



# Principles of Fisheries Science BI1341, 20053.2223

15 Hp  
Pace of study = 100%  
Education cycle = Advanced

## Evaluation report

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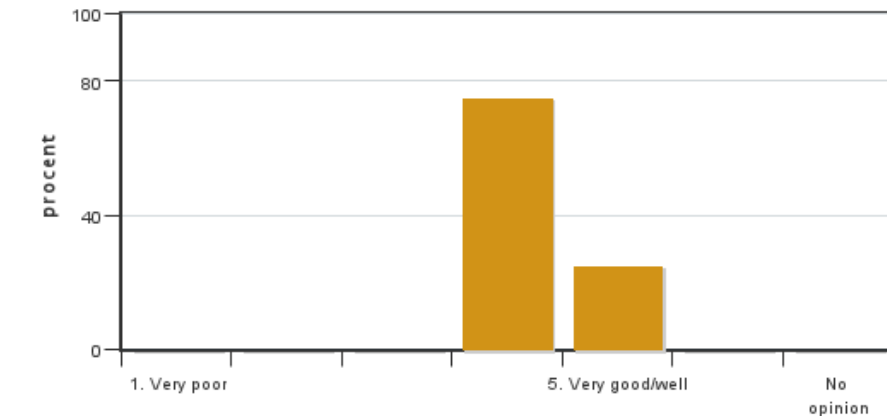
Evaluation period: 2023-01-08 - 2023-01-29

Answers 4  
Number of students 4  
Answer frequency 100 %

## Mandatory standard questions

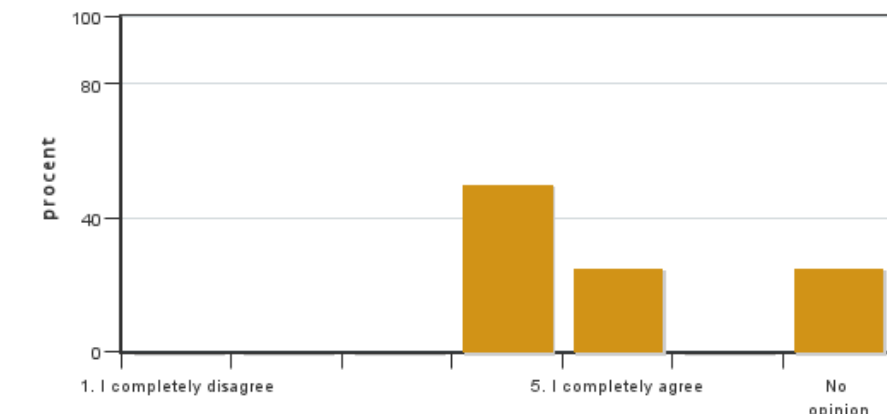
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1. My overall impression of the course is:



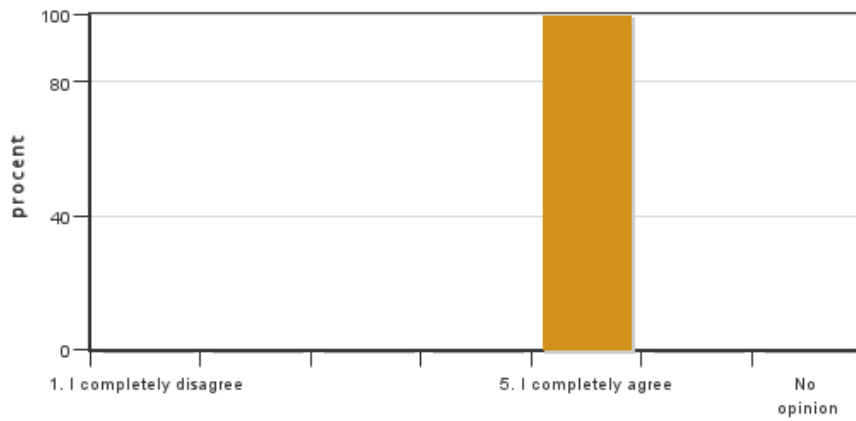
Answers: 4  
Medel: 4,3  
Median: 4  
1: 0  
2: 0  
3: 0  
4: 3  
5: 1  
No opinion: 0

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



Answers: 4  
Medel: 4,3  
Median: 4  
1: 0  
2: 0  
3: 0  
4: 2  
5: 1  
No opinion: 1

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

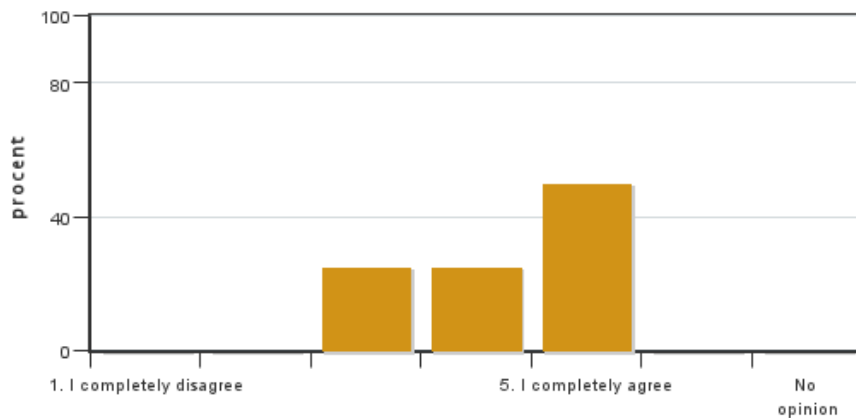


Answers: 4  
 Medel: 5,0  
 Median: 5

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

No opinion: 0

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

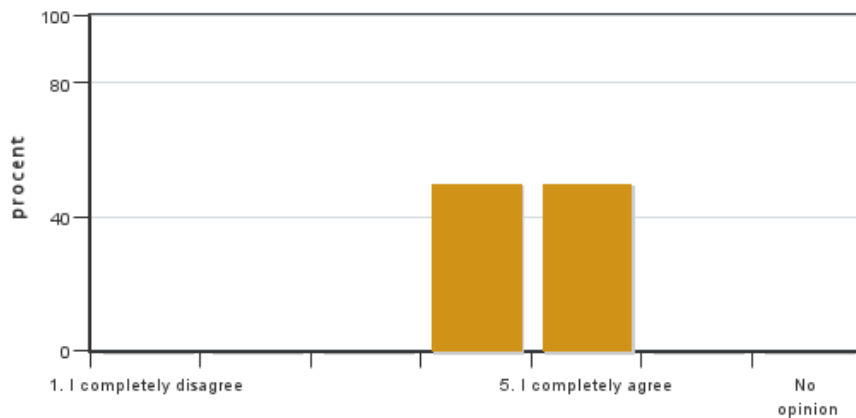


Answers: 4  
 Medel: 4,3  
 Median: 4

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

No opinion: 0

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

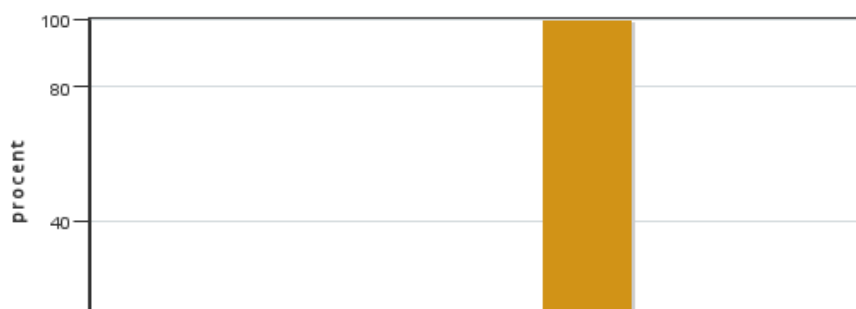


Answers: 4  
 Medel: 4,5  
 Median: 4

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

No opinion: 0

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



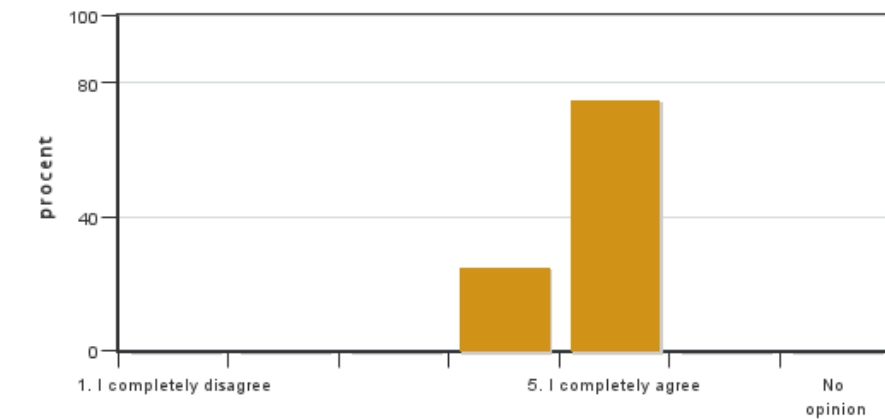
Answers: 4  
 Medel: 5,0  
 Median: 5

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

No opinion: 0



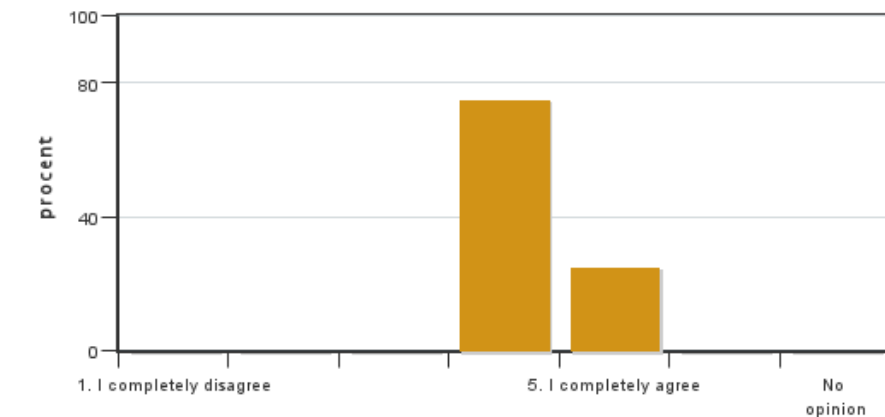
7. The physical learning environment (facilities, equipment etc.) has been satisfactory.



Answers: 4  
Medel: 4,8  
Median: 5

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

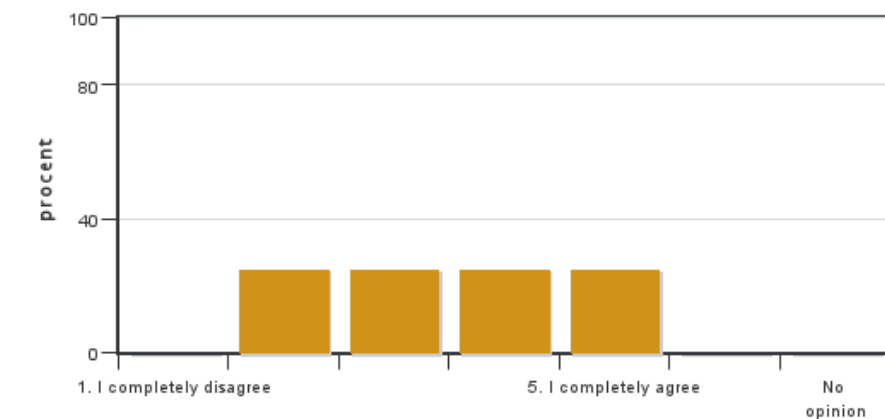
8. The examination(s) provided opportunity to demonstrate what I had learnt during the course (see the learning objectives).



Answers: 4  
Medel: 4,3  
Median: 4

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

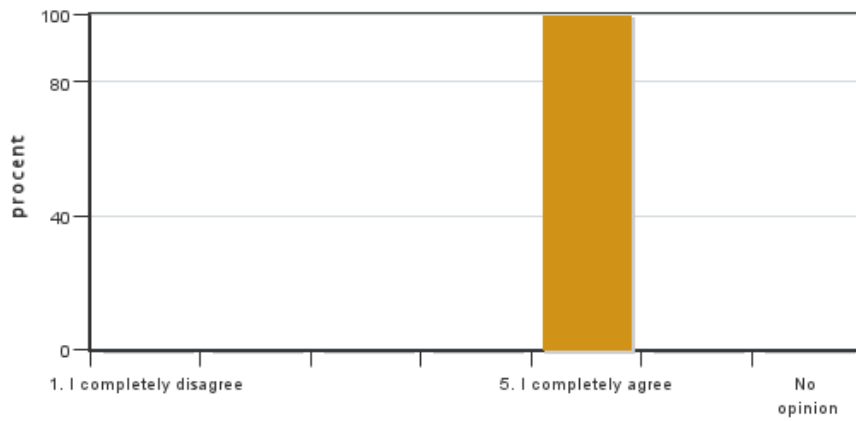
9. The course covered the sustainable development aspect (environmental, social and/or financial sustainability).



Answers: 4  
Medel: 3,5  
Median: 3

1: 0  
2: 1  
3: 1  
4: 1  
5: 1  
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).

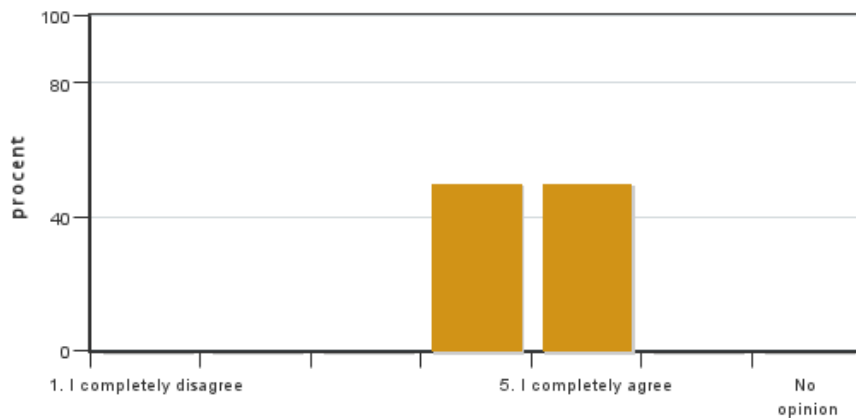


Answers: 4  
 Medel: 5,0  
 Median: 5

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

No opinion: 0

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

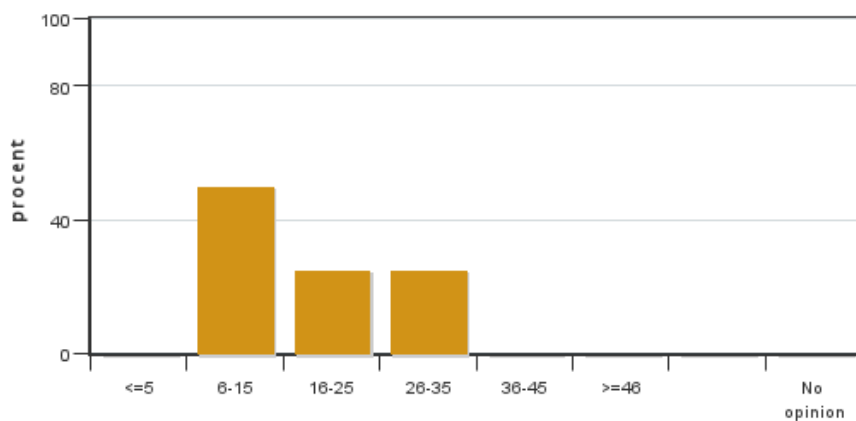


Answers: 4  
 Medel: 4,5  
 Median: 4

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

No opinion: 0

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

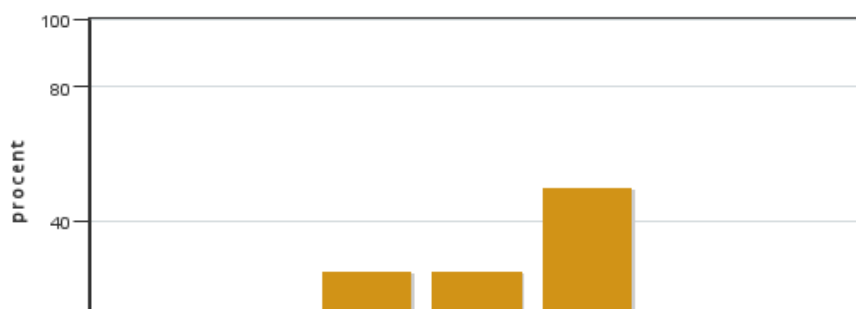


Answers: 4  
 Medel: 17,5  
 Median: 6-15

≤5: 0  
 6-15: 2  
 16-25: 1  
 26-35: 1  
 36-45: 0  
 ≥46: 0

No opinion: 0

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



Answers: 4  
 Medel: 4,3  
 Median: 4

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

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**

## Course leaders comments

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Principles of Fisheries Science (PFS) is designed as a full-time course. The general impression is that the students enjoyed the high engagement required by this course and the combination of theory with applied cases. The approaches adopted by the teachers gave the intended results to stimulate learning and discussion in an inclusive learning environment. The high teachers-students ratio of this course has also contributed to create a well-perceived context to enhance learning. In class learning seems preferred by the students but the parts of the course given by distance received equally positive feedback suggesting that a balanced mixture of the two settings is valuable and feasible.

The students liked examination over problem-based assignments and project which they found at times challenging. The students' performances were generally high, which reflects well a combination of individual skills and engagement. The high level of integration of lectures, seminars, laboratories remains a strength of the course. The course relies on the contribution of numerous experts at the department which is highly appreciated by the students. This allowed to achieve a high educational standard in each part of the course. This is supported by this year evaluation that "Principles of Fisheries Science is a great course [...] where the return in knowledge exchanged for the 10 weeks of course time is very high".

The field trip to the Department field facilities (full week at the Marine Research Institute in Lysekil) represents a moment of full-immersion into the course and have been highly rated. During their staying the students were full-time involved into diversified and interlinked activities which guided them from the theory to the practice of data collection, processing and analyses up to derive potential advice on the management of fish resources. Feedback from the students suggest to they would like more field activities coupled with the already included laboratory part. The comment is well received, in fact more field work was included in early editions of the course, but budget constrains forced to reduce that. This will be considered for the upcoming editions of the course.

## Student representatives comments

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### General Summary

Principles of Fisheries Science is a great course for students who are interested in fisheries modelling and stock assessment science, where the return in knowledge exchanged for the 10 weeks of course time is very high. The course touches on a variety of topics that are relevant in the context of fisheries science. The course is divided in 7 main modules with each module combining specific theory, methods and applications. As with many master-level courses a certain previous knowledge of biology and fish ecology is expected, however the course also covers some fundamentals of ecological knowledge such as population dynamics and life history traits. A helpful course to take beforehand is "ecology for fish management and conservation", as that covers the more biological aspects of fisheries science. In addition to the biological knowledge a certain level of fluency in either Excel or R is necessary, mainly because whilst there is freedom in which data processing software the student uses, the required level of knowledge exceeds that of a base-level Excel course. Teaching staff is however very friendly and approachable for help on these topics.

Principles of Fisheries Science also includes field trips to the research stations of the Department of Aquatic Resources. These visits are not too challenging, as they include a moderate amount of hands-on work, and they are fun and interesting to directly see the research facilities and to network with researchers. Additionally, being at the research stations guaranteed in person lectures which were preferred to online classes as given for part of the course while in Ultuna. The practical activities done during those field trips include among others, an introduction to fish tagging, otolith age reading and collection of other biological parameters on fish and shrimp species, and a section on fishing gear. We wonder if it would be possible to extend those activities by actually going out in the field to collect fish using a small trawling vessel (such as the ones located at the Lysekil research station) and subsequently do age/otolith reading and data processing with the samples gathered. This would give students an even better sense of the whole process of collecting and analysing biological data instead of working with pre-collected and pre-compiled data.

### **Points Of Criticism**

As with any full length course there are some hiccups that are to be expressed: one of which is the order in which certain classes were taught. During the first weeks of the course there was a class on population dynamics that did not fit in so well with the other matter being taught at the time. This caused the lecture to be, whilst inherently valuable, of limited relevance at that point in time as we felt that we had to repeat it during the later part of the course when population dynamics was more of a central topic.

Another downside was the scheduling of the course. It happened quite frequently that a lecture or seminar went over time by a considerable margin. It would be preferred that more time was planned for the lectures, so that for the students attending the course it was possible to plan around the lectures.

A pivotal point of the course is the final project based on the VPA (virtual population analysis) method.

The VPA was introduced in a single lecture and we would have preferred more explanations on the model and its parameters. As a result, a lot of own research and communication amongst peers was required for us to fully grasp the intricacies of the VPA assignment.

The one day field trip to the Sötvattenslaboratoriet in Drottningholm was, whilst interesting, very lacklustre. This is a very nice location with many knowledgeable researchers and research materials, but a longer visit of at least two days would have allowed to combine more field and theoretical work.

### **Conclusion**

The PFS course is very close to perfect, with great amounts of information condensed into a single manageable course and insanely knowledgeable lecturers and professors. There are parts of which the execution is not optimal but these can easily be ironed out so that the course could reach its maximum potential.