

Course analysis for course ML2307

Theory of Science and Research Methodology in Sustainable Production Development

0. **When the course was completed:** October 19th, 2022

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Exam elements (with points):

INL1 (P/F, 1hp): Popular presentation

PRO1 (A-F, 3hp): Research Proposal writing

SEM1 (A-F, 2hp): Research Proposal presentation

1. Description of the course evaluation process

The students have three specific forms to give their opinions

1. In the introduction of the course, the students provide input about their expectations in the course.

2. During the supervision sessions, two occasions are scheduled in the course.

3. During the Final course evaluation.

Gender equality and diversity drive in the formation of the teams in the INL1 group assignment. The teachers considering equality in gender and cultural differences created students groups.

For the other two group assignments, students are encouraged to create their groups, in order to freedom and facilitate the selection of the topics for their research proposal. Given that the topic should be in an area if interest for a potential thesis project.

JML was also prioritized when finding teachers and guest lectures. Currently the majority of teachers are male; however, one of the course responsible and the examiner are females.

Increasing the number of female teachers would be encouraged but not a priority for course development as there is a high cultural diversity already in the researchers and teachers background who are involved in this course.

2. Account of meetings held with students

- Meeting organized by the Master program responsible with student representatives before the start date of the course. In this meeting, the staff involved had the opportunity to reflect on areas of improvement for the program and courses; for this

particular course, the teachers incorporated what was possible for the upcoming sessions in the running course e.g. increased supervision session for research proposal.

- Course final presentation session, where students could share reflections.
- Continuous improvement was possible through open communication in CANVAS- course discussion section, email and allocated tutoring meetings, the students could share their concerns opinions (about the course and project) directly to the course responsible and teacher(s) supervising the group projects.

3. Course layout

The course consists of different sessions to prepare students to independently be able to carry out a degree project at the second cycle level based on the relevant scientific methodology. The students are trained to apply concepts, methods and critical arguments through a multitude of activities, based on discussion, analysis of current scientific literatures and preparation of a theoretical framework for their Master thesis, that can be further developed within the scope of the degree project.

The course is assessed by the following:

INL1 (P/F, 1hp): Popular presentation. The students analyze a research paper and are expected to present their findings through a short video.

PRO1 (A-F, 3hp): Research Proposal writing. The students develop a research proposal, the deliverable is a 10 pages report. The objective of the assignment is to learn and understand how a master thesis topic selection and report writing can be approached.

SEM1 (A-F, 2hp): Research Proposal presentation. The students present their research proposal orally.

Specific improvement from previous year:

- Allocated explanation session for each assignment
- Revised assignments, include guidelines and templates for peer-review for both PRO1 and SEM1
- Allocated group work-time & supervision sessions for assignments

4. The students' work effort time in relation to points

The time expended reported by the students seems to differ from 6-8 to 27-29 hrs. a week. Expected workload in total is 160 hrs. for a 6 credits course, which gives an average of 20 hrs. per week. The deviation in hrs. per student seems to rely on different reasons, 1) skills in assignments e.g. INL1, video editing, and 2) the amount of time the students devote to the non-mandatory readings in the course and to develop their research proposal. Some students found more challenging than others to develop a theoretical framework and define research questions.

5. The students' results

The students' results do not differ much as previous years. All students passed the course. 53% of the total number of students obtained grade A or B. the rest 47% of students obtained C in the course. The final research proposal had the higher impact in the final grade.

6. Answers to open questions

It was revealed that some students do poor preparation given the amount of hrs they actually allocate to the course work. Actions will be implemented to for instance, ensure the students cover the reading materials assigned. The students enjoyed the popular science INL1 assignment.

7. Summary of the students' opinions

The impressions of the students are:

- The students enjoyed the assignments and found them helpful.

- The students wish to have a little more time for the research proposal and expressed they need less time for the video assignment.
- They felt in general the hand-in dates for the assignments were manageable, same as the workload.
- The students requested more in-depth content from the guest lecturers on “how to do research”, how to get to the results they presented.

8. **Impression**

The teachers expressed the need for the students to expend more time on the research proposals, and see an opportunity to better utilize the supervision sessions.

The teachers would like to increase the quality of the PRO1 but overall think the course flow and content is good and supports the students’ preparations for their thesis projects.

9. **Analysis**

The majority of the students in the course are international students, we do not see a high difference in the way they perceive and perform in the course. The gender and cultural background did not play a major role in their performance either.

Stronger part of the course is the expertise of the teachers, all of them have practical experience that complement the topic they cover in the course, in this way the students can benefit from real research examples.

The weak part of the course is not fully been able to extract tacit knowledge and practical insights from the researchers and instructors in a standardized way. As of now this is very much teacher/instructor dependent.

10. **Priority course development**

In the short term:

Supervision will be goal oriented; specific tasks per session will be revised in order to target deeper questions and give particular input on the group projects.

Time for assignments will be re-distributed from INL1 (reduced) and PRO1 and SEM1 will be increased.

Long term:

Re-assess the PRO1 assignment to seek a different way for the students to approach the research design.

Increasing the number of female teachers would be encouraged.

11. **Other information**

We will seek input from the teachers in the thesis project course and staff in program level meetings about how to best align the assignments and activities in the course to increase the quality of research proposals.