction ans sum-up to give relevance - also to social science people and real life research.
- 3
- 3
- 3
- 3
- 3
- 3
- 3

Please specify the lectures that missed the appropriate level, in your opinion, and state why: \*

- The level was Ok, I think. In such a big course - on a comprehensive theme as Theory of science, I know that all content cant be covered in the lectures. Therefore to get a better picture over the content of the course and the expected learning outcome, I think it would be smart that each lecturer states the goal for the lesson and also notifies why "this" topic are to be covered are to be covered in the lectures over other themes.
- Most of the general lectures (except the one regarding definitions) had very little relevance for my work.
- -
- Day 1, Jan Harald: an introduction is always helpful (totally lacking). All teachers should have been formally introcued in the morning (since all are not able to join the evening before). Day 2, Michael: same as day 1. Introduction and sum-up - the basic distinction between questions of onthology and questins of epistemology are not at all clear. Day 3, Fredrik: also hear, unclear what this is about and why it is important. In general: Was not able to contribute to most group work, feeling stupid (because I don't understand) most of the time does not help. Avery few people in the class room (except teachers) did take part in the discussions.
- /
- The lecture on Informal logic, cause the group work was poorly organised.
- .
- One too easy, one too difficult
- Day 1, somewhat unprepared. Day 2, too much time explaining an example instead of discussing the issues it was meant to illustrate. And maybe it would have been more appropriate to spend more time on examples of paradigm shifts in the social sciences. There was only a swift reference to the model of peopling the american continent (how is that a paradigm shift?).
- I think the lectures had the appropriate level.

**How well was the instructors' presentation of material organised? (1=disorganized; 5=organized) \***

- 3
- 4
- 4
- With the lack of introduction and summing up (what does this really mean in the way you do your research) I would say a 2 over all. Jan Harald: too much reading from the presentation. Understandable though with all the difficult text. Michael: only hard science, hard to relate. Fredrik: other forms of presenting than sitting by the table?
- 5
- 4
- 5
- 3
- 4
- 4

**Please specify the lectures that were disorganized, in your opinion, and state why: \***

- Michaels lessons. Generally I think it is totally ok not having a power point or any other written material. But when not having anything concrete to hold on to during a lesson I think it is difficult knowing what really is the purpose. Making some bullet points about what are to be covered or the goal of the lecture, could well have been written on the blackboard in the start of the lesson. then it would have been easier to follow the lecture.
- The teachers in the general lectures were organized, but I don't think anyone managed to frame the relevance for our work. It was unclear where they wanted with the lectures.
- All the lectures were fairly well organized. However, I would have liked more engagement with the required readings, and more time devoted to discussion.
- Mostly lack of a good introduction and sum-up. Why is this and this interesting, how is it linked to ontology and epistemology, should I be able to understand more of my ontological and epistemological standpoint - how?
- /
- The lecture on Informal logic
- .
- 1 well (PP), 1 medium (detailed script), 1 less
- all lectures seemed to be organized, but time is always an issue.
- I did not find any of the lectures especially disorganized.

**Were the instructors willing to provide help for students who needed it? (1= seemed unwilling to help; 5= seemed willing to help) \***

- 4
- 5
- 5
- 5. IFF seems like a different world. Still important to take into account that one might come from different disciplines and provide more examples also from social sciences.
- 5
- 5
- 5
- 5
- 5
- 5

**Should you have any comments on student-teacher interaction, please make them here: \***

- Generally, I experienced that the teachers were willing to provide help. Only, in the first lecture on Wednesday, in my opinion, the lecturer was a bit too quick answering questions from the students. This resulted in that the students did not get opportunity to elaborate and sometimes make his/hers question clear.
- n/a
- Not student-teacher, but teacher-teacher. Some of the discussions between the teachers (while a lecture was ongoing) was unhelpful; it made it harder, rather than easier to understand what the teacher was trying to communicate, and took time from the lecture.
- Only a few people dare to make comments in class. Might have something to do with tension between the disciplines.
- I really liked the fact that also the other teachers engaged in the discussions (I know it might not be the normal case that the teachers participate in all lectures, but I really enjoyed to hear the different standpoints :))
- In general it was fine
- The group assignment did not work very well. I am not sure why.
- The amount of lecturers and their need to participate made learning complicated at times. Discussions and comment were not always relevant, they were not presented and their roles were not clarified. However, a few of the discussions and comments (when brief) could help make things clearer.
- ok
- No comment.

**To what extent have the lectures increased your interest in the topic on which it is focused? (1=no effect whatsoever; 5=made me very interested) \***

- 2
- The general part = 1. the social science part: 4
- 4
- 3. I want to be a good researcher and to know my standpoint. I will continue to read more to get a better understanding, but I had imagined the course would help me further along the way.
- 4
- 3
- 3
- 2
- 3
- 4

**Please specify the lectures that you learned the most of, and state why: \***

- The first lecture with Jan Harald, because this was the lecture that it was most clearly for me how I could relate what we talked about to my own work.



- The specialization in Social sciences. This was spot on regarding phd and paper writing.
- The specialization seminar was really good, and it helped to be in a smaller group, where the conversation could flow more naturally.
- Specialisation: but still hard to grasp the real meaning of. Was not able to use the group work in a good way because of lack of understanding. Specialisation should have had at least one full day.
- I really liked the discussion about what science is. It may have been the most basic one, but I realized how diffuse my own definition of science is.
- The Mind and Human Sciences by Fredrik Nyseth, cause it was well-organised and very relevant for my project
- The lecture on day 3: these subjects were partly new to me.
- The very last session - it was specific yet managed to cover a number of basis in a heartbeat, relevant, and helpful to my project. The first was also good, easy to follow the powerpoint and relevant group work. The practical tasks day II were also good and focused.
- Lecture one and two on the 2nd day. It was really helpful in clarifying something that often is confusing/messy.
- I learned most from the general lecture on the third day of the course because I found it more relevant for my dicipline and for my own phd project. However, I think that it was unfortunate that the lecture only lasted half a day. I think that the lecture could have talked even more on for instance interpretation.

**My overall opinion of this course so far is (1=a very poor course; 5=excellent course): \***

- 3
- 2
- 4
- 2
- 4
- 3
- 5
- 2
- 3
- 4

**Please list the three most important learning outcomes for you: \***

- ...
- The specialization in Social sciences was relevant because it was directed towards the phd and the paper. The most important learning was in this part.
- I am not sure that I am in a position to properly reflect on learning outcomes from this course as of yet, as I would believe that any good, lasting learning outcomes from this course would first and foremost be visible in the thesis. However, to humor you: 1. It was good to get an introduction to informal logic. 2. The introduction to metrology could prove useful to maintain a critical view of empirical research. 3. I got some good tips for being self-critical about my research from the specialization.
- Hard to say. One step closer to an understanding, but still a long way to go.
- Reflecting on the definitions I use (and what type of definitions those are); figuring out the paradigm in which I am conducting my research; reflecting on the limits of my chosen methodology for explaining/understanding the phenomena which I am conducting research about.
- I have started to think about the place of my research in the wider context
- Problems related to method in the humanities and social sciences
- Relationship QL-QT, aspects of definitions, unclear understanding of science
- discussion of questions in small groups was a good exercise in thinking and explaining science theory in relation to my own field.
- I now have a better understanding of what theory of science is than what I had before the course started. How to read and interpret arguments. The difference of methods between natural and social sciences, and why the methods in natural sciences is not applicable to the social sciences.

**I should rate the instruction in the course so far as (1=very poor; 5=excellent): \***

- 3
- 4
- 4
- What does this mean? Instructions before we met in Tromsø: good
- 4
- 3
- 5
- 3
- 3
- 4

**Please explain why you were satisfied/not satisfied: \***

- ..
- The teachers was good, but as mentioned above, the general lectures was made very little relevant for my field (human sciences)
- -
- There is a missing link between all the teory, what is said from the teacher, and how this is linked to how I can become the best possible researcher. Maybe there are other articles that can help with this. For me (no ex-phil in the bag), it is very hard to grasp the mening. You might say that I have to be better prepared. Well, I have read a lot, nad I thought that the course would help mi with the link (some kind of translation) between theory and research.
- /
- --
- .
- It is evident that the involved lecturers are very knowledgeable and prepared, but the course is too ambitious in its attempt to cover all of the disciplines.
- Generally very interesting and its good training in thinking about science theory.
- Too much emphasis on the natural sciences.

**Is there a topic that the course should address that is not addressed, or that is being addressed but should not be? \***

- ..
- less focus on nature science and more about human science. Or have two separate courses.
- There should be a part about epistemology. How is the question of how we come to know things not relevant for a course like this?
- more hands on, maybe in the specialisation part.
- /
- --
- .



- I missed an introductory lecture focusing on the general scientific directions and lines before going into specific conflict areas. All of the topics that were presented and problematised were interesting, but it would have been nice to have some categories. Perhaps the course should be more tailored to the disciplines or offered in several shorter seminars of which the student could choose what would be most relevant. After a general first day.
- More time should be used on connecting the issues to "non-natural" sciences.
- Too much emphasis on the natural sciences.

**Any other comments on the course: \***

- I missed the course personell to present themselves in the very start of the course. It was obvious for me that some of the persons taking the word in the lectures in the start where not students. I would like to know who everyone was from the beginning, to know which field that were theirs base for discussion
- The point I am trying to make is that the lectures was not to difficult, but didn't meet my expectations in regards to relevance.
- -
- Maybe it is an idea to have 1 hour of specialisation each day to sum-up the take-aways from the day into the specialisation.
- I liked the informal Pizza-gathering, it was nice to get to know some people before the lectures started! :)
- --
- .
- There are too many requirements (submissions, presentations, attendance) for few credits.
- I am not sure if having a kick off event after working hours is a good idea. Maybe it would be better to do this in the lunch break of the first day.
- No

Se nylige endringer i Nettskjema (v771\_1rc1)

## SVF-8600, spring 2020

Time	<b>Mon 3 Feb</b> <i>Theme: An introduction to the philosophy of science</i>	<b>Tue 4 Feb</b> <i>University library course</i>	<b>Wed 5 Feb</b> <i>Theme: Rationality and disciplinarity</i>	<b>Fri 7 Feb</b> <i>Theme: Modelling, inference, and evidence</i>
09:15-10:00	Welcome, presentation, and overview of the course (Peter Arbo)	Evaluation and use of sources (Helene N. Andreassen/Eirik Reierth)	Are we as rational as we think we are? (Jørgen Sundby)	Models and modelling (Nigel Yoccoz)
10:15-11:00	Why philosophy of science? (Peter Arbo)		The logic of collective judgement (Michael Morreau)	
11:15-12:00	Theory and reality (Peter Arbo)			Reproducibility and inference under uncertainty (Nigel Yoccoz)
12:00-13:15	Lunch		Lunch	Lunch
13:15-14:00	Sociology of knowledge (Petter Holm)		From mono- to transdisciplinarity (Melania Borit)	Causal inference: confounding and statistical evidence (Nigel Yoccoz)
14:15-15:00	Seminar groups			Seminar groups followed by social gathering
15:15-16:00				

Time	<b>Mon 10 Feb</b> <i>Theme: Ethical positions</i>	<b>Tue 11 Feb</b> <i>University library course</i>	<b>Wed 12 Feb</b> <i>Theme: Research ethics</i>	<b>Fri 14 Feb</b> <i>Theme: Publishing ethics</i>
09:15-10:00	Ethical theory (Attila Tanyi)	Literature search (Helene N. Andreassen/Eirik Reierth)	Guidelines for research ethics (Michaela Aschan)	Publishing ethics: authorship, peer review, and reproducibility (Maarten Beerepoot)
10:15-11:00				
11:15-12:00	Ethics in the age of the Anthropocene (Jennifer Clare Heyward)		Seminar groups	Seminar groups
12:00-13:15	Lunch		Lunch	Lunch
13:15-14:00	Ethics in the age of the smart machine (Robert Jenssen)		Commercialization of research (Balpreet Singh Ahluwalia)	Seminar groups
14:15-15:00	Seminar groups		Politicization of research (Peter Arbo)	Info, Q&A about writing of essay, course feedback (Peter Arbo)
15:15-16:00			Seminar groups	