

Emnerapport BIO201 Økologi 2018

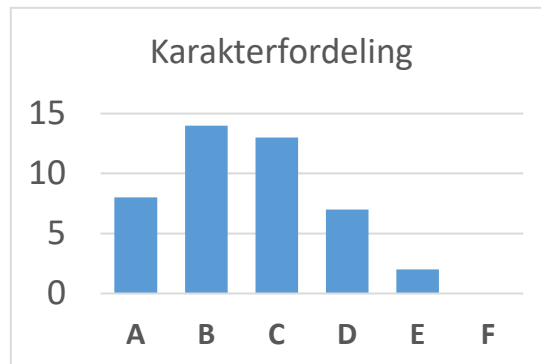
Emneansvarleg: Øyvind Fiksen (70%), Assistent: Anders F Opdal (30%)

Kursdesign (sjå vedlegg A)

Statistikk

Antal studentar som fullførte emnet: 44

Karakterfordeling:



Studentevalueringar (sjå Vedlegg B)

Generell kommentar og vurdering (emneansvarleg)

Formatet på BIO 201 var ganske likt som i 2017, basert på eit team-based-inspirert opplegg der forelesingstida i klassen stort sett var å svare på spørsmål og quiz, først individuelt i PollEv og så i gruppa med IF-AT skrapelodd, og til slutt gruppediskusjon om meir generelle spørsmål. Denne fellesaktiviteten i undervisningsrom er retta inn for å få ein aktiv diskusjon mellom studentane om stoffet i læreboka, og er retta inn mot muntleg eksamen – dei spørsmåla og quizzane som vart lagt fram var alle aktuelle for muntleg eksamen. Det var godt oppmøte gjennom heile kurset (også 08:15-10), så her er inntrykket at studentane hadde godt utbytte.

Gruppene samarbeida også om tre oppgåveinnleveringar i Excel, ein om livstabellar, ein om livshistorie og ein om Lotka-Volterramodellen. Det var tydeleg at få av studentane hadde mykje erfaring med rekneark frå før. Studentane arbeidde med desse temaene i klassetida, og det kunne vere litt kaotisk med mange som arbeidde med gruppeprosjektet samtidig, på nokre få PC'ar. Her kan det hende at nye undervisningsrom kan gjere denne typen samtidig arbeid med rekneprosjekt meir praktisk. Ein av studentane meiner det kunne vere betre å levere inn individuelle svar, men med samarbeid i gruppene (Vedlegg B). Det kan absolutt vere verdt å forsøke.

Vi hadde også ei individuell skriveoppgåve, med student-student tilbakemelding (peer review). Kvar student gav skriftleg tilbakemelding til to andre studentar, med funksjonaliteten som ligg i MittUiB for dette. Studentane la mykje arbeid i dette, og det kom tett på muntleg eksamen og sikkert mange andre eksamenar. Ein del hadde starta i god tid og fått tilbakemelding undervegs – men for enkelte vart det sikkert noko hektisk på denne tida (som påpeika i studentevalueringa). Det er likevel ganske vanskeleg å unngå, og den totale arbeidbelastninga er ganske bra avmålt (sjå kursdesign, Vedlegg A).

BIO201 var i år eit forsøksemne der studentane fekk høve til å vurdere kvarandre sin innsats i gruppene, og med opning for å nytte denne informasjonen i endeleg karaktersetting. Alle studentane deltok – og informasjonen derifrå gav utslag på endeleg karakter i eit par tilfeller.

Muntleg eksamen med 44 studentar gjekk greit, men krev ein ekstern sensor med fleksibel timeplan.

Utforminga av dette emnet er resultat av ein del eksperimentering med ulike læringsaktivitetar og har gradvis tatt form som eit meir reindyrka 'Team-based' emne. Denne prosessen er skildra i dette paperet:

Rachelle Esterhazy & Øyvind Fiksen (in press). *Evolution of portfolio assessment in ecology: a four-year course design cycle*. UniPed.

Det er fortsatt mange element som kan utviklast vidare, særleg gruppeprosjekta, men som nevnt i emnerapporten 2017 så har det begynt å finne sin form.

Appendix A Course outline and design

BIO 201 Ecology Spring 2018

Aim and content

This course is an introduction to basic ecological theory on individual, population and community levels. Climate change, life history theory, population growth, competition, predator-prey, diversity, distributions in time and space are important topics for the course. We also emphasize quantitative analyses and academic writing as generic skills for ecologists, and the relevance of ecology to society: How should we harvest of natural resources? Which challenges do climate change create to organisms?

Learning outcomes

After completing the course, you 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

General info

First meeting: Tuesday 16th of January, 08:15. Thormøhlens gate 51 (VilVite), Konferanserom A/B. At VilVite, two stairs up.

Class activity: We prefer student-active learning, and the time in class include much group discussions, a mix of individual and group quizzes, and some tutorials related to the group assignments and projects. You will only encounter a few traditional lectures. The exam is oral, so you can think of the activity in class as a preparation for the exam. In addition, it is more engaging and fun to talk and discuss with others than to just sit and listen, and you learn and remember more. Therefore, attend classes and prepare for it by reading the relevant parts of the textbook.

Work in groups: At the beginning of the semester, we split all of you into groups of 5-7 students. You work in these groups throughout the course, in class and with the group projects. Parts of the class activities are preparations for the projects, and you can work with the projects in some of the class time, with supervision from the teachers.

Working with others is an important skill. In fact, employers are looking for collaborative employees, and your ability to function within a group is a key success factor in academic life. In the end of the course, you get an opportunity to rate the contribution from all your group members and this weigh in on the final assessment.

Teachers: [Øyvind Fiksen](#) (professor, course leader) and [Anders Opdal](#) (post doc).

Required reading: we use the textbook ‘**Elements of Ecology**’ (9th Ed. Global edition, 2015). This book contains all you need to know for this course, and provides a readable overview and introduction to modern ecology. The book is for sale at e.g. [Akademika](#). We estimate you read about 2-3 pages per hour in the book. Chapters included is 1-2, 5-14, 20, 27, about 325 pages in total. All of these are relevant for the oral exam, and some of them for the group projects.

Workload & assessment

Assessment: Oral exam (60%), various individual and group assignments (40%). See the table below for more details. We provide the exact criteria and rubrics for all assessment activities as the course progresses, in MittUiB.

Workload: 266 hours is the standard workload for 10 ECTS. The table below specifies the estimated workload on each learning activity, and its particular weight in the final assessment.

LEARNING ACTIVITY	#	TIME		GRADING WEIGHT
		FACTOR	HOURS	
Class meetings	16	2.0	32	
Written assignment	1	70.0	70	20.0%
Assignments, groups	3	15.0	45	15.0%
Reading the book	325	0.33	108	
Peer review	2	5.0	10	5.0%
Oral exam	1	1.0	1	60.0%
In total			266	100.0%

Learning activities and outcomes

Class meetings/lectures: We will meet regularly and work our way through the main textbook. You find the schedule for these meetings in the table below. Note that the calendar in MittUiB have more slots (classes) than we actually use, but it is the plan below that is correct. We announce changes or deviations at MittUiB, so make sure you follow the information there.

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 your computer or at least a smartphone. 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 developed here: 1, 2, 4, 5.

Group work/computer exercises: The three group assignments involve use of a computer to model populations, life history and ecological processes, most of it using spreadsheets and Excel. The main goal for these assignments is to solve a problem, and present the solution to it in graphs, not to write long essays. Learning outcomes: 3 & 7.

Written assignment and peer-review: You also get training in writing a scholarly text on an applied and contemporary ecological issue. Choose an environmental problem, something related to harvesting, global change, or other themes where ecological reasoning is important. Start thinking

about a theme early – you can suggest a theme in MittUiB and receive comments and suggestions from the teachers until 23rd of February, which is the deadline to decide on a topic. We will specify assessment criteria and expectations for the assignment in detail in MittUiB. The expected workload is set to 70 hours for this part. You also have to read and comment on two other student’s assignment – and receive comments and feedback from the teachers on both your own assignment and the comments you have received. The peer review is part of the final grading (5%).

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. We routinely check all assignments for plagiarism using Ephorus. Remember, plagiarism includes copying text (including translating) word by word from other sources, even if you refer to them. Learn more about this [here](#) and watch [this](#). The art of the game is to write well referenced, but *independent* texts – where you develop your own perspective on the topic. Learning outcomes: 5 & 6

Detailed workplan BIO201 2018:

Week	Date Time	Who	Theme/Textbook chapter	Place
3	16.01 08:15	ØF	Introduction. Forming groups. Learning activities.	VilVite A/B
3	19.01 12:15	ØF	Introduction. Learning activities.	HiB – Stort aud.
4	23.01 08:15	ØF	Ecology as a science. Chapter 1.	VilVite A/B
4	26.01 12:15	ØF	The climate system and ecology. Chapter 2.	VilVite A/B
5	30.01 08:15	ØF	Populations. Chapters 8.	VilVite A/B
5	02.02 12:15	ØF	Life tables. Chapter 9.	VilVite A/B
6	06.02 08:15	ØF	Life tables. Intro to the group project.	VilVite A/B
6	09.02 12:15	ØF	Group project 1 Age-structured populations	VilVite A/B
7	13.02 08:15	ØF	Finding scientific literature. Critical reading and writing. Intro to written assignment.	VilVite A/B
7	16.02 12:15	ØF	Writing/commenting/reviewing Stylish academic writing.	HiB – Stort aud.
8	20.02 08:15	ØF	Competition within species. Chapter 11, 12. NB! Why is life the way it is?	VilVite A/B
8	23.02 12:15	ØF	Competition among species. Chapter 12, 13.	VilVite A/B
8	23.02 12:15		Deadline: Find a topic for the written assignment (individually).	
9	27.02 08:15		Winter holidays (no teaching)	
9	02.03 12:15		Winter holidays (no teaching)	
10	06.03 08:15	AO	Adaptations. Chapter 5.	VilVite A/B
10	09.03 12:15		No teaching (BIO-party)	

11	13.03 08:15	AO	Plants. Chapter 6.	VilVite A/B
12	20.03 08:15	AO	Animals. Chapter 7.	VilVite A/B
12	23.03 12:15	AO	Life history theory. Chapter 10.	VilVite A/B
13			Easter holiday	
14	03.04 08:15		No teaching	
14	06.04 12:15	AO	Life history project intro.	HiB – Stort aud.
15	10.04 14:15	AO	Group project 2.	VilVite A/B
15	13.04 12:15		Guest lecture?	HiB – Stort aud.
16	17.04 12:15	ØF	Predation Chapter 14.	VilVite A/B
16	20.04 12:15	ØF	Predation and harvesting. Intro to group project 3.	VilVite A/B
17	24.04 08:15	ØF	Group project 3. Population dynamics.	VilVite A/B
17	27.04 12:15	ØF	Ecosystem energetics. Chapter 20.	VilVite A/B
18	04.05 12:15		Guest lecture?	HiB – Lille aud.
19	08.05 08:15	ØF	Ecology of climate change. Chapter 27.	VilVite A/B
19	11.05 12:15		No teaching	
20	15.05 08:15		Deadline: Submit written assignment.	
20	18.05 12:15		no teaching	
21	25.05 13:00		Deadline: Submit peer-reviews.	
	28.05- 08.06		Oral exams	
	22.06		Final grades	

Appendix B Student evaluation report

#	What I liked about the course	Things that may be changed or improved
1	Engasjert foreleser med smittende humør som gjord faget veldig interessant. Bra tilretteleggelse av norsk og engelske grupper så godt det lot seg gjøre. Tidlig start på semesteroppgaven og kjekt at vi kunne skrive personlig og om det temaet en interesserte seg for.	Veldig omfattende fag som tar mye av studietiden til de andre fagene, Semester oppgaven var bra lagt opp med god tid, men gruppe oppgavene ble kanskje litt omfattende. Gruppe oppgavene var også vanskelige å fordele likt og følte bare noen på gruppen fikk utbytte av dem.
2	Likte pensum. Gruppearbeidet hvor vi svarer på spørsmål fra kap. til kap. med skrapelodd. Flink og engasjert emneansvarlig. Likte at vi fikk muligheten til å velge gruppe basert på språket vi snakker, dette gjorde gruppearbeidet mye lettere!	Jeg skulle ønske vi hadde litt flere forelesninger, og ikke bare gruppearbeid i hver time. Mengden og tidskrevende gruppeoppgaver (3 gruppeoppgaver i excel+ individuell innlevering, og peer review av 2 oppgaver) er alt for mye med tanke på at vi har andre fag som også må prioriteres. Skulle ønske det var mer variasjon i gruppeoppgavene, dvs. at ikke alle oppgavene gjøres i excel. Det kunne blitt laget mange andre interessante oppgaver med tanke på bredt pensum.
3	Jeg likte gruppeoppgavene, selv om de var litt for vanskelige innimellom, også likte jeg muligheten til å diskutere med studentene i forelesningene.	Gruppene kunne vært valgt litt annerledes, da det var vanskelig å finne tidspunkter å jobbe sammen (ingen hadde andre felles fag). Hvis ingen i gruppa forstod et tema fikk ingen forståelse for emnet, så det burde vært en miniforelesning en gang i uka for å gå gjennom temaene, ikke bare anta at noen i gruppa forstod og de kunne forklare til resten. Term paper var bra, skulle gjerne hatt litt mer oppfølging, kanskje et første utkast eller noe for å vite hvordan man skal skrive Gruppeoppgavene kunne vært plassert med mer mellomrom. Det var bare dager mellom oppg 2 og 3, og dette var i starten av mai, hvor eksamenstiden begynner. Flere studenter hadde da 2 gruppeoppgaver og en term paper i dette faget pluss 2 eller flere eksamener på bare 3 uker.

4	The term paper and group work was a good way to engage students.	While I think the term paper and group work was a good idea I think that the execution of them could have been better. One problem with the term paper was that the deadline was very close to the exam period and the peer review even closer. People generally do most of the work close to the deadline and therefore this meant that there was a lot of work to be done very close to the exams. Because the grade on the term paper count less in regard to the final grade than many exams it also makes it so that students are more likely to not put in that much work on the term paper and rather halfass it and focus on other exams. I would therefore expect that you would have gotten better papers and peer review if the deadline had been earlier and it would also have been better for the students due to them being able to completely focus on final exams. I also think you could have been more clear about what we were supposed to do regarding the group assignments. A lot of time was spent in the different groups trying to figure out what you wanted us to do and it caused great frustration.
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<p>5 Although I needed to adjust to the format of the course at first hand (quizzes, group work etc.), I was very surprised how the set up worked for learning something. I am normally used to bare lectures, and that you make your own notes afterwards... This course really made me do the reading, and prepare for class, so that my group would score well in the next quiz. Our lecturers were really nice and helped us, whenever we had questions. It was good, that we could argue some questions in class after the quizzes, so that we got into some scientific discussion. I really liked that. Although some of the class might think, that the modelling parts were super difficult - I found it really good to not have just a descriptive look onto Ecology, but also to get to know some models/maths behind some phenomena. I also want to mention that I really liked the term paper. We had so much freedom to choose the topic and could just work on it without any stress. We got so much support by the lecturer and it is good to learn how to write such a paper. I already wrote term papers, but it was the first time we did the peer-review, so that felt like we were already working as real scientists!</p>	<p>All on our group agreed on one thing: We struggled a bit to distribute the workload among the group participants equally, due to the given tasks. We were just too many people to work efficiently, although we tried our best of course. It is good to brainstorm the tasks and discuss in the group together how to solve it, but I think it would have been better if everyone handed in a single solution to the tasks. It would first of all guarantee that everyone understood what we did in the group (I sometimes thought that only a few of us, really got behind the problem and got something from the task). The group would be there to discuss the results and help everyone doing it on their own and understanding it. So everyone could reproduce the results and it would maybe be also good for the final exam. Secondly, since we worked a lot with Excel etc., and although we made use of google drive etc., it was very hard to split the parts and work efficiently on the tasks. During the first group assignment, we had at some point 5 or more excel files to later put together - it was very difficult to keep the overview then. Later on we decided that we just work in one Excel sheet, but that led to that only a maximum of 3 people worked for the tasks and the others could just watch, did not really understand what we were doing and tried to keep up. So since the ones that understood the tasks and could understand the Excel stuff behind it, did it then, the final workload was left to one or two persons. We always tried to explain it to the others and include them, but I think we all got an overview over the tasks but you have to do the Excel etc. to really understand it. So if everyone in the group is forced to hand in a solution, the final grade could be first evaluated a bit fairer I think, everyone would have been on the same in-depth knowledge level and got to work with Excel (what is so important), and it would not have been upto one person to do the editing afterwards by themselves. The concept of solving these group tasks were really good and it helped to discuss it with the others, but I am kind of convinced that if I would have had the possibility to hand in my own excel sheet, I would have done better than the</p>
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work we did in the group together, because we sometimes lost the overview, who did what, and some data got lost on the way. Furthermore, it was really nice of the professor to finally led the international students take part in the course, but I want to just mention that I was a bit frustrated how the admission process of the course happened in January. I applied for the course last June and since the course is listed as a course, that international students can take for their Erasmus yearetc. , I think one should really improve the system of assuring that one can take the course, that one has planned for the year. If we would have known, that we can not take the course in spring, we could have taken some other courses in the autumn semester to substitute it. I know that many students, and also many norwegian students wanted to take this course this year, but it was kind of a shock to realize that I was not admitted to the course in January although it said so in August. Maybe this is not the right place to say it and I should speak to my home university about the course agreements as well, but Ecology was more or less the only course that substitutes a course back home perfectly, so that I do not have to repeat a whole year when going back, delaying my studies. With this in mind I was kind of surprised when I heard that norwegian master students still needed to take the course, although it is listed as an undergraduate course and from my point of view, it was not really advanced in the topics we discussed as well. So I could not really understand why they had a higher priority than other bachelorstudents, when they failed to include the course already earleir in their schedule. But maybe this opinion is just based on what I heard, and they are a lot of more layers to the course administration, that I don't know of....Nevertheless, I really want to thank Øyvind for the fact that he let me do the course in the end, I really enjoyed coming to class and learn about ecology!!! He is one of the reasons why I know can finish my bachelor in time and that my Erasmus year was not all for "nothing" academically spoken.

