Course evaluation report BIO201 Ecology 2017 (spring)

Course design BIO201 spring 2017: A detailed overview of the learing outcomes, course design, learning activities, assessment and workplan for BIO201 spring 2017 is provided in Appendix 1 below. The main changes introduced from 2016 according to the course report:

1. Introduction of an oral exam (60% of final grade)
2. Fewer assignments, no 'textbook assignments'
3. New textbook
4. Much reduced use of lecturing and instead use group discussions and questioning (quizzes, pollev, group discussions) in class time, much inspired from team-based learning.

We kept the group projects and the written assignment with peer review, including an option for selecting and structuring the topic in dialogue with teachers. The oral exam replaced the 'textbook assignments' partly with the intention of making class time more relevant - and the activities in class was designed as an exercise towards the oral exam.

Interestingly, a research team from UiO followed the 2016 version of the course. They recorded the dialogues between students that appeared during the group projects, with particular reference to how students responded to or make meaning out of feedback and comments from teachers. A paper is just published from this study:

Rachelle Esterhazy & Crina Damşa (2017): *Unpacking the feedback process: an analysis of undergraduate students' interactional meaning-making of feedback comments*. Studies in Higher Education, DOI: 10.1080/03075079.2017.1359249.
Link to this article: http://dx.doi.org/10.1080/03075079.2017.1359249

One key point from this paper is how comments made by teachers should be open to dialogue and not dominate the meaning-making of students. Learning is enhanced when students have to construct their own understanding and knowledge, rather than seeking a single correct answer defined by the teacher.

Observations 2017

Statistics: 38 students signed up for the course, and 31 students completed the course. The final distribution of grades are shown in Fig. 1.

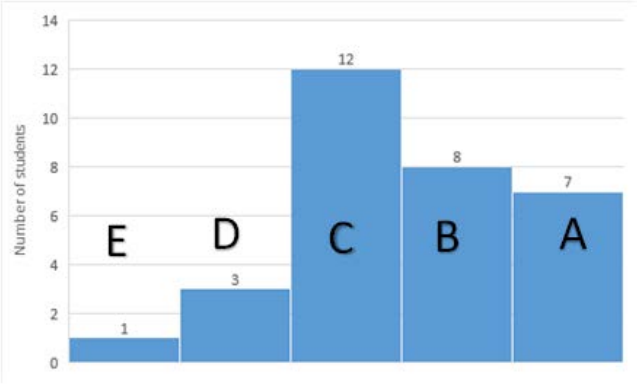


Fig. 1. Grade distribution.

We changed the class-time activities to include very little lecturing, mainly started with an individual quiz and then group discussions on the same questions with an IF-AT scratch card. The pollev sessions made it easy to follow the students' attendance in these activities (Fig. 2.)

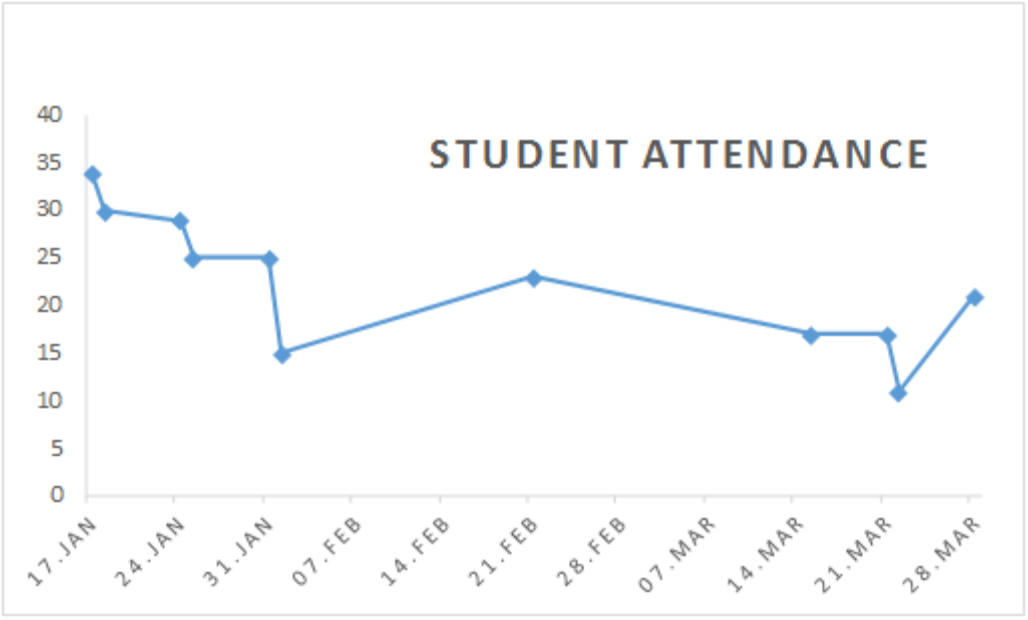


Fig. 2. Student attendance based on pollev responses in class.

The attendance dropped the first week, and then stabilized around 20 students each class (Fig. 2). However, attendance was lower (down to 10-12 students) at a few meetings with no PollEv registrations. The activities in class did not count towards the final grade. We asked the students about attendance in March, to map reasons for not attending the classes, and present the survey results in this hyperlink. The most important reason for not attending is collisions with or periodic workload from other classes. Only 3/19 states they would drop class if they were unprepared. Students also wrote comments in this survey (see Appendix 2). Several students point out that we had drifted towards traditional lecturing for a period, and they missed the scratch-cards. One reason for this was the subject content, not all elements are suitable for quizzing (e.g. population dynamics). Also, some students was not comfortable with their groups.

Group projects. There were two written group assignments, both of which required some basic computing and statistical analysis. The first (about the Holling disk foraging model) assignment had a three-fold purpose; 1) to improve understanding of the Holling disk experiment (using a NetLogo computer model), 2) to compare the numerical simulation results with the analytical Holling disk equation and 3) to present data graphically. The group received written (and oral if needed) feedback on a first draft (using MittUib), after which a final version was submitted. We (the instructors) tried to draw on experience from last year by clarifying our expectations in the assignment questions. Unfortunately, this caused more confusion than clarity, which, in turn, had to be mediated by extensive email communication between the groups and the lecturer. The students were somewhat frustrated by this. Next year, this assignment might be replaced by tasks more closely coupled to the classroom activities and text book curriculum. We used Excel in both the life-table analysis, and in the

population dynamics, and it would be natural to follow up these tutorials/lectures with smaller group projects.

Written assignment. The guidelines for the written assignment can be seen in Appendix 3. The students had to negotiate their topic with the teachers in a separate assignment, and they used this opportunity to a very variable degree. The written assignments covered a wide range of topics, and students did an excellent job in commenting on eachothers texts. This activity has many similarities with a scientific writing process, they negotiate a theme, write a text, receive feedback from two reviewers and a general summary comment from the editor (teacher). Mitt UiB has very good functionality for peer-review of assignments, although some students struggled to upload their comments in the right place. Need to be more clear on that next time!

Student evaluations. In addition to the midterm survey (Appendix 2) students also evaluated the course after it finished. First, we surveyed the students (Appendix 4), then the study section sent out an independent survey (Appendix 5). Our own survey can be seen here. One clear point from this is that students liked the quizzing activity in class and the group discussions, while the group projects are not as popular. The written assignment is much appreciated, while the students are more divided about the commenting. Interestingly, most students spend much less time on the course than the expected 13-14 hours, actually 3/4 of them report to spend less than 10 hours per week. Possibly we overestimate the workload in our course design.

Some reflections and improvements for next year

As strongly recommended in the TBL literature, we constructed the groups instead of letting students do it themselves. Unfortunately, we did this only after a few rounds. Also we did not think about the language issues when we assigned the groups. Next time this has to be managed more strictly, ensure the possibiltiy of students to use Norwegian also, not just English in their groups.

Generally, we have found a model that works reasonably well for the course, particularly for class activity and the written assignment. We need to work on the group projects - maybe have smaller projects more frequently, and better integrate them in the class activities and curriculum. Some sort of evaluation of group effort from peer students would be an interesting experiment. We also need more focus on meta-reasoning and training in collaboration for the group projects.

Appendix 1 – Course outline and details

BIO 201 Ecology Spring 2017

Aim and content

This course provides an introduction to basic ecological theory on individual, population and community levels. Life history theory, population growth, competition, predator-prey, parasitism, diversity, successions, species compositions, distributions in time and space, metapopulation- and community ecology are important topics for the course. There is strong emphasis on quantitative analysis and written assignments. The course aims to provide a basis in ecological theory and demonstrate the social relevance of ecology, including harvesting of natural resources and management of ecosystem services.

Learning outcomes

After completing the course, the student should be able to:

1. describe and explain basic ecological theories, concepts and models
2. summarize selected ecological methods used in field and lab and discuss the use of modelling
3. apply some statistical and numerical methods actively to analyze ecological processes
4. identify and explain links between evolution, ecological adaptations and ecosystem functioning
5. discuss relevant, contemporary and applied ecological issues in light of ecological theory
6. write independent texts on ecological themes using a scholarly language and format
7. construct precise illustrations and graphs of data, theories and simulations and draw conclusions from them

First meeting: Tuesday 17th of January, 12:15 in room K3, Biologen, Thormøhlensgt. 53B, ground floor, B-block (to the right after main entrance).

Lectures/group work: At 12:15-14:00 Tuesdays and 14:15-16:00 Wednesdays – in room K3, Biologen. (19.01 – 13.04). See detailed schedule in table below. In this course, we aim for student-active learning processes, where we replace traditional lectures with group discussions, quizzes, tutorials and of course group- and individual assignments and projects.

Computer lab: We include two projects involving tutorials and exercise in modelling and statistics.

Teachers: Øyvind Fiksen (course leader), Anders Opdal (post doc) and Adele Mennerat (researcher).

Assessment: Oral exam (60%), various individual and group assignments (40%).

Required reading: we use the textbook '**Elements of Ecology**' (9th Ed. Global edition, 2015). This book is relatively easy to read and provides an overview and introduction to modern ecology. The book is for sale at e.g. Akademika. We estimate you read about 3-4 pages per hour in the book.

Chapters included as curriculum: 1-2, 5-17, 20, 27, about 420 pages in total. All of these are relevant for the oral exam, but are emphasized to various degrees.

Workload

266 hours is the standard workload for 10 ECTS. The total workload is divided into a series of learning activities, each involving an estimated number of hours of work.

Learning activity	#	Time factor	Hours	Grading weight
Class meetings	18.0	2.0	36.0	
Tutorials (computerlab)	6.0	1.0	6.0	
Written assignment	1.0	30.0	30.0	15.0%
Assignments, groups	2.0	20.0	40.0	20.0%
Reading the book	420.0	0.33	140.0	
Feedback/discussions	2.0	0.5	1.0	
Peer review	2.0	5.0	10.0	5.0%
Oral exam	1.0	1.0	1.0	60.0%
In total			**264.0**	**100.0%**

Learning activities

Class meetings/lectures: We will meet regularly and work our way through the main textbook. The schedule for these meetings is presented in MittUiB, and in the table below. A central goal of the course is to learn to 'describe and explain basic theories, concepts and models' in ecology. In the oral exam, you have to demonstrate this knowledge, and during class meetings we will prepare for it through organized group discussions, quizzes and tutorials. Bring a computer or a smartphone. To benefit from this exercise, it is essential that you read the relevant chapters before class. If you lag behind in your reading – prioritize reading the chapters that are relevant for next class, and return to the backlog later. Learning outcomes: 1, 2, 4.

Group work/computer exercises: The two group assignments involve some basic computer modelling or statistical data analysis, so bring your laptops for these tutorials. Groups of 3-4 students will be predefined by the instructors. Learning outcomes: 3 & 7.

Written assignment and peer-review: The course also includes training in writing a scholarly text on an applied and contemporary ecological issue. This may be an environmental issue, related to harvesting, or global change, or other themes that we agree on as suitable during the course. The assessment criteria and expectations for the assignment will be presented in detail. In total the workload is set to 30 hours for this part. As an introduction to the scientific process of peer review, you will also be asked to read and comment on two other student's assignment – in addition to comments and feedback from the teachers. Learning outcomes: 5 & 6

One of the core academic values and an inherent element of a scholarly text is to give credits to your sources and earlier work, and to be able to separate own contributions from others. All elements in the portfolio is checked for plagiarism using Ephorus. Remember, plagiarism includes copying text (including translating) word by word from other sources, even if it is referenced. Learn more about this here and watch this. Note that the learning outcome is your ability to write independent texts, meaning you have to develop your own perspective on the topic you write about.

Detailed workplan Spring 2017:

Date	Who	Theme	Learning activity
T 17.01		Introduction. Learning outcomes and activities.	Read and prepare before each class. Group discussions in class, exercises, quizzes, lectures. Prepare for the exam by answering questions and solving problems in class meetings – all relevant for the exam.
W 18.01	ØF	Chapter 1. Intro	
T 24.01	ØF	Chapter 2. Climate	
W 25.01	AFO	Chapter 5. Adaptation	
T 31.01	AFO	Chapter 6. Plants	
W 01.02	AFO	Chapter 7. Animals	
T 07.02	ØF	Chapter 8. Populations	
W 08.02	ØF	Chapter 9. Populations	
T 14.02		No teachers..	
W 15.02		No teachers..	
T 21.02	AFO	Chapter 10. Life history	
W 22.02	AFO	Tutorial on Group project 1	Work in teams to solve the ecological modelling exercise
T 28.02		Winter holidays	As above – read textbook, be prepared for class discussions as preparation for oral exam
W 01.03		Winter holidays	
T 07.03	ØF	Chapter 11-12. Population dynamics	
W 08.03	ØF	Chapter 13. Competition	
T 14.03	ØF	Chapter 14. Predation	
W 15.03	AM	Chapter 15. Parasitism	
T 21.03	AM	Chapter 16. Communities	
W 22.03	AM	Chapter 17. Community structure	
T 28.03	ØF	Chapter 20. Ecosystem dynamics	
W 29.03	AM	Tutorial on Group project 2	Work in teams to do a statistical analysis
T 04.04	ØF	Writing academic texts	Think about and work on your written assignment.
W 05.04	ØF	Chapter 27. Climate change	Work on your written assignment and the group projects.
W 05.04		Submit Group project 1	
T 18.04			Submit a draft of your written assignment for comments by teachers
T 25.04		Practice for oral exam?	
F 28.04		Submit group project 2	
T 16.05		Submit written assignment	
W 31.05		Submit peer review	Write peer review

			Prepare for exam
May/June		**Oral exam**	
		Final grades	

Appendix 2. Student comments to mid-term evaluation (focus on attendance in class)

Other comments? (Anonymous poll in mid-March, after a few classes with low attendance)
The system at the beginning of the semester worked the best, I think. I realize that some of the recent chapters are hard to cover in that style, but it would be nice to go back to it. The scratch cards were really helpful!
I think we should continue with the polls and working with then in groups. Lately I've noticed a shift toward more standard lectures. And I think I learned more when we worked I groups with the questions. Also: sometimes we don't get to know what is the correct answers afterwards (for example today, 21. March). Which is annoying, because then we don't know if we got it right. And also we don't discuss in our regular groups anymore.
I miss the TBL we had in the beginning of the semester, where we got questions and discussed them in groups. That worked very well! It has kind of gone from TBL to a half-lecture sort of thing. In one of the classes we didn't get to discuss the questions because it became a lecture instead.
I had a lab course which kept me from attending a few times. The same course has field work in a few weeks so I will miss lectures then too. I attend as many classes as I can; but don't feel it's a major crisis if I lose one as I find the subjects easy to read up on and understand. I have skipped class once in the beginning due to not having read the chapter as I felt I would get more out of reading it by myself st that point rather than proving my skills in the group. But that was once and it hasn't occured since.
I find that the teachers sometimes just tend to confuse me more. Other times the classes are good, but I often think that the time i put into the class doesn't equal the learning outcome.
I have had so much to do in other classes (and with my Msc. thesis) and this is probably one of the easier ones I am attending (as I am an Msc. student and this is a Bsc.-level class). I really enjoy this class though because of the interactive quizzes etc., so I wish I had more time for it. I think it is a good idea to encourage students to read before class and then work with that new knowledge in class, this has definitely made me remember the content better. However, to read around 60 pages each week in addition to all the other articles etc. I have to read and work on the two assignments for this class at the same time has been quite a lot, especially since I am not a fast reader (when I am reading to try to remember it after). I managed to follow this course well in the beginning because I did not have any clashing courses yet and because the material was easier to remember then (Takes longer to learn numbers, equations etc. than plain text). Hope this feedback helps you understand why I'm not attending as often anymore and that it's not because I don't enjoy this course. I know a few other Msc.-students who also have clashing courses/labs etc., however I cannot speak for the rest of the "lot" so I guess there could be a million reasons why they're not attending.
Jeg liker ikke gruppen min fordi de ikke vil diskutere ting, vi sitter bare der å ser på hverandre så jeg sluttet å møte opp. Jeg vet ikke om dette har noe å gjøre med at vi ble tvunget til plutselig å diskutere pensum på engelsk.

Trur det har vore dårlig oppmøte pga ein midtsemestereksamen i BIO210, som mange som tek BIO201 har.

Appendix 3. Guidelines for the open assignment.

I recommend looking into our library web pages for some general advice (start here).

1. The **topic** of the assignment can be quite broad, but must of course be related to the content of BIO201. Find a topic that interests you, but also think of it as an opportunity to learn something new, or to dive into something you are curious about. It must be ecology, and the textbook is a good guideline about what is within the domain of ecology.
2. The **format** of the assignment can also be diverse, but you should be clear on which format you choose. One format that I expect many of you will use is the essay, in the English meaning of the word (not personal). This is an open format, but remain academic, objective and factual. You may also frame your piece as a research paper even if the materials and methods section probably will be quite thin. This means using the classical IMRaD style of journal papers. Another format is the literature review, summarizing the state-of-the-art within a subject. Although, within the time frame you have available it could be using the textbook, and supply it with a few other recent research- or review-papers as the background material.
3. The final assessment of the task will be connected to how well the **learning outcomes** are achieved, so keep them in mind when designing your text. Overview, methods, linking ecology and evolution, contemporary and applied ecological issues, using journals and literature, independent texts, originality, creativity, scholarship are some relevant phrases from the learning outcomes.
4. The **length or volume of the text** should be reasonable for the time allocated to the task. As a rule of thumb students write 50-200 words per hour, so about 1500-3000 words (+ references) as a guideline for this task. Remember, the scientific style is quite dense; 'wordiness' and irrelevant anecdotes are not appreciated in academic texts. Do not exceed 5000 words, including references.
5. Use theory from the textbook (if applicable) and from the scientific literature as part of the assignment to infer or discuss your topic. Develop an independent text, do not simply reproduce information from other sources.
6. **Refer to your sources**, and maybe try to learn to use a program like EndNote. Use of references are part of writing scholarly texts. Do not trust secondary sources, find the original references in the peer-reviewed journals, be critical to loose claims and postulations. Explore and use scientific databases like ISI Web of knowledge and review journals like Trends in Ecology and Evolution. Remember, if you are on the UiB network (or using vpn to UiB) you have access to almost all relevant scientific literature.

In addition to these points, I have also developed some rubrics which may clarify elements of what I will be looking for in the grading of the assignments:

Above expectation	**Expectation**	**Sufficient**

•Scholarly text and format, using ecological theory relating to the textbook or relevant core literature. Theory is consistently applied in a sound way on a relevant case or environmental issue.	•Scholarly text and format, some use of ecological theory relating to the textbook or relevant core literature. Theory is applied on a relevant case or environmental issue.	•Scholarly text and format, relating to the textbook. Some theory is applied on a relevant case or environmental issue.
•Demonstrate an excellent overview, and include a synthesis and analysis of the chosen topic. References are used scientifically, and mainly from peer-reviewed literature.	•Demonstrate overview, knowledge and understanding of the chosen topic. References are used extensively, including some scientific papers.	•Sufficient overview, knowledge and understanding of the chosen topic. References are used without errors, and refer to at least one scientific paper.
•The task is original, critical and independent, well structured and written. Clear style and in line with the genre. The text is balances and objective, not opinionated, and all claims are substantiated.	•The task is critical (not opinionated) and independent, well structured and written.	•The task is well structured, independent and without major errors.

Here are some more general advice:

What am I looking for in your texts? It is not easy to specify exactly what a good assignment text is. We have many different types of written texts: reports, essays, research papers, reflection notes, short pieces of text just to check your knowledge (as in exams), reviews, and many more. But here are some general tips and guidelines:

- The content must be correct and relevant to the task. Factual errors or text not relevant to the issue can lead to lower grades, and actually be worse than writing nothing.
- The ability to communicate and to use your own words are important. Do not only reproduce what is written elsewhere, but show that you have made it your own and that you have have understood it. If something is unclear or difficult to understand, it may not be you, but your sources that are the problem. Maybe the issue is not very clear or have a final answer - this is often the case in ecology. You can benefit from being honest about this, and just point at the uncertainty as you see it.
- Compiling information across several biological levels is not easy, but essential to understanding in ecology and science in general. What is the link between what is happening at one level (e.g. the ecosystem) and another (individual)? Try to

take a reductionist approach where what happens on a level is driven by what is happening at a level below.
- Show that you master and understand the terminology of the subject - use professional terminology where appropriate.
- Feel free to use external sources, and refer to the resources you use. If you make a claim about something, how do you know this? Where is the information from? Learn to use the ISI database (we will provide an introduction) to find relevant literature and that you can distinguish between quality assured and other sources, and perhaps also to assess the quality of the sources you use for scientific criteria? There is huge differences in the power and reliability of methods. The devil is often hidden in the details.
- Be critical to information from secondary information from the web, organizations, news, and even from scientific papers. Do not accept the explanation you've read if you do not understand it or if the methods used has weaknesses. Evaluate any controversies in a balanced manner. Feel free to objections or question what you have been told or read. Agitation or rhetoric's does not belong here - a substantiated and often sceptical attitude is what we strive for.
- Limit yourself! Brevity and sticking to your theme is a quality in scientific writing and publishing. Avoid wordiness and text that are not adding any new information or value.
- Never copy sentences from other texts! This is not allowed even if you are referring to the source (unless it is put in quotes and it is intended as a direct quote). It is a form of plagiarism. Write your own text, make it your own, independent piece of work. You are free to collaborate, read and comment on each other's texts before submitting them, of course.

Appendix 4. Student comments 1 (teachers questions)

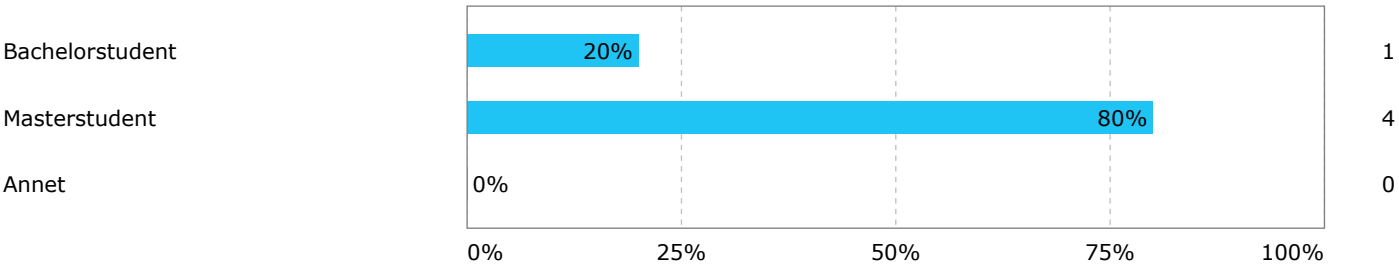
The good parts..	.. what can be better, or suggestions for future courses
I really liked the structure of the course. Lectures were good, group work was good (everyone in my group participated in given tasks) and the examination was also a very good experience. I loved that mittuib was used to its fullest and that the expected amount of hours spent on the course was shown to us in the beginning of the course. Personally I was way too busy this semester I didn't get to spend the time I wanted on the course, but by showing the students what's expected I think it might be more likely that they spend the expected amount of hours!	The part about parasites was really interesting, but the lecturer seemed a bit insecure. This might have been due to some misunderstandings between students and lecturer - but all in all lecturer was good! Feedback on group projects could perhaps be given a bit earlier
Fantastic course, really interesting to discuss things in class, although as always it is a shame that some people don't participate. Multiple choice questions were well thought out with options that encouraged full understanding of the subject. It was great to be able to choose our own topic for the written assignment.	The group work was difficult, it could have been better explained and the second part seemed strange as we were doing an analysis of results without using statistics which seems contrary to correct methodology. As a 2nd/3rd year course I was expecting it to be a bit more in depth, some of the early chapters were fairly basic and some of the chapters we didn't study in the book were really interesting, maybe include more of these later chapters.

	Ønsket meg mer forelesning om de vanskelige temaene i boken. Jeg opplevde at de enkleste og klareste delene i boken ble forelest, mens de vanskelige delene skulle diskuteres i gruppen. Det var ikke særlig lærerikt når ingen i gruppen hadde forstått det og vi ikke fikk en forklaring på det i ettertid. Kunne vært en fordel å få ha muligheten til å være på en norsk gruppe, for å gjøre det enklere å være med i samtalen. Jeg følte ikke jeg klarte å delta noe særlig i diskusjonene fordi jeg ikke snakker engelsk like bra som utvekslingsstudentene. Det samme gjelder for gruppeoppgavene.
Er generelt fornøyd med tanken på oppsettet til kurse : liker at formen ikke er som annen tradisjonell undervisning. Som student er man ikke like passiv i sin deltakelse. Har også fått jobbet med økologi på en annen måte. Tenker da på at formålet med gruppeoppgavene er god, og læringsutbyttet av å skrive en oppgave koblet til en økologiske utfordring gav meg mye. Kjekt med Pollev og multiple choice i grupper/skrapelodd Flott med orakel før muntlig.	Som nevnt er tanken med oppsettet på kurset godt, men funker ikke alltid like godt i praksis : - Gruppearbeid: å jobbe i gruppe har fungert ok. God idé å sette sammen personer som ikke kjenner hverandre, men funker ikke alltid. Noen er ikke god til å samarbeide og det kan bli vanskelig å få til et godt arbeid når eks. noen på grupper ikke vil høre på andres forslag eller er åpen for idéer og kritiserer alt arbeid som blir gjort. Det er heller ikke alltid så lett å måtte diskutere og forsvare sitt arbeid på engelsk, og dermed ikke bli hørt på gruppen. Mange har også jobb på siden av studiet og det har ikke alltid vært enkelt å kunne planlegge å møtes. Det er det en fordel at flere av oss går på samme studiet og dermed kjenner hverandre bedre, er vandt til å jobbe sammen og det er enklere å snakke sammen utenom klassen og få til møter. Ser selvfølgelig den gode intensjonen og fordelen med å jobbe sammen med noen man ikke kjenner, men det kan godt nevnes at ikke alle samarbeid har fungert like godt. Kan føles ubehagelig å komme til timene når samarbeidet i gruppen ikke har fungert. - Tidligere frister: siste innlevering hadde frist da det var under to uker til muntlig, og tilbakemeldingen på tekster var i perioden med muntligeksamen, det ble da litt mye å gjøre og kunne vært unngått hvis frist for gruppearbeid hadde vært forskjøvet til litt tidligere. - Savnet tradisjonell undervisning: Selv om det er kjekt med noe annet enn tradisjonell undervisning savnet jeg i ettertid at pensum hadde blitt gjennomgått mer av foreleser/assistenter. Bra med diskusjon i gruppene, men savnet en "rett" forklaring på pensum, og ikke bare gruppens idé og svar på spørsmålene. Eks. Savnet en riktig definisjon gitt av foreleser ikke av en medstudent.
-focus on interactive class, no usual lectures -keeping focus on the book -good textbook, easy to read and nice illustrated -final grade depends on more than just the final exam, very good since we can show more knowledge and skills in different tasks	I think the course is great and there might always be something that can be done better. I cannot think of something really important right know.
The group discussion helps a lot to "digest" the course, and remember it.	It can be nice to have the answer for the poll questions.
I learned a lot from the group discussions and the different activities we did in class.	The group projects where a bit hard with so large groups, it would be easier to work together if the groups were smaller, maby 2 to 3 people. It was also a bit hard to understand what was expected of us.

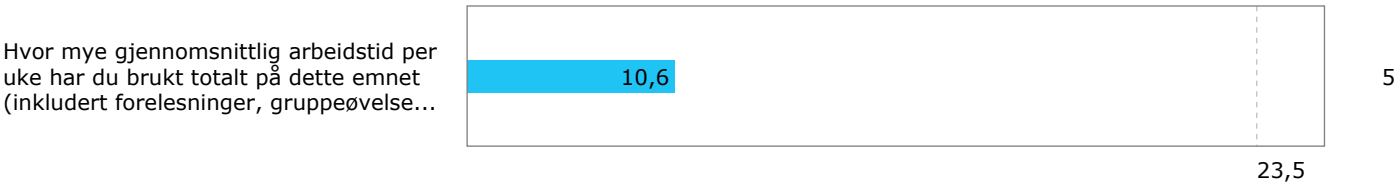
The groups in class, and the multiple choice. very fun and I learned a lot from discussing the questions	do the same for all the chapters, with multiple choice and group discussions.
I liked the group discussions, but i think there were to few of them. It was very good that you were available during class and after, and responded to our emails fast and with a nice reply. Mostly I liked the way the course was held but you should have had more discussions when we didn't have normal lectures. During the oral exam you guys were nice and calm, which made it easy for me to relax.	If the questions handed out before the oral exam for each chapter was a part of the lectures throughout the course we would have had a much broader understanding. I think it was a waste of time when we (often) used two whole lectures on around ten pollev questions when no reflection of the subject was needed. I understood it as a test if we had read the chapter, not as a help to really understand it. The group projects was poorly written and very hard to understand, but we did get good help when we sent emails about it. Finally, you need to book another classroom. When you were sitting in front there was no problem at all, but the groups in the other classroom did not hear a lot.. And it kind of separated the class. Not ideal.
Diskution tycker jag alltid gör det lättare att komma ihåg pensum och pröva sin förståelse. Att få skriva vetenskapligt är alltid bra träninng!	Multiple chocie kan vara bra men tyckte att det var lite väl många frågor som var tvetydiga. Gupprprosjekt var bra när det gällde excel övning men uppgifterna kunde ha varit tydligare för att vara mer lärorika.

Appendix 5 – Evaluation form by the Study administration

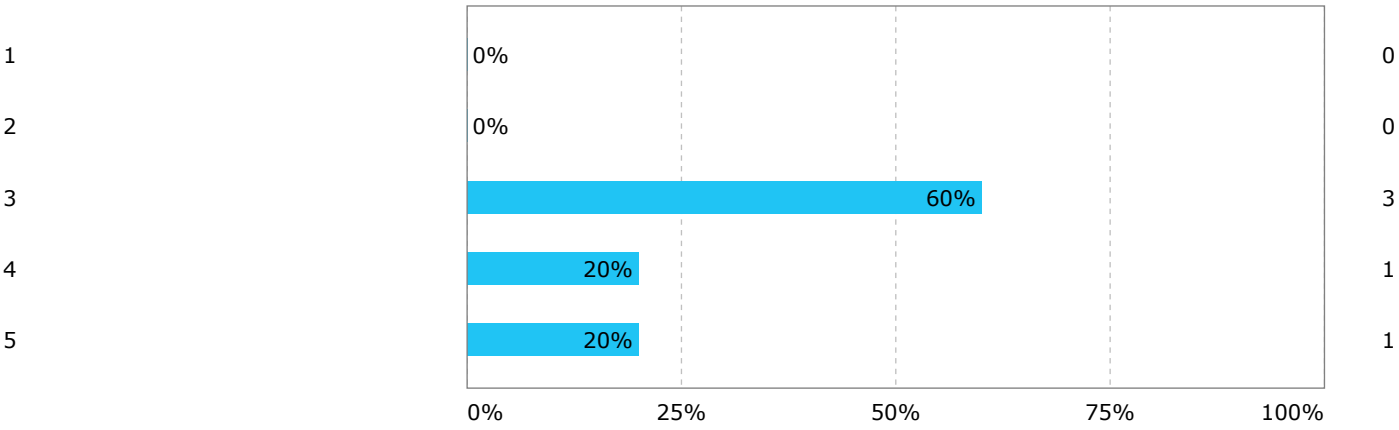
Er du?



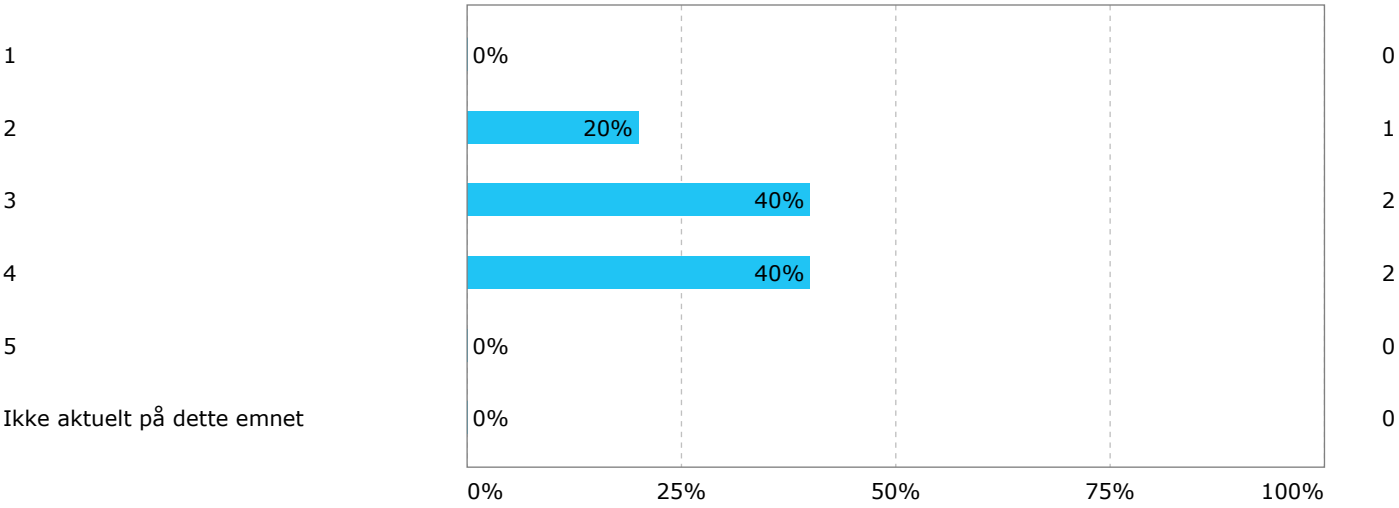
Er du? - Annet

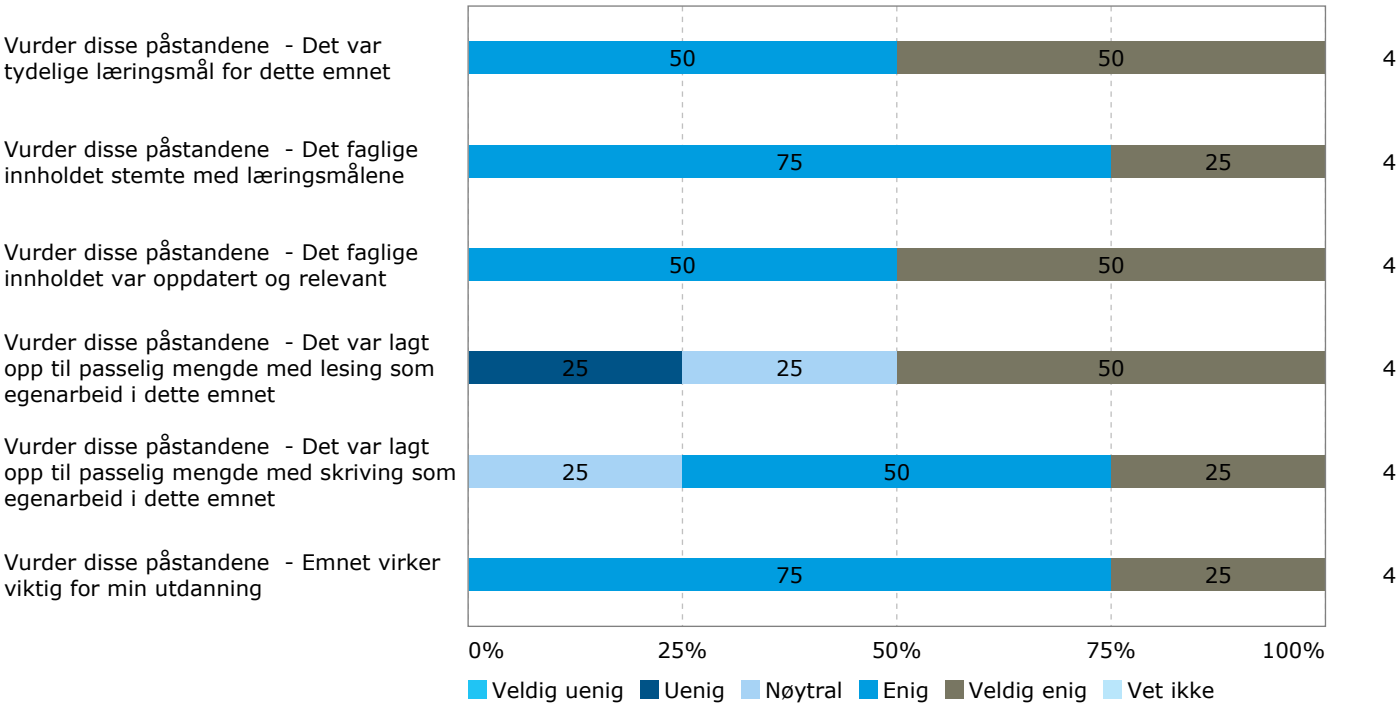


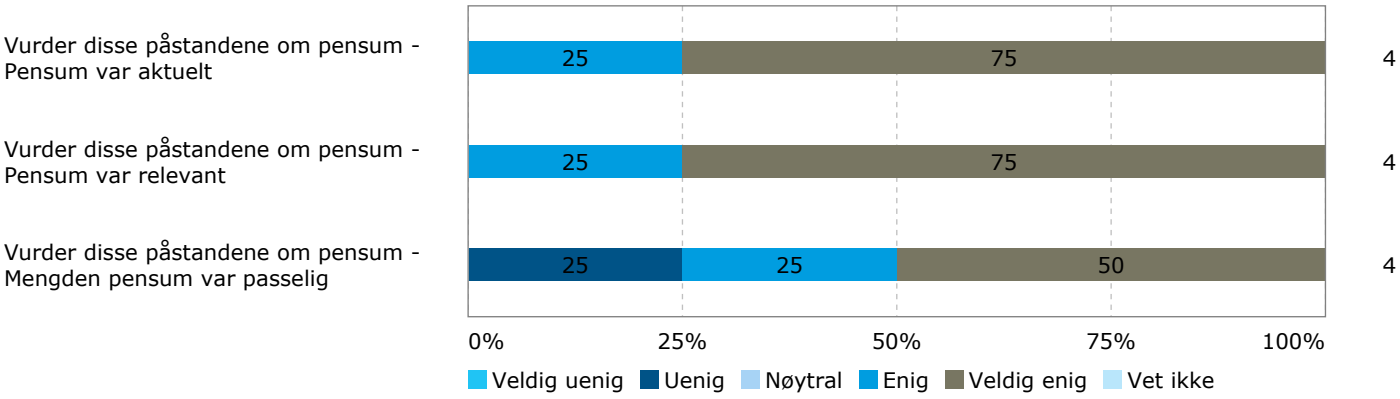
Hvor mye teoretisk kunnskap har du tilegnet deg på dette emnet? (1 = ingen, 5 = mye)



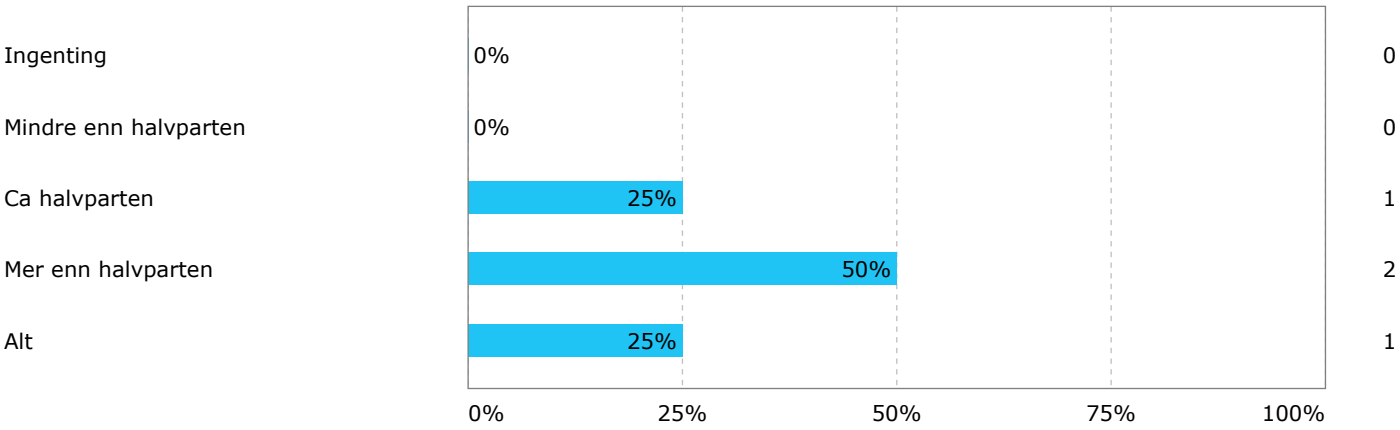
Hvor mye praktisk kunnskap har du tilegnet deg på dette emnet? (1 = ingen, 5 = mye)



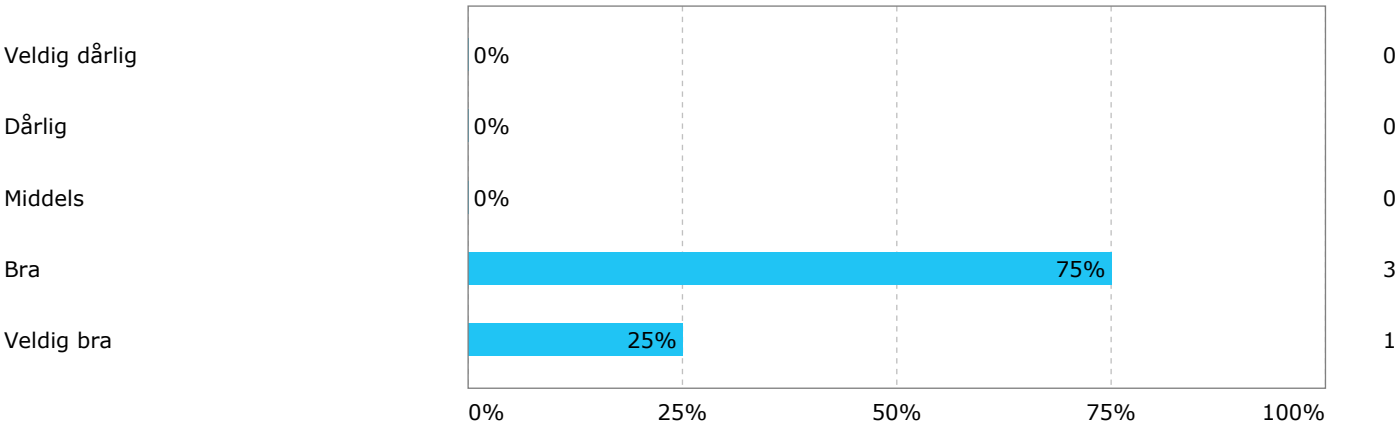




Hvor mye av pensum leste du?



Hvordan vil du evaluere emnet som helhet?



Hva likte du mest med dette emnet?

- Quiz
- Læringsmål var tydelige, og det ble sagt tydelig, fra starten, hvor mye tid det var forventet at vi skulle bruke på det. Det var quizer, gruppearbeid og en fagansvarlig som virkelig hadde satt seg inn i mulighetene mittuib kan gi og som var åpen for forslag og hele veien ønsket tilbakemeldinger. Har alt i alt vært en av de beste fagene jeg har tatt når det kommer til strategi og formidling.
- At det var en god blanding av forelesinger og praktiske øvelser, samt oppgaveskriving. De fleste forelesingene var også veldig varierte og ikke en ''typisk'' forelesing der foreleseren står og holder et foredrag

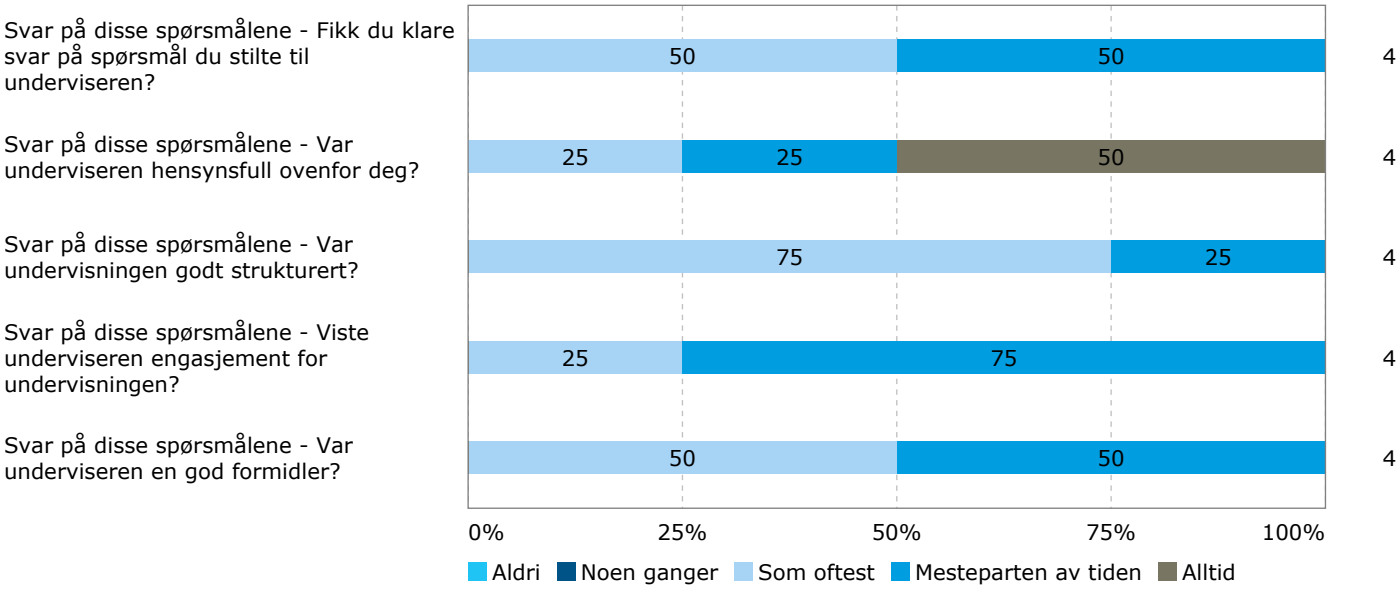
Hva likte du minst med dette emnet?

- Lese så mye hver uke
- Første gruppeoppgave som ble gitt var litt forvirrende i beskrivelsen, så mange måtte spørre om forklaring. I gruppeoppgave to var det feil i datasett o.l. Det er småting, men ting som kanskje kan forbedres og dobbeltsjekkes neste gang. Tilbakemeldingene på gruppeoppgavene kom også veldig sent, så iveren etter å se hva responsen og tilbakemeldingene var, var litt borte da de først kom
- At man ble satt i grupper og ikke fikk bestemme selv. Jeg ser fordelen i hvorfor det ble gjort, men dessverre kom jeg i en gruppe som ikke helt fungerte og det var noen unnasluntreresom ikke bidrog like mye til fellesoppgavene. I tillegg følte jeg ikke at jeg fikk like mye utbytte av diskusjonenen, da jeg følte at de andre ikke ville diskutere rundt temaene, men bare komme fort frem til et svar

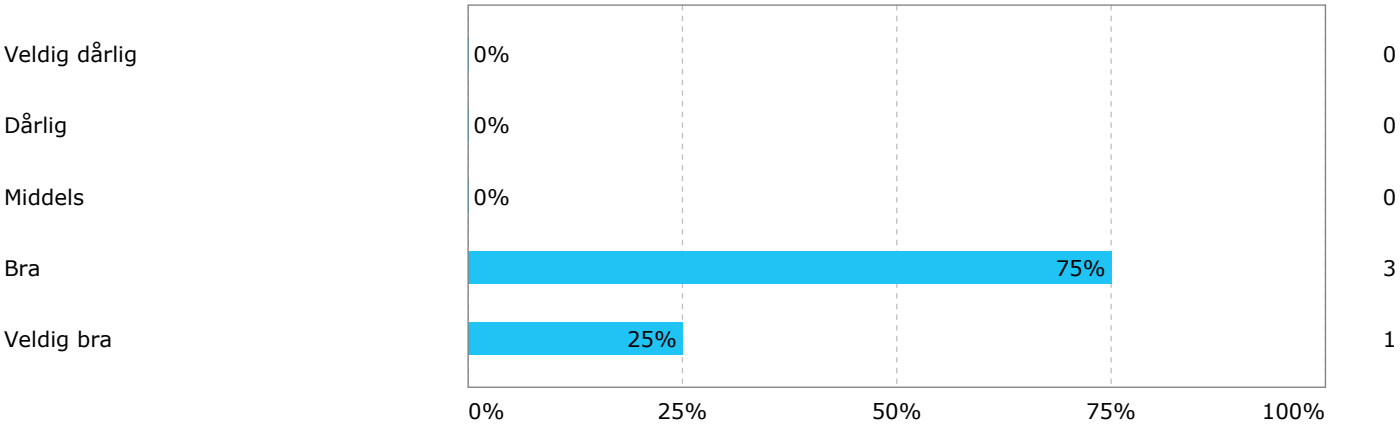
Har du forslag til hvordan emnet kan forbedres?

- Det jeg nevnte som det jeg likte minst er vel det jeg mener kan forbedres. Ellers synes jeg emnet har vært helt nydelig utført!
- Kanskje vurdere å la studentene velge grupper selv?

Tilbakemeldinger på organisert praktisk undervisning?



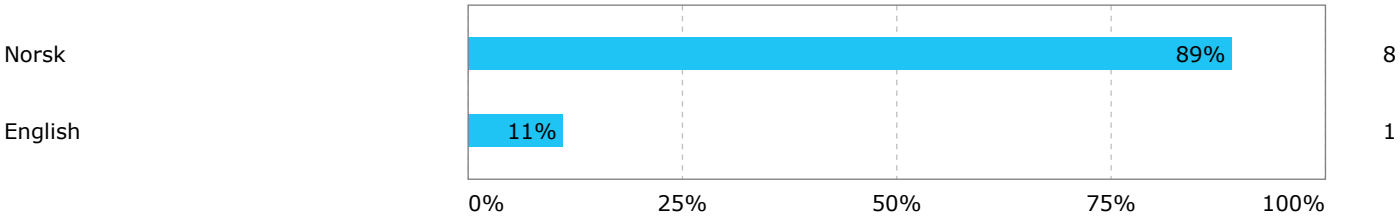
Hvordan vil du totalt sett evaluere underviseren(e)?



Har du forslag til hvordan underviseren kan forbedre sin undervisning?

- En av underviserne snakket lavt og satte ikke veldig klare mål for oppgaven hun/han organiserte.
- Det var snakk om flere undervisere i dette tilfellet, og det var litt forskjell i kvalitet til tider. Forelesningen om parasitter og mutualister var ikke den aller beste da både foreleser og studenter virket litt forvirret av hverandre på noen tidspunkter. Ellers var ting veldig bra

Språk



Samlet status