



## Bioenergy - Technology and Systems TN0352, 30081.2223

10 Hp

Pace of study = 35%

Education cycle = Advanced

Course leader = Åke Nordberg

### Evaluation report

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Evaluation period: 2023-05-28 - 2023-06-18

Answers 7

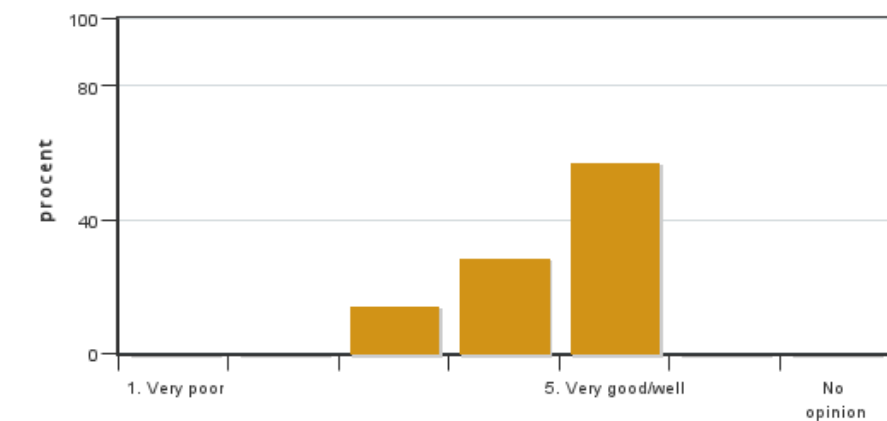
Number of students 9

Answer frequency 77 %

### Mandatory standard questions

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

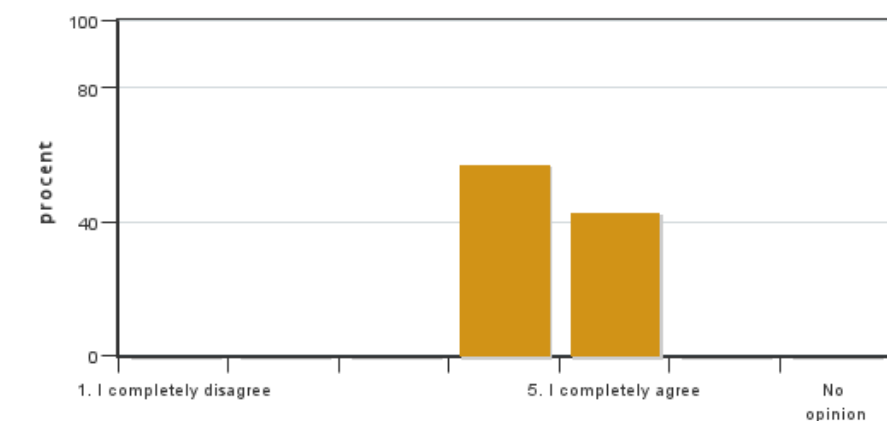


Answers: 7  
Medel: 4,4  
Median: 5

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

No opinion: 0

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

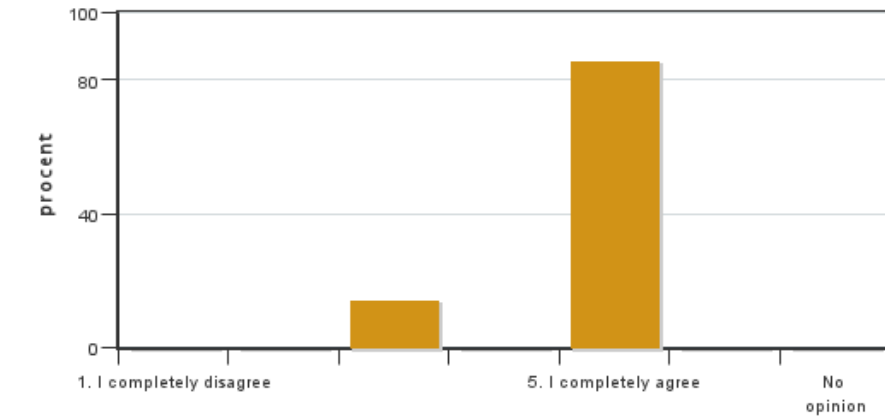


Answers: 7  
Medel: 4,4  
Median: 4

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

No opinion: 0

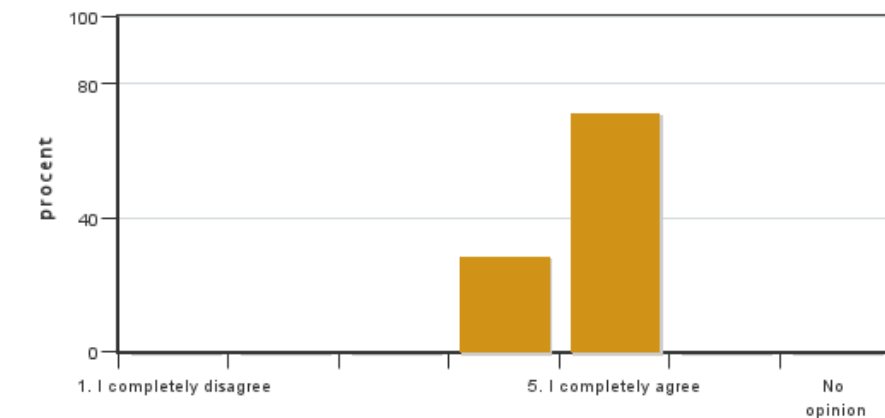
**3. My prior knowledge was sufficient for me to benefit from the course.**



Answers: 7  
 Medel: 4,7  
 Median: 5

1: 0  
 2: 0  
 3: 1  
 4: 0  
 5: 6  
 No opinion: 0

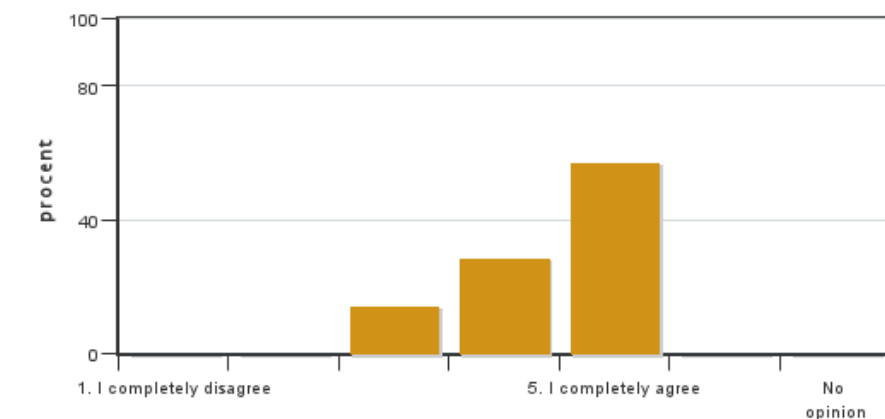
**4. The information about the course was easily accessible.**



Answers: 7  
 Medel: 4,7  
 Median: 5

1: 0  
 2: 0  
 3: 0  
 4: 2  
 5: 5  
 No opinion: 0

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



Answers: 7  
 Medel: 4,4  
 Median: 5

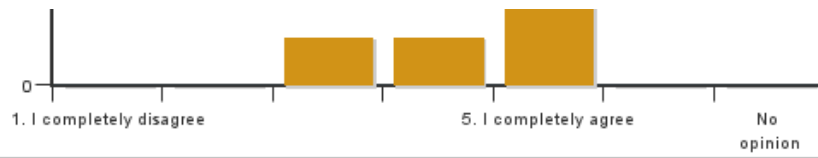
1: 0  
 2: 0  
 3: 1  
 4: 2  
 5: 4  
 No opinion: 0

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



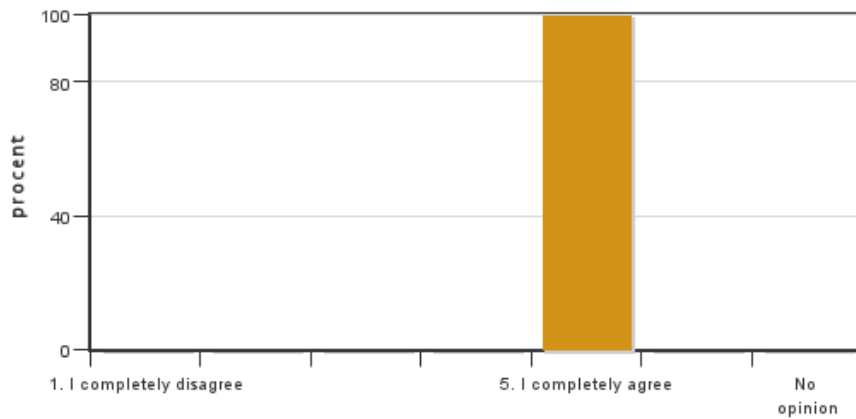
Answers: 7  
 Medel: 4,6  
 Median: 5

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



No opinion: 0

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



Answers: 7

Medel: 5,0

Median: 5

1: 0

2: 0

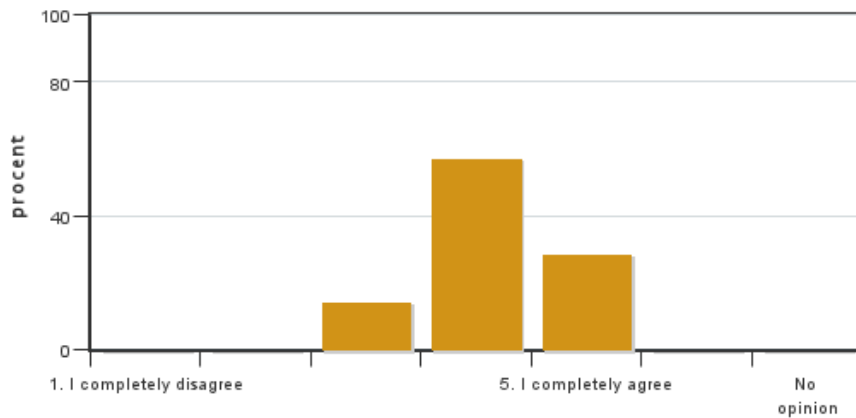
3: 0

4: 0

5: 7

No opinion: 0

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



Answers: 7

Medel: 4,1

Median: 4

1: 0

2: 0

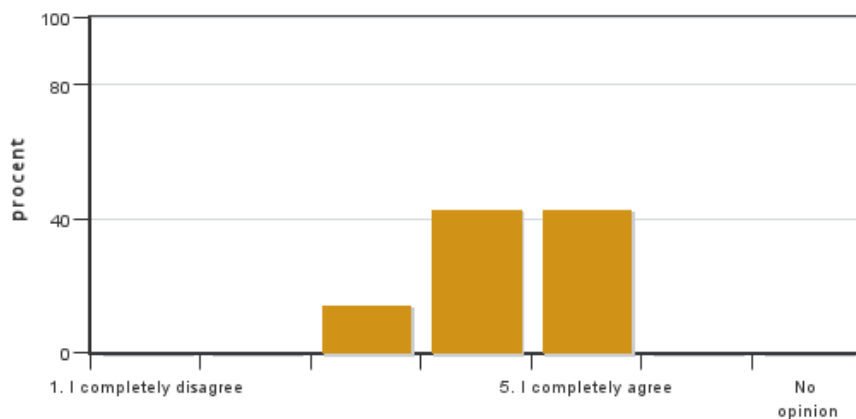
3: 1

4: 4

5: 2

No opinion: 0

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



Answers: 7

Medel: 4,3

Median: 4

1: 0

2: 0

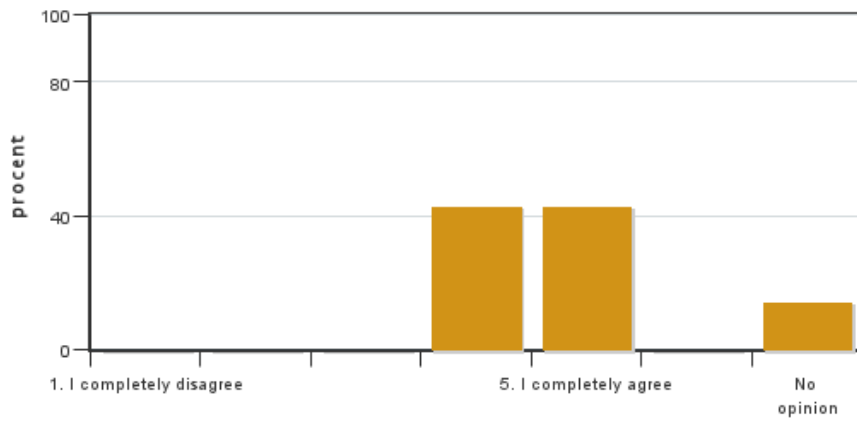
3: 1

4: 3

5: 3

No opinion: 0

**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).**

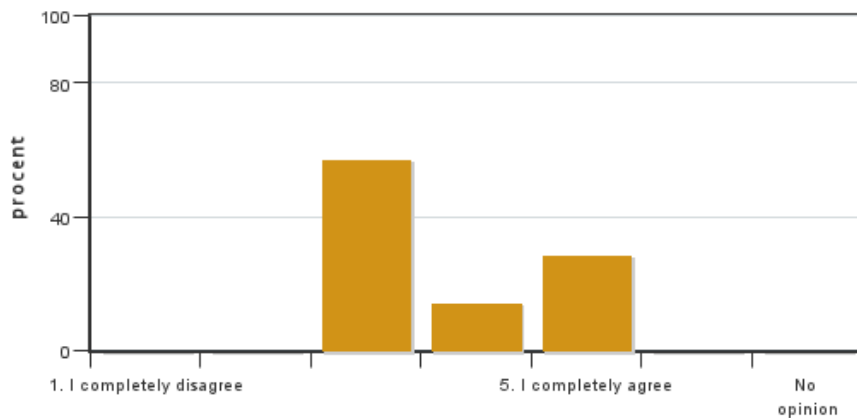


Answers: 7  
 Medel: 4,5  
 Median: 4

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

No opinion: 1

**11. The course covered international perspectives.**

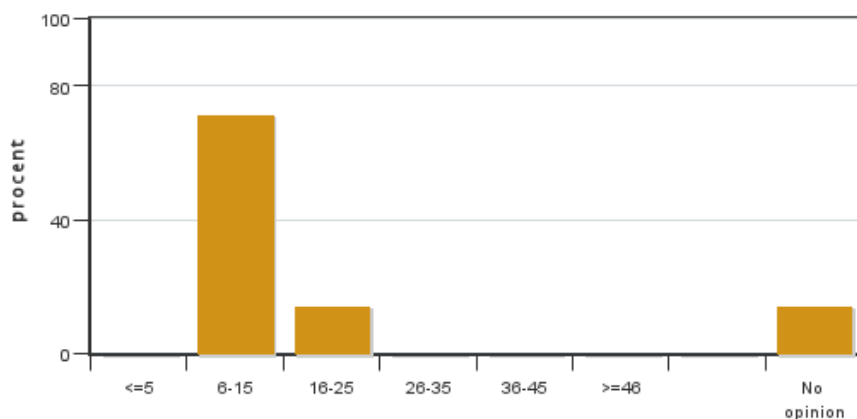


Answers: 7  
 Medel: 3,7  
 Median: 3

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

No opinion: 0

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

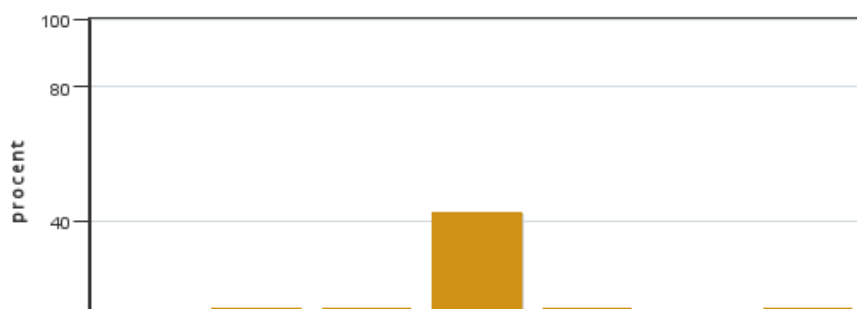


Answers: 7  
 Medel: 11,7  
 Median: 6-15

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

No opinion: 1

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



Answers: 7  
 Medel: 3,7  
 Median: 4

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

No opinion: 1



**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**

## Course leaders comments

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The response participation on the course evaluation was 7 students out of 9 active students. We thank for the engagement and the constructive responses, which are a valuable contribution for the continuous progressive development of the course. We also like to thank the student representative for a thorough analysis of the evaluation and the complementary input provided. The general course impression rated an average of 4.4. Based on a participation frequency of 78% as well as the complementary comments by the student representative, we also have the impression that the course was appreciated.

The teachers are satisfied that we could perform the course and meet the students "in real life" after three years with total or partly compulsory distance teaching. This year we could choose distance activities when it was appropriate, while having lectures, seminars and study visits on-site. The small class size also facilitated interaction and discussions with the students. Furthermore, the Canvas/Studium platform has improved and made it easier to inform and providing accessible course material.

The study visits were appreciated. Our ambition is to provide both theoretical and practical aspects of bioenergy. When organizing study visits, we are dependent on the willingness and accessibility to the plants dictated by the plant owners. This has worked well and we hope to keep this confidence with the external actors.

The course is given in English as it is an independent course. However, the vast majority of the students belongs to the Energy Systems Engineering program with Swedish speaking students. The oral and written activities in English were appreciated. However, we will consider to provide central and specific technical terms both in English and Swedish either on slides or as a glossary.

The exam is based on balancing the three parts (solid biofuels, liquid biofuels and biogas). We know that the course material is extensive due to this. During the years we have tried to include both specific aspects and more overarching essay questions. We will consider the balance of the different kind of questions until next year. Regarding the three assignments, we have tried to have a variation of the structure and content to address different approaches. However, we will consider to include more problem solving aspects for coming course.

The lecture on farm equipment was introduced three year ago based on suggestions from the students to get more familiar with the specific conditions in agriculture. However, we will re-consider or change the approach on this specific lecture for the coming course.

Åke Nordberg 2023-07-06

## Student representatives comments

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The response rate for the course evaluation was 70%, with 7 out of the total 10 registered students participating. The overall impression of the course has been highly favorable, with particular emphasis on the wide range of subjects covered and the educational study visits. One suggestion raised by multiple students is to eliminate the lecture on farm equipment, as it has little impact on the learning objectives and understanding of other course topics. Apart from this, the course content has adequately addressed the learning criteria. The balancing of the three course modules has been perceived as well-executed by the teaching staff.

The students feel that they possessed sufficient prerequisite knowledge to comprehend the course material fully. The perceived level of difficulty for the course has been appropriate, although students suggest incorporating more challenging assignments that require additional problem-solving and address potential logistical issues, particularly in written assignments. Moreover, the inclusion of oral presentations in English has received praise from students, as it has expanded their English vocabulary and provided practice in preparing more extensive presentations. Additionally, students have observed that their writing skills have improved with constructive feedback from the professors. However, one student noted that since the course was taught in English, they missed the opportunity to learn the equivalent technical language in Swedish, which would be valuable in the future. On average, students dedicated between 6 and 15 hours per week to this course, including scheduled time.

The exam somewhat appropriately reflected the course contents, but some students felt it was excessively lengthy and overly focused on specific details, rather than emphasizing the broader topics covered in the various course modules.

Another noteworthy aspect highlighted by students is the engaging and passionate teaching staff. The small class size facilitated interesting classroom discussions and interactions with the professors. Additionally, during the study visits, the professors accompanied the students and made themselves available to address any further questions related to the subject, creating a unique learning environment. Students experienced no difficulties accessing materials on Canvas or communicating with the staff.

Overall, the feedback received has been overwhelmingly positive, indicating a high level of student satisfaction with the course. The suggested improvements include removing the lecture on farm equipment, reducing the number of questions on the exam and ensuring they align more closely with the broader topics covered, and providing a Swedish technical dictionary of some kind to enhance future language proficiency.

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