

## **Report on BIO301 2016**

### **Short summary**

In 2016, the course was given by a new group of teachers, and we decided to try out team-based learning during the course – inspired by Michaelsen and Sweet (2008). This was tried out for three themes as described in detail in the attached course outline. Each theme also included a practical group project which was presented in class. In the end we also did an exercise in Horizon scanning – to select important research questions within the field. Based on these the students wrote a research proposal which were peer-reviewed and revised as an element of the portfolio.

### **Team-based learning**

The team-based learning experience was generally good – the basic idea of having students answering a quiz in class individually and then to develop a collective answer in groups create some good discussions among the students in the groups, and they are well prepared in class. Also, the practical use of IF-AT scratch cards generated some excitement in the groups. It does take some experience to find questions at the right level of difficulty, and at the same time stimulates good discussions. Scores, both individual and in the groups, were added to the portfolios as an element of the final grade.

### **Course-evaluation students**

8 out of 11 students answered the evaluation form. Students give relatively positive feedback, particularly on the problem solving skills, motivation, feedback, group work, writing skills, overall. Improvement is possible in clarifications, expectations and lectures. Many students also point out the group element as positive. It is a challenge to organize class-time among master students due to fieldwork and other duties, particularly in May, and demanding students to be present during all teaching activities is not really doable.

### **Course-evaluation teachers**

We find that the experiments with team-based learning very interesting, and want to continue this in 2017. Given that the curriculum is based on rather advanced primary scientific literature it is a challenge to formulate if-at's with one correct answer, but the art of the game is to find alternatives where one answer is better than the others. It takes some experience to maximize the utility of this method.

Students in this course are highly motivated, and wrote very good proposals. The peer review process of the proposals was also of high quality.

### **Changes in 2017**

- We have completely rewritten the Learning Outcomes.
- Keep the TBL, but may rotate Horizon-scanning with other learning activities such as academic writing, introductions, reviews, presentations etc - with feedback and more peer-review.
- New themes and teachers will appear, details for 2017 must be developed in communication with these.

### **Attachments**

- 1) New learning outcomes
- 2) Course outline
- 3) Student evaluations

## Reference

Michaelsen LK, Sweet M (2008) The essential elements of team-based learning. *New Directions for Teaching and Learning* 2008:7-27

### **Attachment 1. New learning outcomes**

After the course students can

- Achieve an overview of ecological/evolutionary questions based on the scientific literature and databases
- Critically reflect upon research methods, conclusions and statements in the discipline
- Summarize and present advanced ecological/evolutionary themes
- Develop, assess and give feedback on scientific texts, reviews or project proposals
- Identify research needs and develop ideas into projects and applications

### **Attachment 2. Course outline**

#### **BIO 301 Spring 2016**

In this course you will learn how to interpret, present, and write about key debates in ecological, evolutionary and biodiversity research. The course will be inspired by [Team Based Learning](#), where students work together in groups to critically evaluate papers and debate key topics. For each theme, students will be introduced to central research questions and current research will be presented. Students will discuss key articles in the research field, and conduct a number of assignments including, writing up of analyses and mini-literature reviews. A key component of the course will be the development of a small research proposal, which will be peer reviewed by other members of the group.

The course has the following learning goals:

- 1) Give students an updated presentation of ideas, theories and methods within selected themes in ecology, evolution and biodiversity.
- 2) Give students experience in critical evaluation of articles and proposals, and to encourage students to develop their own research ideas.
- 3) Encourage students to do their own literature searches and source their own reading materials.
- 4) Training in written and oral presentation, and scientific writing.
- 5) To work in teams to solve problems

**First meeting:** 25<sup>th</sup> of January in room K1 at BIO, ground floor, A-building

**Mitt.uib:** We will use the new learning platform Mitt.UiB

**Lectures and meetings:** see schedule below

**Teachers:** [Øyvind Fiksen](#) (course leader), [Alistair Seddon](#), [Sergei Budaev](#)

**Assessment:** The course will be inspired by [Team Based Learning](#), where students work in groups most of the time. Portfolio assessment.

**Required reading:** a list of papers for each topic. Students are expected to find additional relevant scientific literature on their own.

## 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	Included in portfolio
Lectures, class meetings	14,0	1,0	14,0	
Reading list	150,0	0,4	60,0	
Tutorials, feedback discussions	6,0	1,0	6,0	
Presentation of proposal (ind)	1,0	15,0	15,0	*
Write proposal individually	1,0	70,0	70,0	*
Evaluate proposals (team)	1,0	15,0	15,0	*
Project presentations (team)	3,0	20,0	60,0	*
Readiness Assurance Test (ind)	3,0	3,0	9,0	*
Readiness Assurance Test (team)	3,0	3,0	9,0	*
Review proposals (ind)	1,0	8,0	8,0	*
In total			266	

## Learning activities

Team-based learning: The course is structured as a team-based learning experience. This means that the students are placed in groups that will collaborate throughout the course. Parts of the grading is based on individual work (see table above), and the rest is based on the quality of the team's products. Some in-class team-based problem-solving activities will be used in assessment as well.

Assignments: The students will work in teams to solve problems and produce scientific products such as reports and presentations. One assignment involves writing a research proposal in one of the topics, and evaluating or reviewing other proposals in the groups. All elements in the portfolio is checked for plagiarism using Ephorus.

## Current topics – themes and schedule

1. Ecological resilience
2. Animal behavior and personalities
3. Human-induced evolution

## Workplan BIO301 Spring 2016. Note that all meetings are in every second weeks

Date	Teachers	Learning activity	Student work
M 25.01	ØF,AS	Introduction to the course. Negotiate course structure and assessment plan. Establish teams. Working in teams.	
W 27.01	AS, ØF	Scientific formats and texts. Writing papers/proposals.	Think through formats we use
F 29.01	ØF	Useful tools for developing applications and papers	Explore relevant journals and search tools
M 08.02	AS, SB	Critical reading and data analysis	Practical exercise in class
W 10.02	AS	Module 1. Readiness Assurance Test	Be prepared - Read the relevant papers

F 12.02	AS	Module 1. Project tutorial	Work in groups on assignment
M 22.02	AS	Module 1. Summary of assignment	Present project results, submit these as a portfolio item
W 24.02	SB	Module 2. RAT	Be prepared - Read the relevant papers
F 26.02	SB	Module 2. Project tutorial	Present project results
M 07.03	SB	Module 2. Summary of assignment	Present project results, submit these as a portfolio item
W 09.03	ØF	Module 3. RAT	Be prepared - Read the relevant papers
F 11.03	ØF	Module 3. Project tutorial	Work in groups on assignment
		Easter and winter holidays	
F 01.04		Deadline	Everyone submit one research question for each topic
M 04.04	ØF	Module 3. Summary of assignment.	Present project results. Submit these as a portfolio item.
W 06.04	AS, SB, ØF	Question selection. Preparing proposal writing. NB. In room K3.	Teams select 4 research questions from the pool – choose one of these 4 for own proposal
M 18.04	AS, SB, ØF	Presenting project proposal ideas individually	Prepare presentations (5 min, one slide)
W 20.04		Deadline for draft proposal	Submit draft proposal for comments from teachers and peer-review (students)
F 22.04	AS, SB, ØF	Expert clinic on proposals.	Prepare questions or discussions with teachers. Feedback on drafts, individually.
M 02.05	ØF	Receiving reviews back from one other student	Submit a review of others proposal to the portfolio. Revising proposals
F 13.05		Submitting final proposals	about 1500-2000 words
M 30.05		Board meeting: shortlist proposals. Justification of selection	Groups present their decisions and justifies the shortlist including two funded proposals.
		Teachers assess all portfolio items, teams results and individual and grade them	

RAT: Readiness Assurance Test (teams)

I kor stor grad har du deltatt i undervisninga? I %.

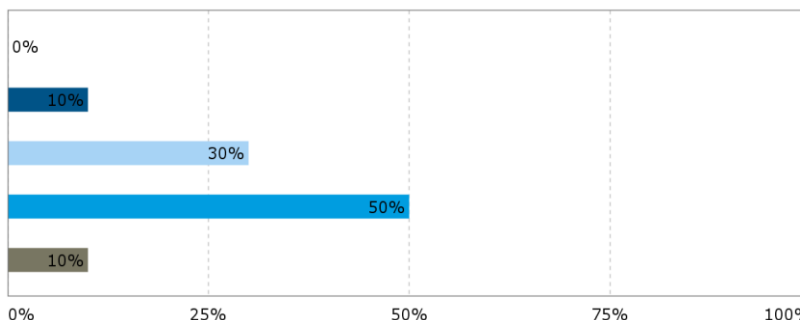


8

Evaluer disse påstandane forventa av mitt arbeid

- Det var lett å vite kva for kvalitet som blir

Heilt ueinig



0

Ueinig

1

Nøytral

3

Einig

5

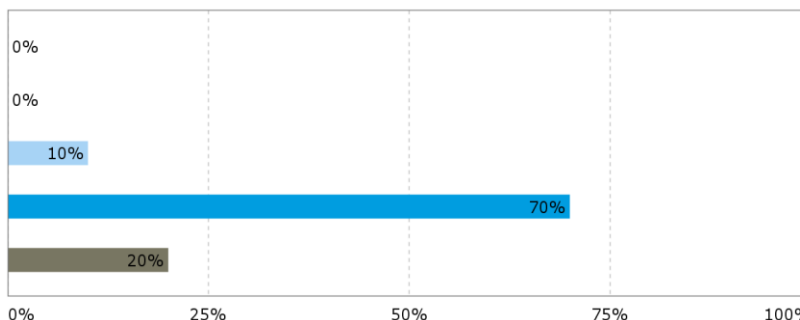
Heilt einig

1

Evaluer disse påstandane

- Emnet har utvikla mine evner til å løyse problem

Heilt ueinig



0

Ueinig

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Nøytral

1

Einig

7

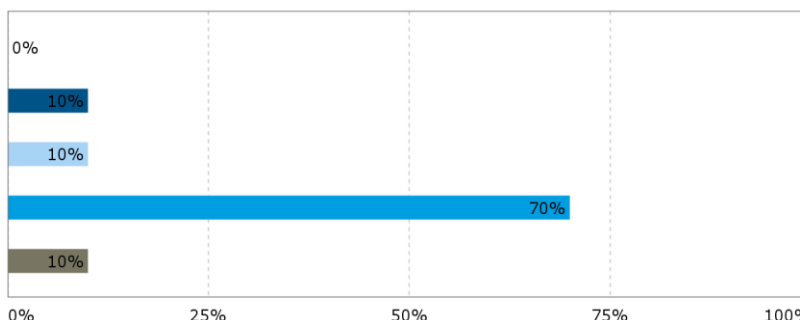
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Evaluer disse påstandane

- Undervisninga har motivert meg til å yte mitt beste

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0

Ueinig

1

Nøytral

1

Einig

7

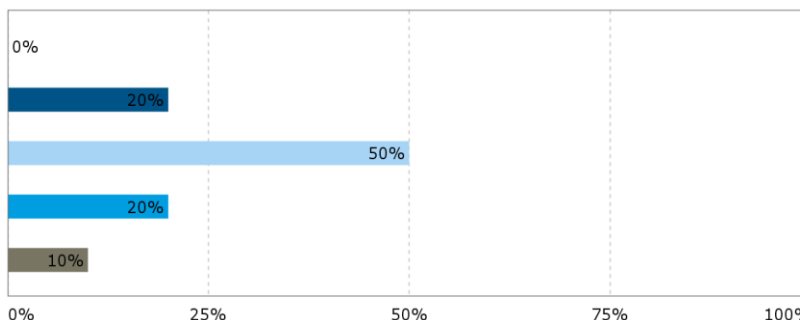
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1

Evaluer disse påstandane

- Arbeidsbyrden har vore for stor

Heilt ueinig



0

Ueinig

2

Nøytral

5

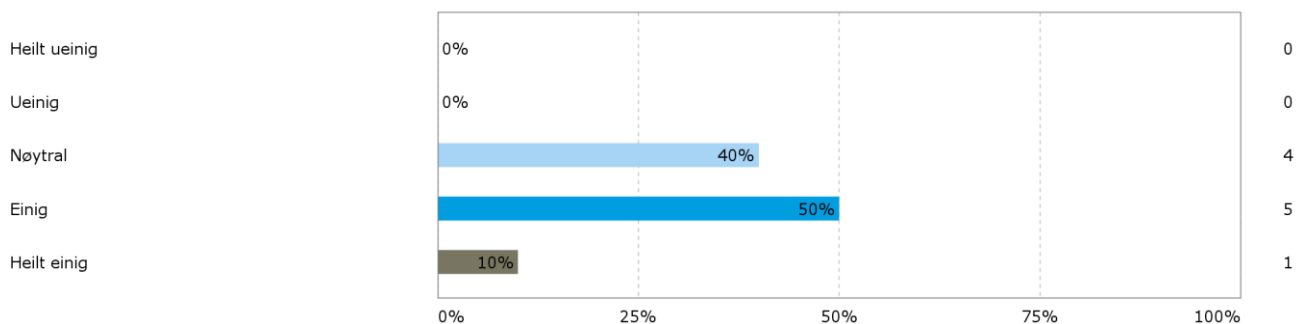
Einig

2

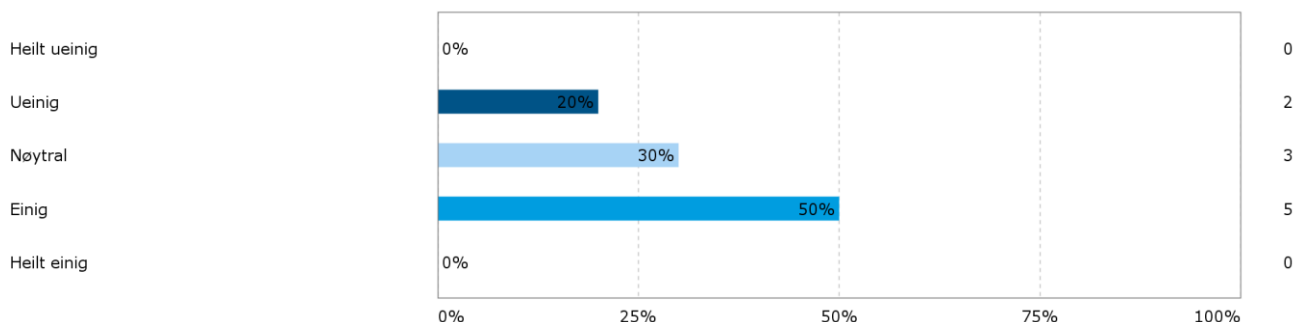
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1

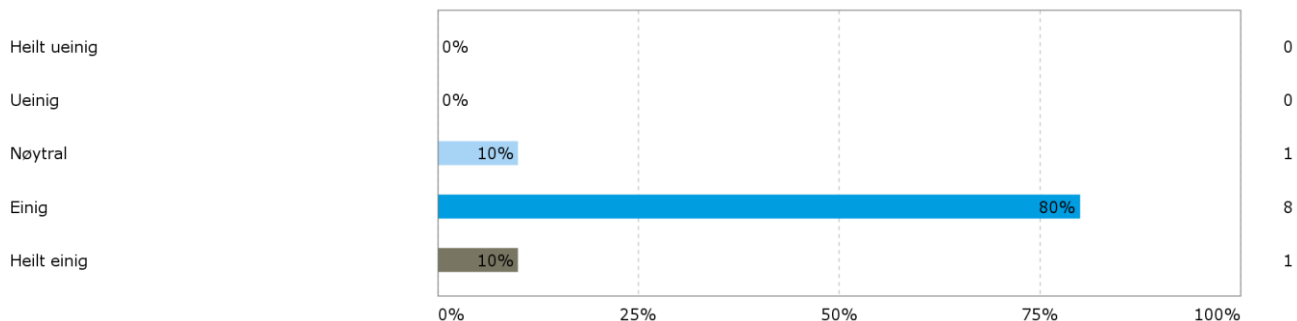
### Evaluer disse påstandane - Emnet har forbetra mine analytiske evner



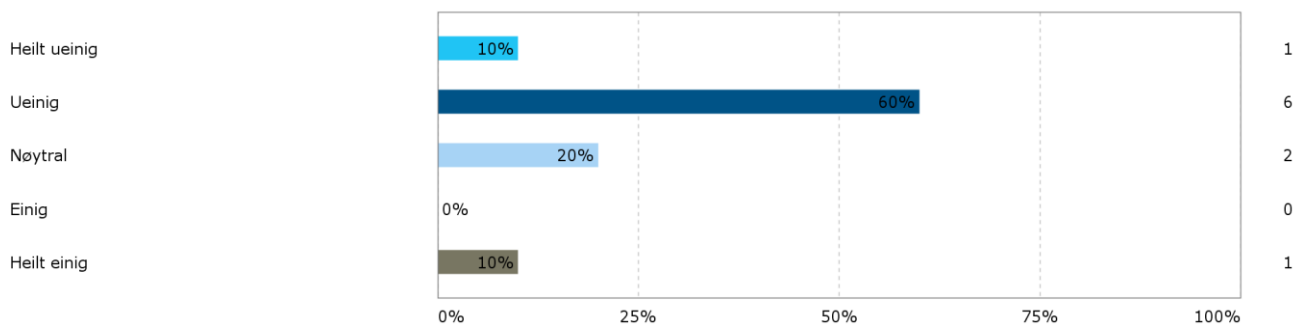
### Evaluer disse påstandane - Eg har stort sett hatt eit godt bilete av korleis eg ligg an og kva som blir forventa av meg i dette emnet



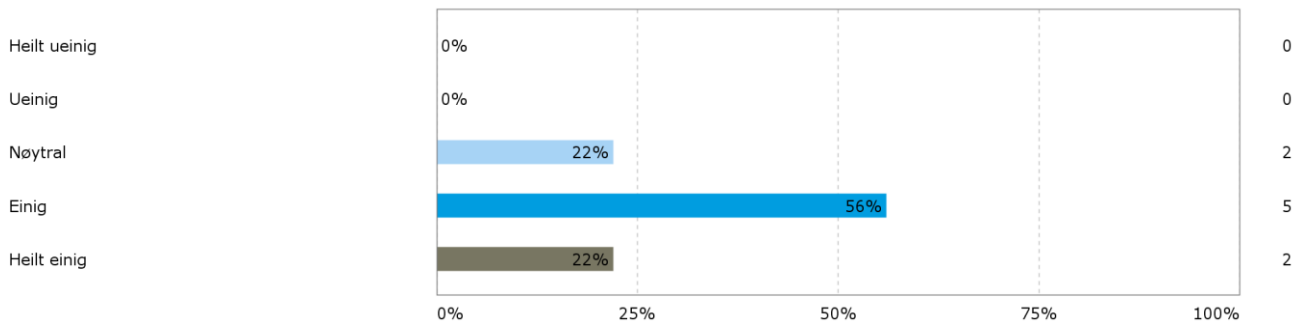
### Evaluer disse påstandane - Gjennom emnet har eg fått mange verdifulle kommentarar på mine prestasjonar



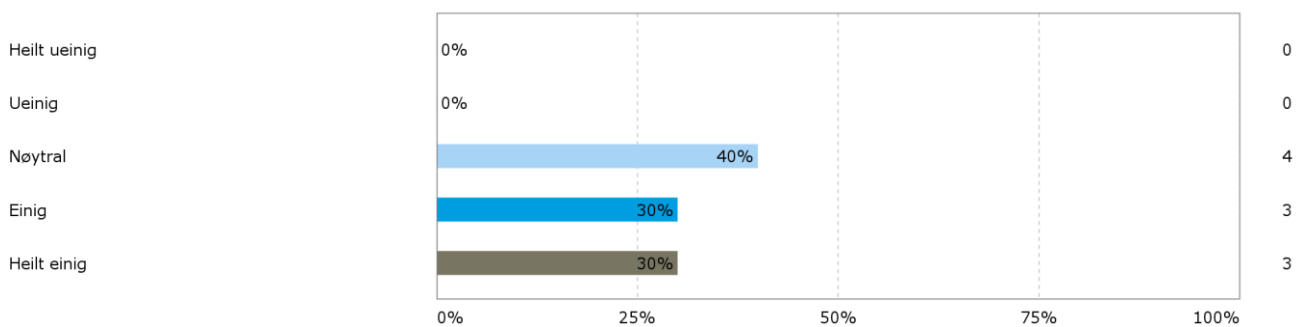
### Evaluer disse påstandane - God hukommelse er eigentleg alt ein treng for å gjere det godt i dette emnet



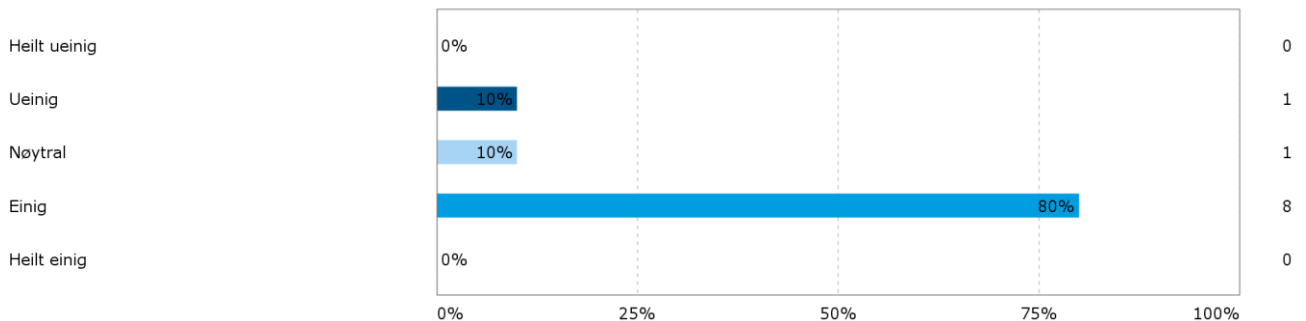
Evaluer disse påstandane - Emnet har utvikla mine evner til å arbeide i ei gruppe



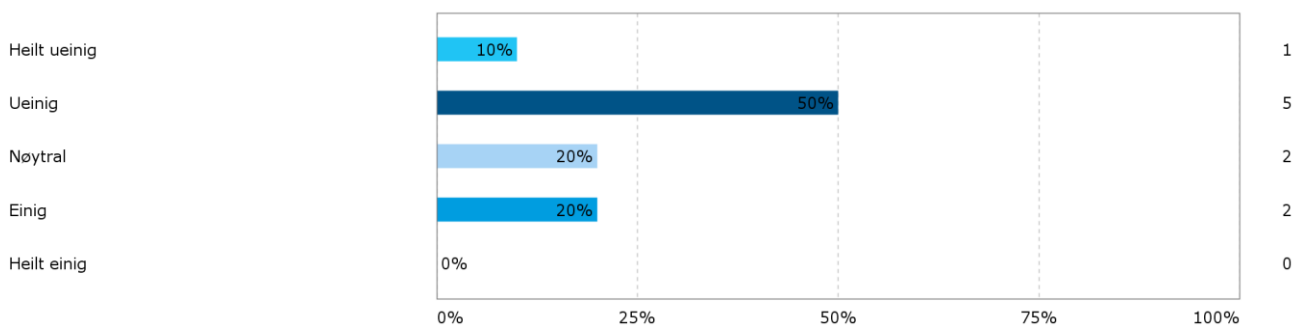
Evaluer disse påstandane - Emnet har gjort at eg føler eg meg tryggare på å handtere ukjente problemstillingar



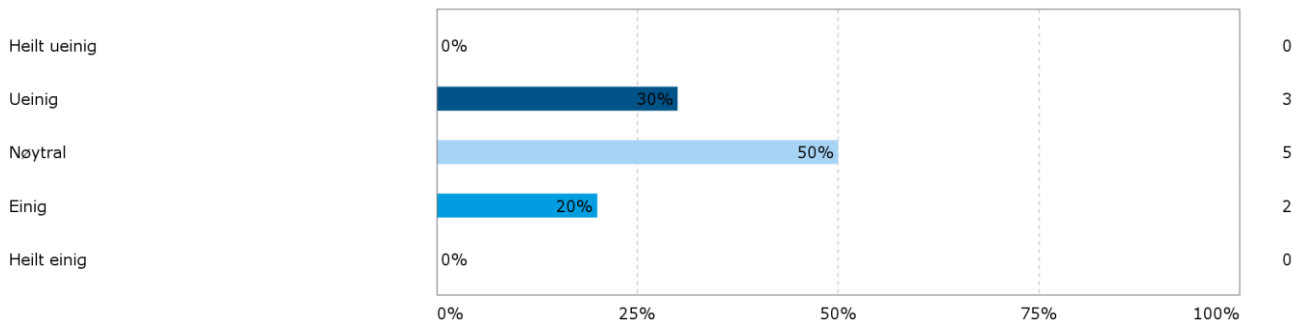
Evaluer disse påstandane - Emnet forbetra min evne til skriftleg kommunikasjon



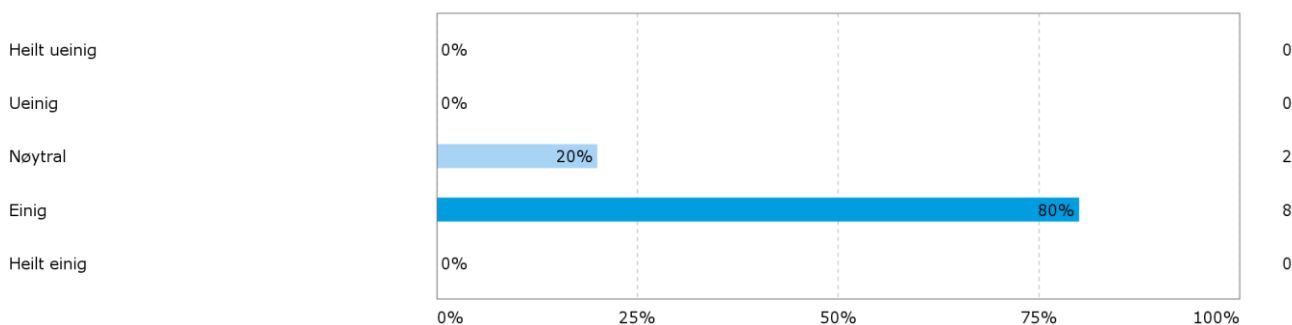
Evaluer disse påstandane - Undervisarane virka meir interessert i å teste kva eg hugsar enn kva eg har forstått



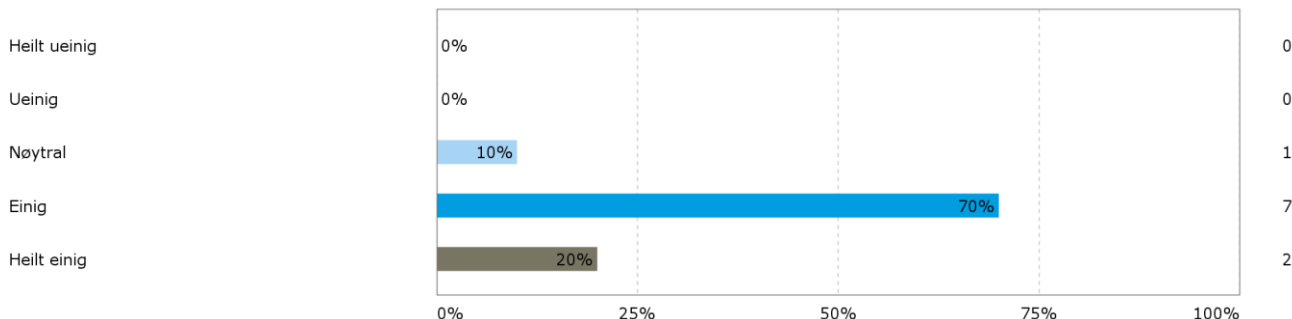
Evaluer disse påstandane - Det har ofte vore vanskeleg å få greie på kva som blir forventa av meg i dette emnet



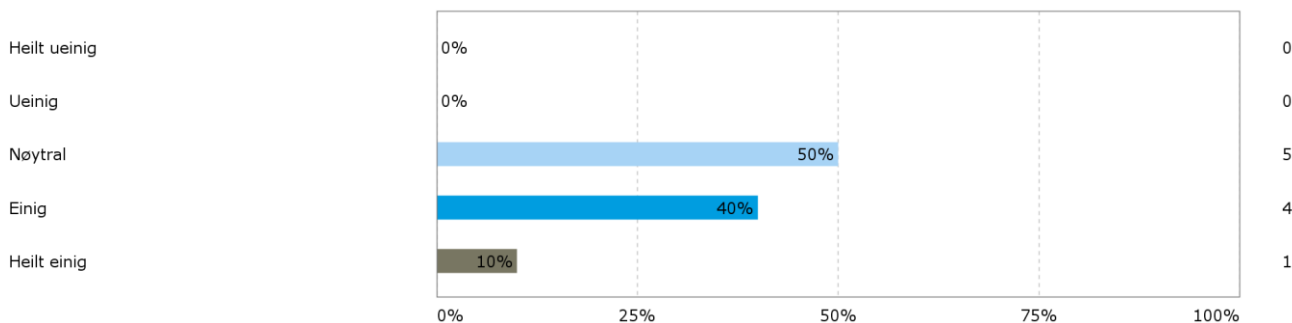
Evaluer disse påstandane - Eg har normalt fått nok tid på meg til å forstå det eg må lære



Evaluer disse påstandane - Lærarane gjorde ein reell innsats for å forstå dei problema eg hadde med arbeidet mitt

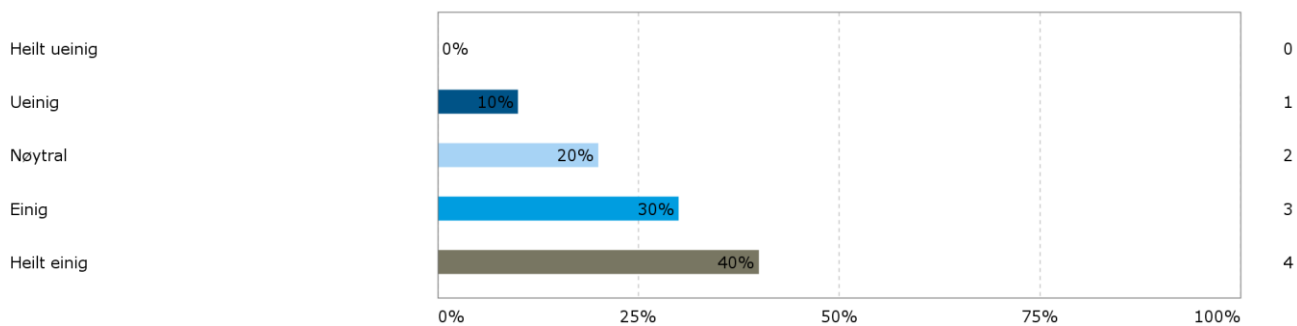


Evaluer disse påstandane - Vurderinga i kurset kravde at ein verkeleg forstod kva emnet gjekk ut på

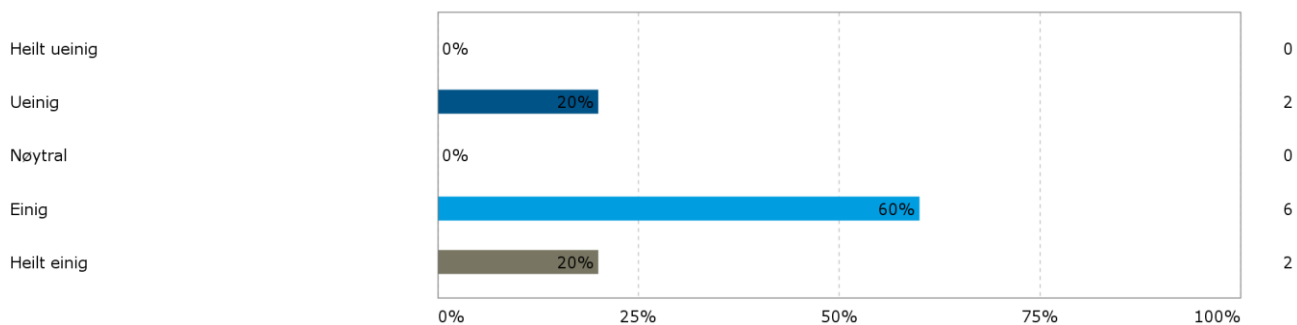




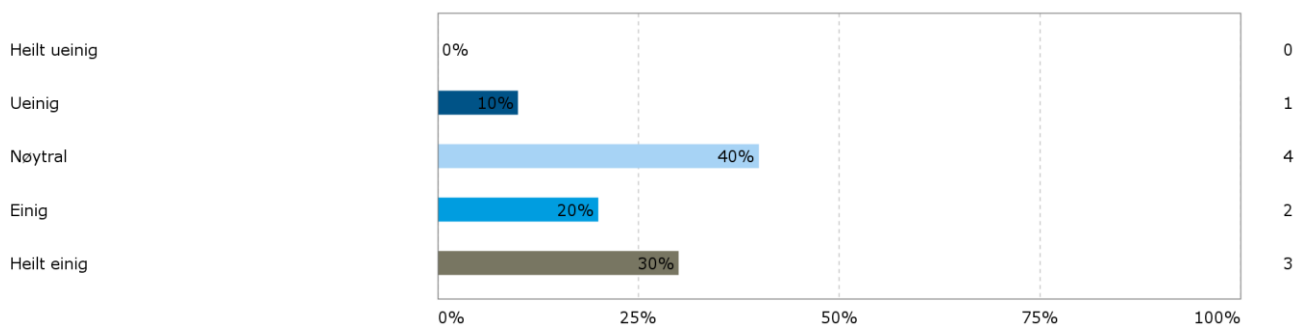
Evaluer disse påstandane - Emnet kjennest viktig for utdanninga mi



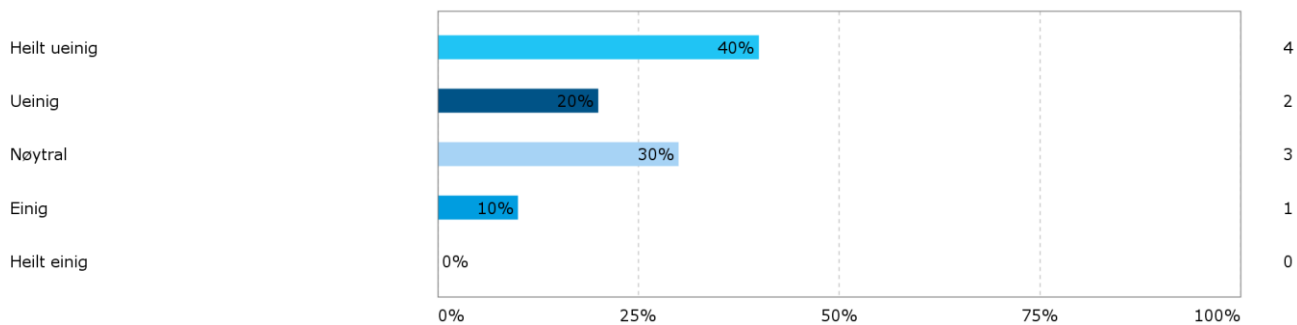
Evaluer disse påstandane - Undervisarane gav meg vanlegvis gode tilbakemeldingar på korleis eg utvikla meg



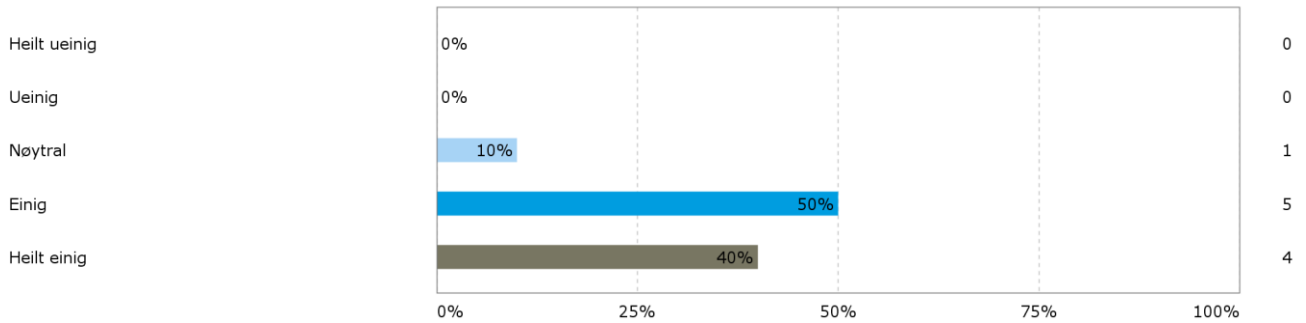
Evaluer disse påstandane - Undervisarane var svært gode til å forklare ting



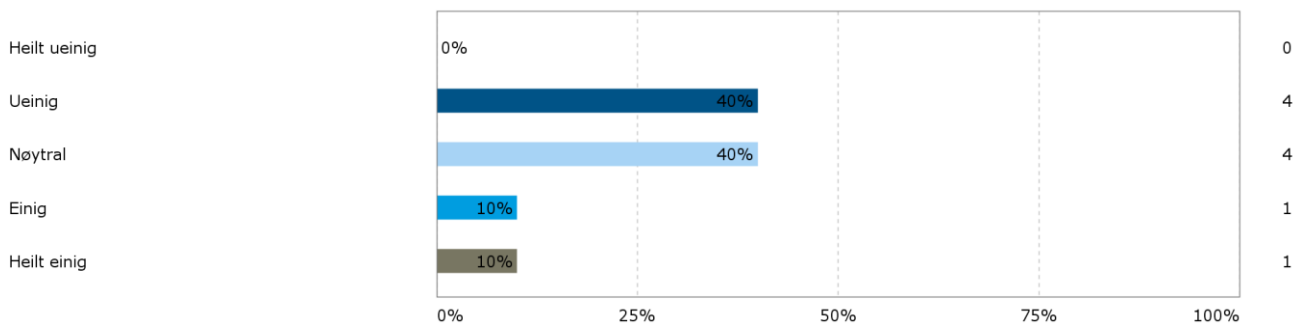
Evaluer disse påstandane - Altfor stor del av eksamen handla berre om fakta



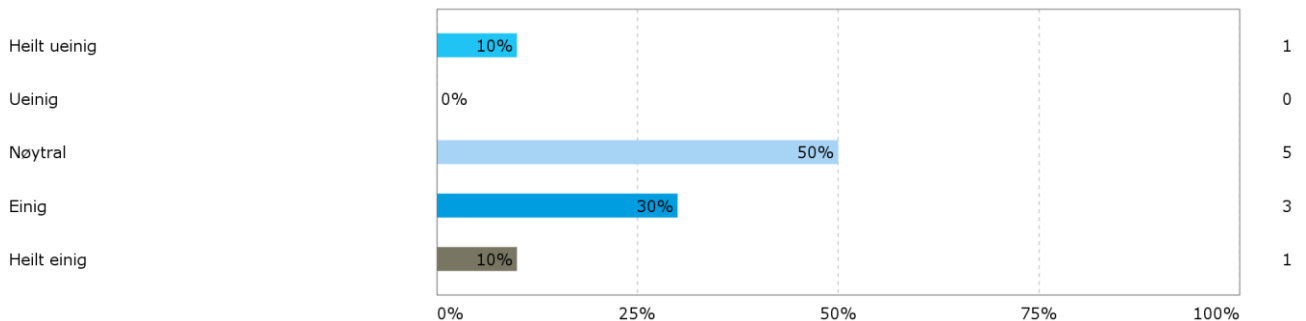
Evaluer disse påstandane - Lærarane jobba hardt for å gjere tema sine interessante



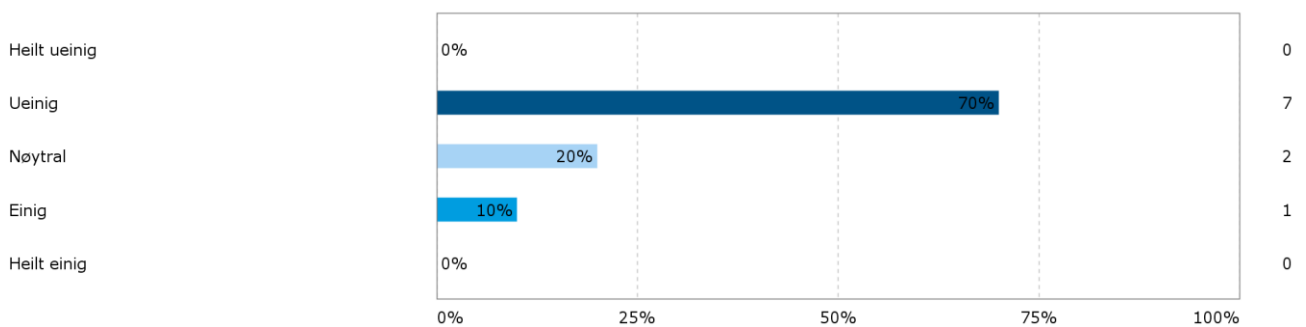
Evaluer disse påstandane - Som student har eg kjent meg hardt pressa på dette emnet



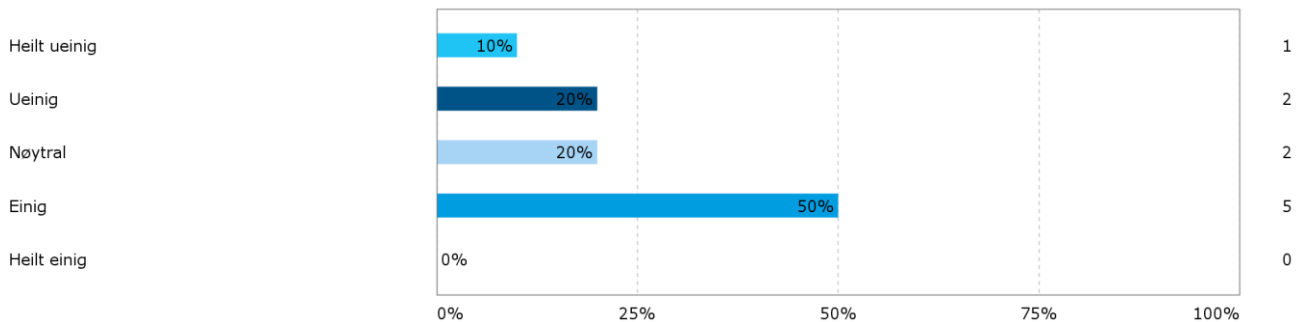
Evaluer disse påstandane - Emnet har utvikla min evne til å planlegge arbeidet mitt



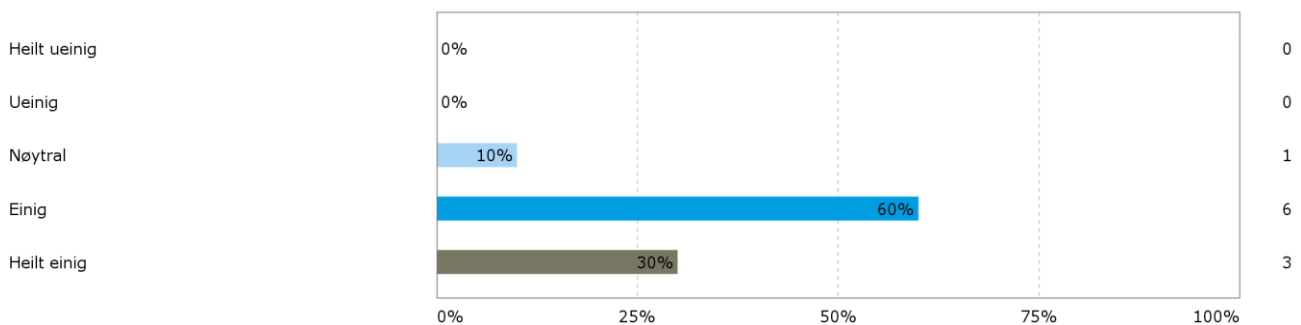
Evaluer disse påstandane - Omfanget av emnet har ført til at ein ikkje kunne forstå alt



Evaluer disse påstandane - Lærarane gjorde det klart frå starten av kva dei forventa av studentane



Evaluer disse påstandane - Totalt sett er eg fornøgd med dette emnet



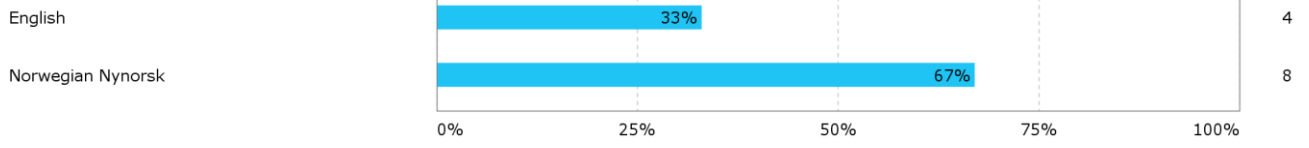
Kva synest du var det beste med dette emnet?

- Gruppearbeid
- That there is both a focus on individual progress and also on group work
- There was a focus both on individual progress and on group work
- Utfordringar som går utover berre det å lese pensum, altså at vi har måtte arbeidet med stoffet for å oppnå ein heilt anna forståelse.
- Intressant å få et innblikk i kva som er aktuelt i tida innafor kvart tema!
- Gruppelæring og diskusjon
- Diskusjoner og gruppearbeid
- Tankeprosessen med en forsøkssøknad
- skill development in writhing proposal

Kva synest du først og fremst bør bli betre?

- Planlegging av frister mtp masterstudenter som skal ut i felt i mai mnd. Slik at de slipper å gå glipp av en hel del av kurset og frister når de er borte på felt
- Hvis det i første forelesningen blir sagt at all undervisning er obligatorisk og det ikke tillattes fravær (unntatt sykdom etc.) bør dette følges opp resten av semesteret. Veldig irriterende for de studenter som gjennomfører gruppearbeidet også for de fraværende...
- A more detailed description of the tasks would be helpful as sometimes it was not completely obvious what we were supposed to do.
- A better description of the tasks would be helpful as sometimes the description was confusing
- at det er meir klart kva som blir forventa av studentane.
- Å få litt meir informasjon om kva som er forventa av oss - få litt meir retningslinjer om kva retning ein skal ta i oppgåver etc.
- Forelesningene var kompliserte til tider
- Forelesninger
- Dropp RAT-testene. Føler ikke dette er riktig plan for å drive med slike ting.
- some of the reading list were too long to complete within a given time

## Language



## Overall Status

