



## Analytical Natural Products Chemistry KE0065, 30257.2021

7.5 Hp

Pace of study = 100%

Education cycle = Basic

Course leader = Anders Broberg

### Evaluation report

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**Evaluation period: 2021-03-16 - 2021-04-06**

Answers 10

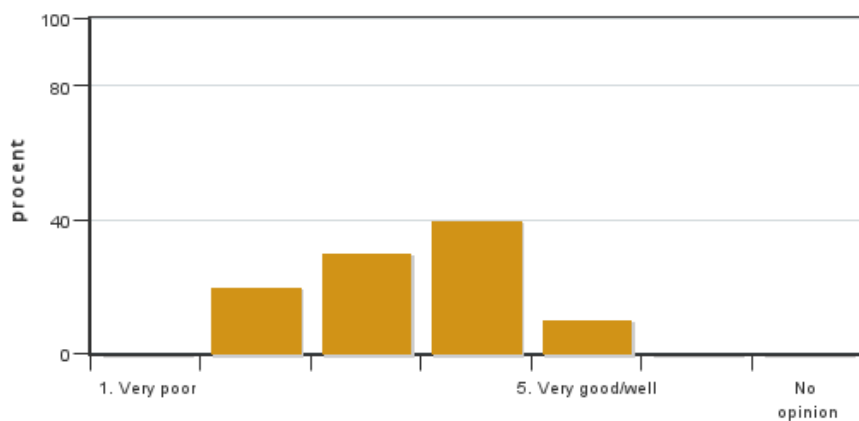
Number of students 18

Answer frequency 55 %

### Mandatory standard questions

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#### 1. My overall impression of the course is:



Answers: 10

Medel: 3,4

Median: 3

1: 0

2: 2

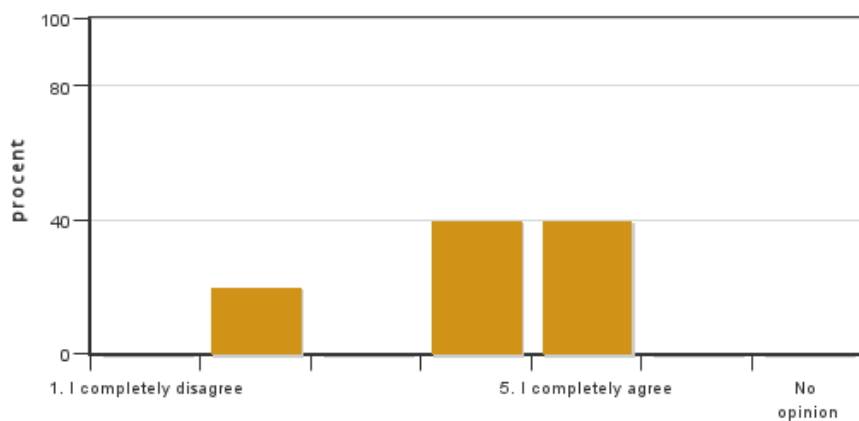
3: 3

4: 4

5: 1

No opinion: 0

#### 2. I found the course content to have clear links to the learning objectives of the course.



Answers: 10

Medel: 4,0

Median: 4

1: 0

2: 2

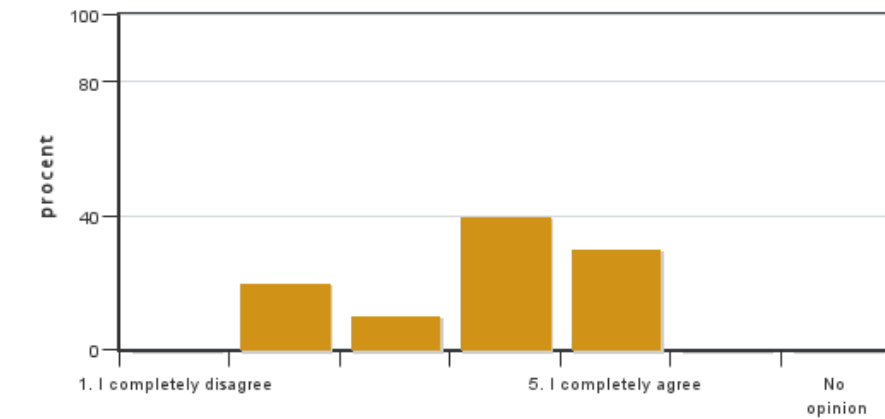
3: 0

4: 4

5: 4

No opinion: 0

**3. My prior knowledge was sufficient for me to benefit from the course.**

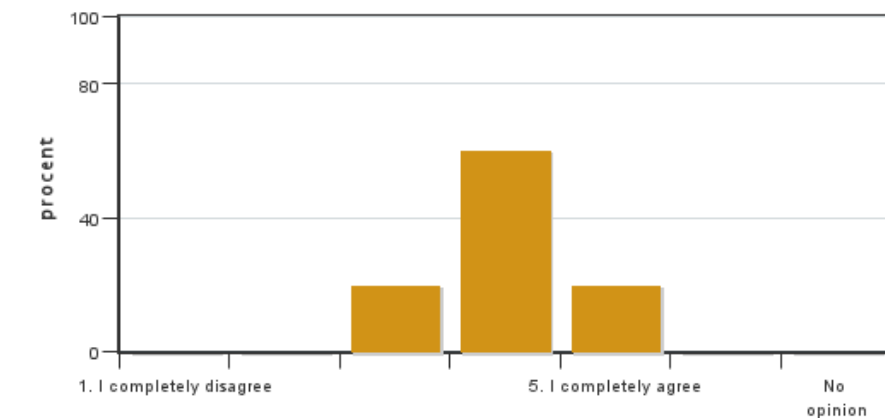


Answers: 10  
Medel: 3,8  
Median: 4

1: 0  
2: 2  
3: 1  
4: 4  
5: 3

No opinion: 0

**4. The information about the course was easily accessible.**

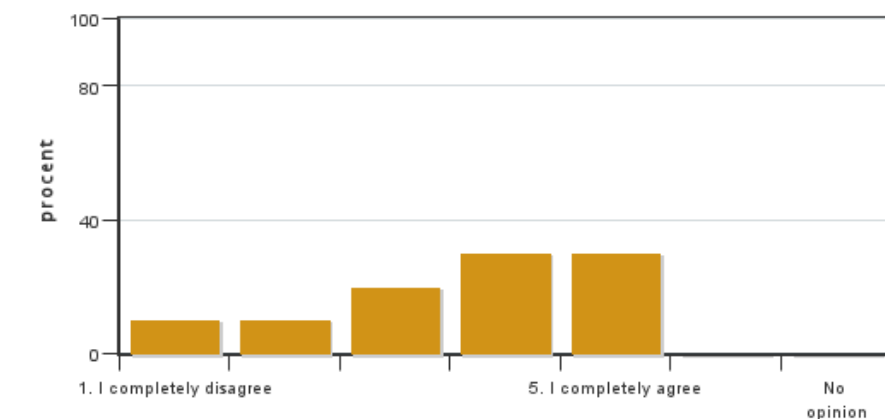


Answers: 10  
Medel: 4,0  
Median: 4

1: 0  
2: 0  
3: 2  
4: 6  
5: 2

No opinion: 0

**5. The various course components (lectures, course literature, exercises etc.) have supported my learning.**



Answers: 10  
Medel: 3,6  
Median: 4

1: 1  
2: 1  
3: 2  
4: 3  
5: 3

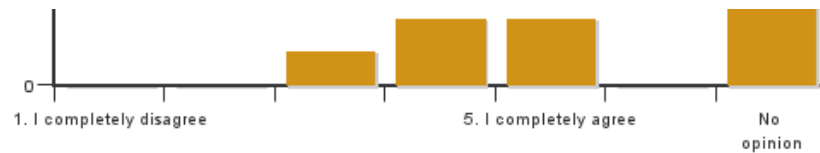
No opinion: 0

**6. The social learning environment has been inclusive, respecting differences of opinion.**



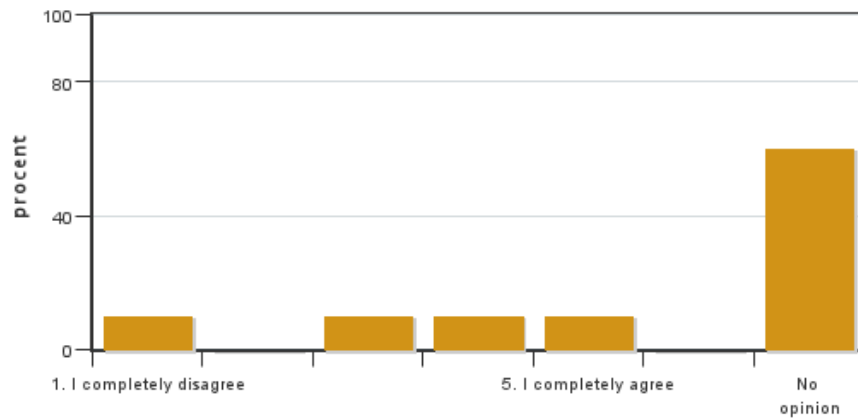
Answers: 10  
Medel: 4,2  
Median: 4

1: 0  
2: 0  
3: 1  
4: 2  
5: 2



No opinion: 5

**7. The physical learning environment (facilities, equipment etc.) has been satisfactory.**



Answers: 10

Medel: 3,3

Median: 3

1: 1

2: 0

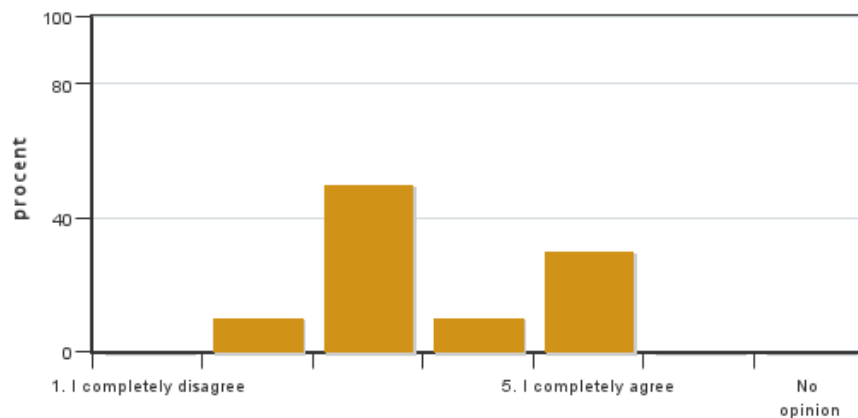
3: 1

4: 1

5: 1

No opinion: 6

**8. The examination(s) provided opportunity to demonstrate what I had learnt during the course (see the learning objectives).**



Answers: 10

Medel: 3,6

Median: 3

1: 0

2: 1

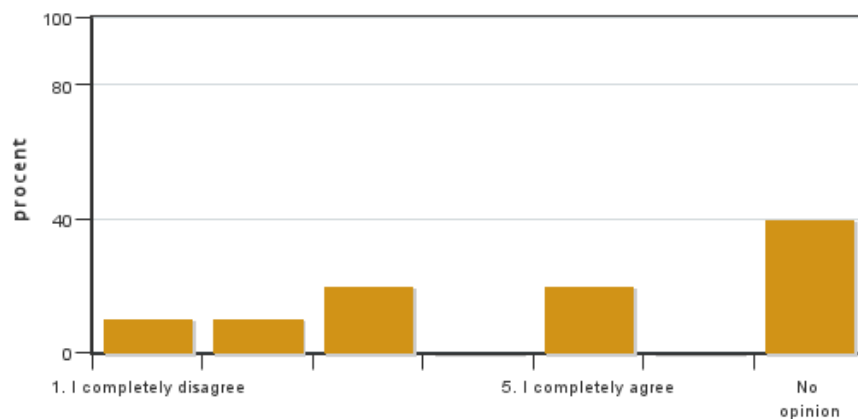
3: 5

4: 1

5: 3

No opinion: 0

**9. The course covered the sustainable development aspect (environmental, social and/or financial sustainability).**



Answers: 10

Medel: 3,2

Median: 3

1: 1

2: 1

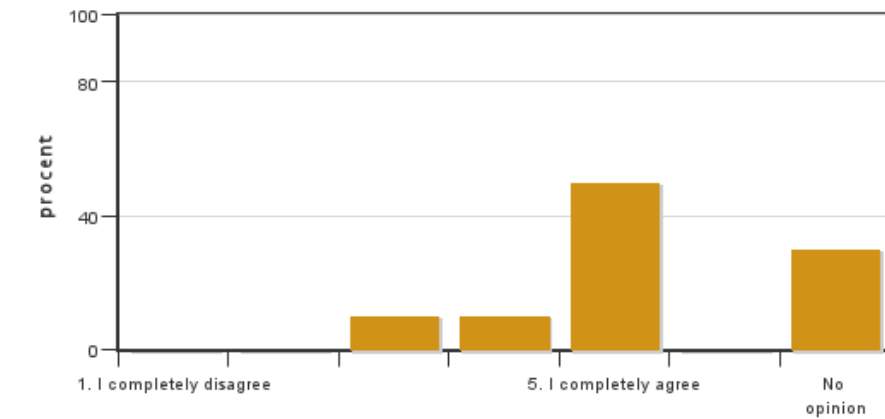
3: 2

4: 0

5: 2

No opinion: 4

**10. I believe the course has included a gender and equality aspect, regarding content as well as teaching practices (e.g. perspective on the subject, reading list, allocation of speaking time and the use of master suppression techniques).**

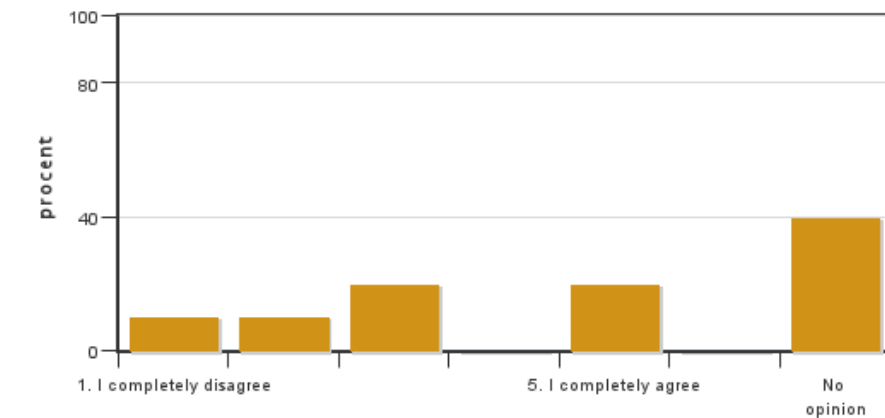


Answers: 10  
Medel: 4,6  
Median: 5

1: 0  
2: 0  
3: 1  
4: 1  
5: 5

No opinion: 3

#### 11. The course covered international perspectives.

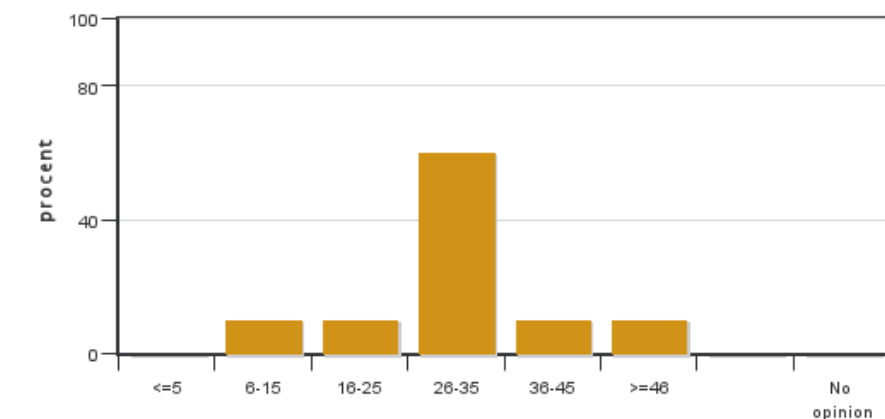


Answers: 10  
Medel: 3,2  
Median: 3

1: 1  
2: 1  
3: 2  
4: 0  
5: 2

No opinion: 4

#### 12. On average, I have spent ... hours/week on the course (including timetabled hours).

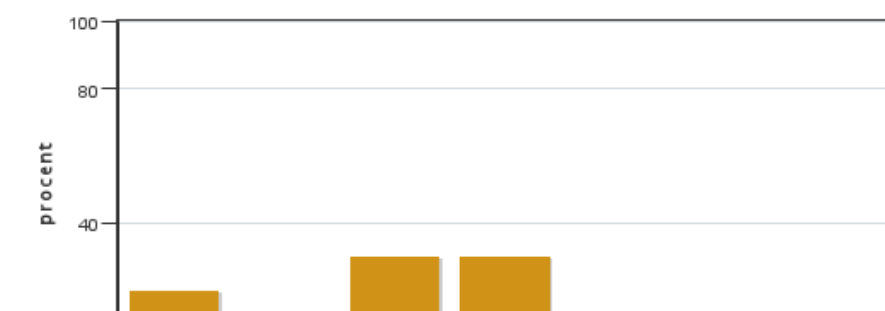


Answers: 10  
Medel: 29,6  
Median: 26-35

≤5: 0  
6-15: 1  
16-25: 1  
26-35: 6  
36-45: 1  
≥46: 1

No opinion: 0

#### 13. If relevant, what is your overall experience of participating in all or part of your course online?



Answers: 10  
Medel: 3,0  
Median: 3

1: 2  
2: 1  
3: 3  
4: 3  
5: 1

No opinion: 0

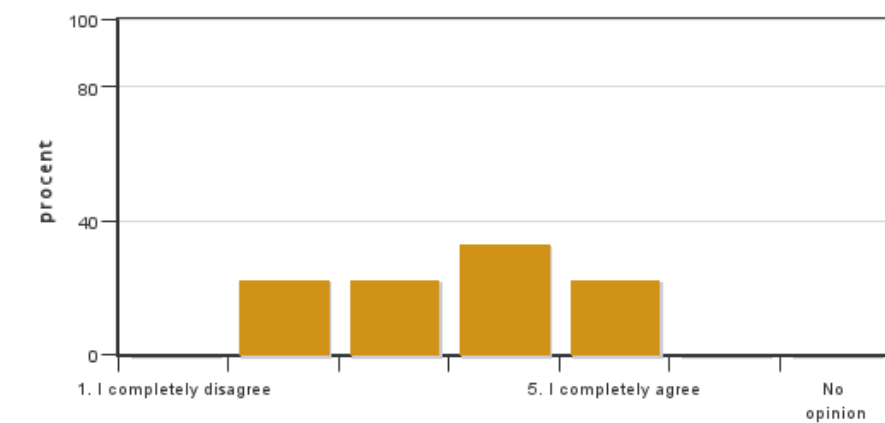


14. If relevant, please share what worked well when participating in teaching on distance

15. If relevant, please share what worked less well when participating in teaching on distance

## Additional own questions

16. The proportion between the different teaching forms (laboratory exercises, lectures, exercises, etc.) has been good.

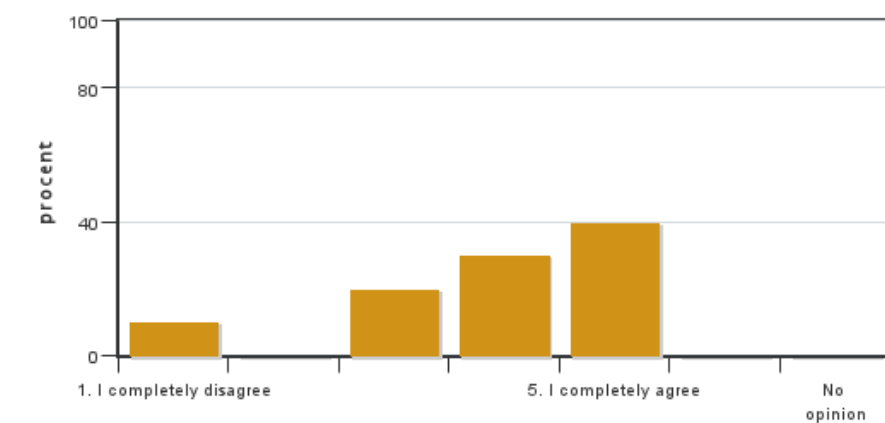


Answers: 9  
Medel: 3,6  
Median: 4

1: 0  
2: 2  
3: 2  
4: 3  
5: 2

No opinion: 0

17. The lectures presented the theory content of the course in a clear and efficient way.

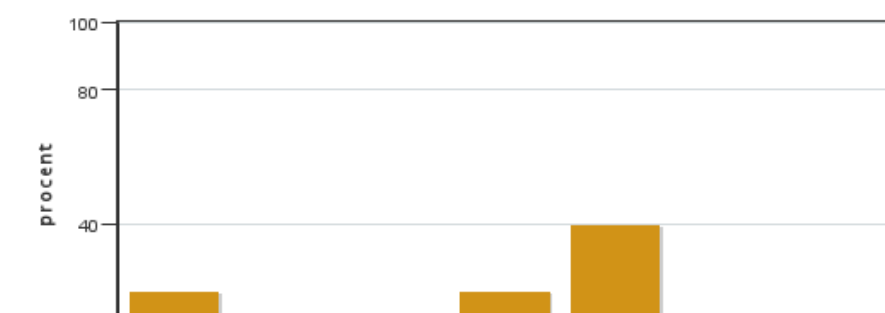


Answers: 10  
Medel: 3,9  
Median: 4

1: 1  
2: 0  
3: 2  
4: 3  
5: 4

No opinion: 0

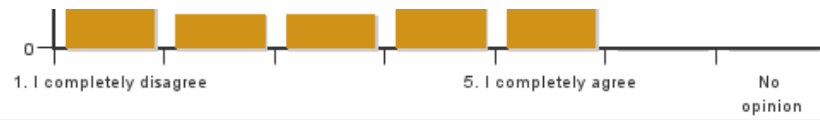
18. The exercises were important to understand the theoretical contents of the course.



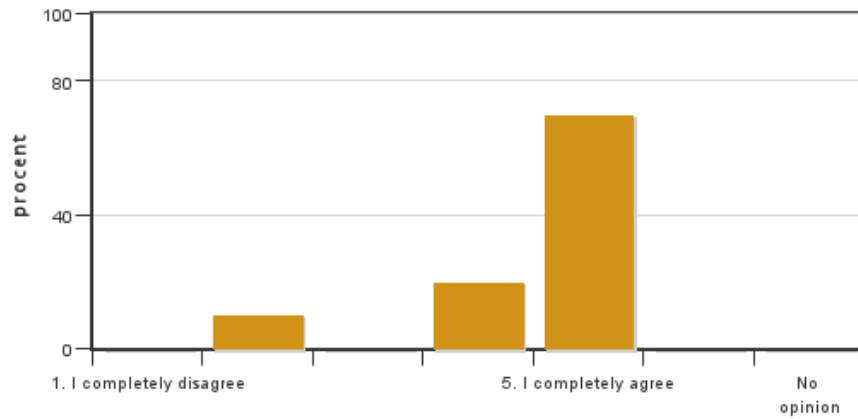
Answers: 10  
Medel: 3,5  
Median: 4

1: 2  
2: 1  
3: 1  
4: 2  
5: 4

No opinion: 0



19. The laboratory exercises illustrated important parts of the course and increased the understanding of the theory.



Answers: 10

Medel: 4,5

Median: 5

1: 0

2: 1

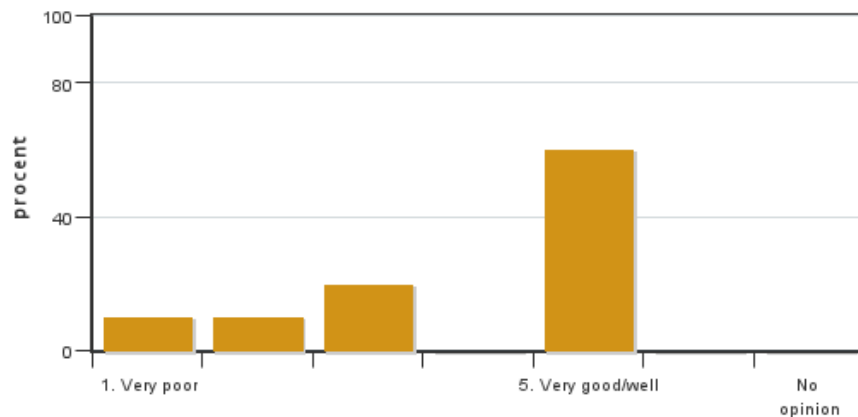
3: 0

4: 2

5: 7

No opinion: 0

20. What is your opinion of the digital laboratory exercises?



Answers: 10

Medel: 3,9

Median: 5

1: 1

2: 1

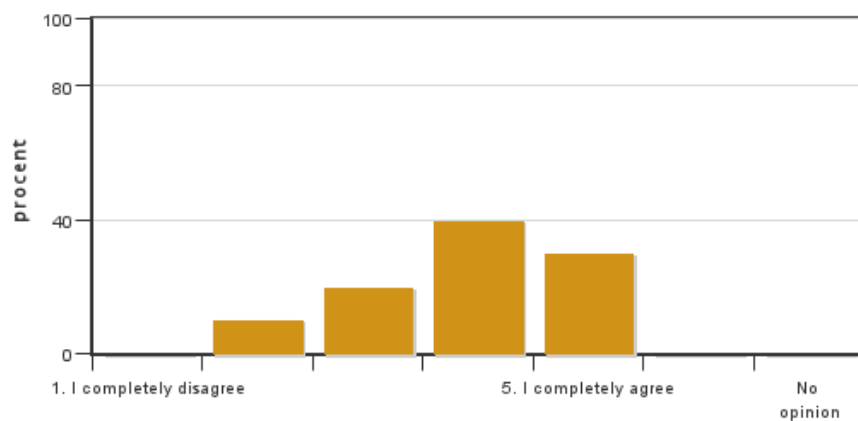
3: 2

4: 0

5: 6

No opinion: 0

21. The project was an important part of the course.



Answers: 10

Medel: 3,9

Median: 4

1: 0

2: 1

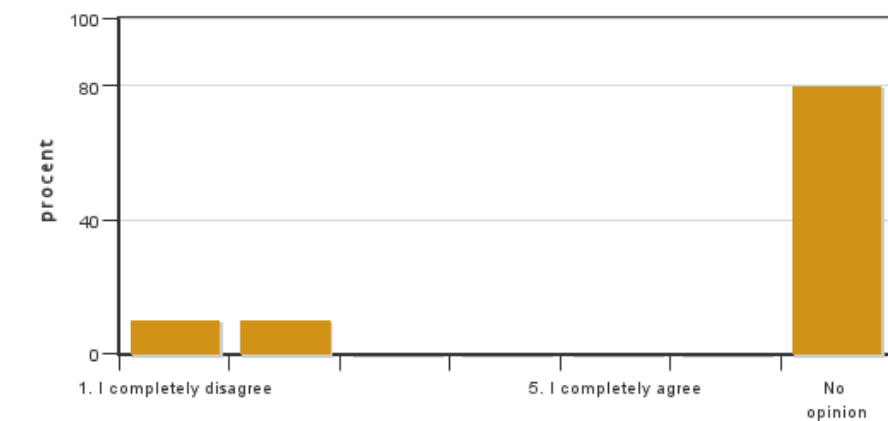
3: 2

4: 4

5: 3

No opinion: 0

22. The text book "Hanson" was good.

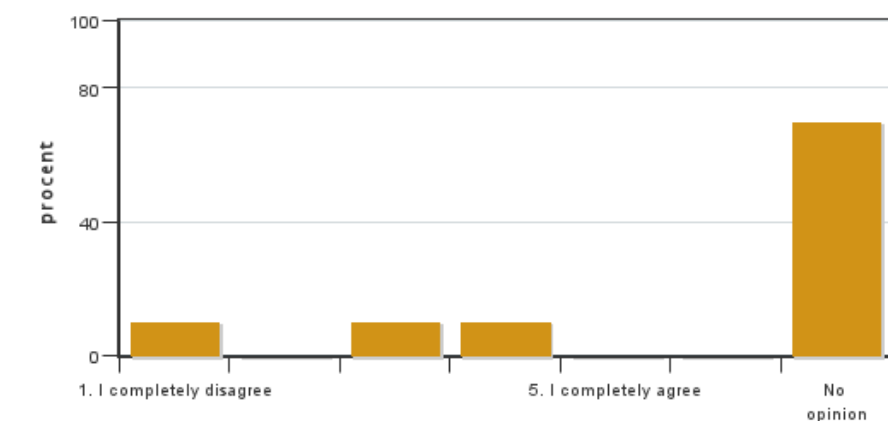


Answers: 10  
 Medel: 1,5  
 Median: 1

1: 1  
 2: 1  
 3: 0  
 4: 0  
 5: 0

No opinion: 8

### 23. The text book "Mahaffy" was good.



Answers: 10  
 Medel: 2,7  
 Median: 3

1: 1  
 2: 0  
 3: 1  
 4: 1  
 5: 0

No opinion: 7

## Course leaders comments

### Analytical Natural Products Chemistry, KE0065, VT2021

#### Course leader comments.

The overall impression of the course had the mean score 3.4, which is lower than previous years. One reason for this is probably that the course was given as an on-line course this year, even though the course normally is very hands-on and laboratory intensive. All teachers involved in the course agree that the course was less good than normal years, and that live teaching is very much preferred in most situations, in particular exercises and laboratory work, where direct interactions teachers/students are important parts of the teaching.

Many students liked the digital laboratory practicals (mean scores 4.5 and 3.9) and in particular the lab teachers who did a great job, but many students commented that they missed working in the laboratory. Most students also liked the literature project (mean score 3.9), which was found to help the learning.

The lectures, which were pre-recorded in most cases, received 3.9 in mean score, and the pre-recorded digital lectures were appreciated by some but not by others. The possibility to go back to the lectures was highly liked by some students, whereas some other students would have preferred to have direct and live lectures which of course would have enabled the students to ask questions. Most likely, the recorded lectures from this year, will be made available during the courses the coming years, as complement to live and real lectures. Possibly, I will also pre-record and make available the few lectures that were not recorded this year. One student stated that not everything in the exam was covered by the lectures or exercises. I will have a look at this, but some questions were definitely not covered in detail on the lectures, such as questions about chemical reaction mechanisms ("grade 5 type questions"). The intention with such questions was to test if the students were able to apply important chemical principles discussed during lectures and exercises, to explain similar but different chemical reactions, and not intended for remembering chemical mechanisms by heart.

The exercises yielded the mean score 3.5, which is lower than "a normal year", and many students commented that the digital format was difficult for the exercises to be really good. Some students commented that the questions and problems from the exercises were not at all similar to the questions encountered at the final exam. This is both true and not true, since the exercises have a mixture of questions and problems, and some are definitely not similar to questions on the exam but are there for practising important aspects of course. One thing that was difficult this year

was that the on-line format was difficult to combine with building molecular models, which are important parts of a couple of the exercises. There were also comments about the lack of solutions for the exercises, i.e. commented full solutions and not only the correct answers as it is today. The exercises are not compulsory, but they are highly recommended as learning opportunities, and the lack of full solutions is intended as another reason for attending these exercises. For the next year, my intention is to update the exercise compendium in general, and I will also include more complete and commented solutions and not only correct answers.

Several students commented that the work-load of the course, in particular the laboratory practicals and the literature project, including reporting these in different formats, was too high. Still, the average time per week the students estimated to have spent working on the course was 29.6 h (5-15 h: 1 student; 16-25 h: 1 student; 26-35 h: 6 students; 36-45 h: 1 student, >45 h: 1 student) per week, which must be considered completely OK for a full-time course.

## Student representatives comments

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From 20 students only 10 answered the student evaluation.

The overall impression from most students was good, although it was a difficult course to have by distance. The pre recorded lectures were not so appreciated, it made it difficult not to be able to have a dialogue with the teacher. The laboratory worked well, the exercise were less appreciated, since there was no good explanation of the work that was done.

The majority of the students agreed that there were clear links between the course and the learning objectives. The prior knowledge was sufficient for the course the majority answered, although a refreshment would have been appreciated to make the course easier to follow.

The information was mostly well organised and easy to find in Canvas. Some files were unfixed which made it a bit chaotic but overall it was good and laboratories were excellent organised.

In regards, to the various course components, labs were well organised and helped the learning. The lectures were to less helps since the situation was a bit different this year and we had recorded lectures. The exercises had mixed feelings some students really appreciated them and learned from them, others felt they were not so well explained and that they were not related to the exam. The literature project also helped many with their studies.

Since the course was given as a distance course, the physical learning and the social learning environment couldn't really be assessed.

The exam felt like it was long and that the exercises were not a help for the exam questions. Most students were not agreeing with that the exam gave them the opportunity to demonstrate what they had learned, also because the project and laboratories were quite big and should have given more points for showing what we had learned.

In regards to sustainable development and international aspects, most students felt they had no opinion.

The average amount of hours spend on the course weekly were 26-35.

What worked well in this course by distance was that since the lectures were recorded you could go back to them. The information for labs was very well organised and easy to follow, they were appreciated. The lab teachers were very helpful as well.

What didn't work so well was that you could not ask questions during the lectures. The learning by doing was missing, this is a course that should have been done at site with the possibility to do the laboratories to learn properly. Many students struggled with understanding the course, and think that by being in a class and laboratory it would have made the world of a difference. The exercises did not work so well, it was difficult to get a proper understanding and good answer to the questions.

There was not enough time to study, together with the labs, exercise and project, little time was left to prepare for the exam.

Most students felt the lectures presented the theory content, although the pre recorded lectures were not the best, it was the best the teacher could do under the circumstances he was put in.

The exercise were not appreciated, a lot of students didn't attend, explanations were not so good and easy to follow.

The laboratory worked very well under the circumstances, the teachers did a good job in preparing, also the interactions and breakout rooms they used helped a lot. They arranged a good disposition of the different labs. They were very helpful for the learning. Of course real labs are missed terribly by everyone.

The project was mostly appreciated and helpful for the learning. Some felt it was too big for the course, and that it probably gave more if you could do it in the laboratory rather than just reading, as was the case in this years course.



In regards to the textbooks used; Hanson and Mahaffy, most students had no opinion and thought it was not necessary or helpful.

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Kontakta support: [support@slu.se](mailto:support@slu.se) - 018-67 6600