

# EQ4443, EQ444 & EQ4445, Project in Information Engineering/Communication Engineering/Multimedia, Period 2, 2022 Course Analysis

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## Course Design

**Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.**

This analysis applies to the three courses EQ 2443 - 2445, which have been run in parallel (also the course questionnaire was done jointly for the three courses). In total 28 students were registered in the courses, from which 26 passed the course and 13 participated in the course evaluation. The course is a project course, where the students realize a research project. While technical skills (algorithm design, programming, performance evaluation, experimentation) are required, the course also requires the students to manage their project. The course is examined by taking all presentations into account, the weekly work of the students as well as a final report they hand in. This is the fifth year that the course is run in this format. The main changes compared to previous year was

- A joint Canvas room was used for all three courses and Canvas assignments were used to let the students upload their presentations and final report.
- Since more students than previously attended the course, the project groups were larger, with 4-5 students per group, compared to 2-3/group in previous years.

## The Student's Workload

**Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If there is a significant deviation from the expected, what can be the reason?**

The answers give an average around 15-29h/week, which is a reasonable level. There are some variations in answers, i.e., below 10 h/week or above 30 h/week, which are also reasonable, given a large sample space.

The comments are in general positive in workload, e.g., "Acceptable to me.", "Quite ok", "I think my weekly workload is appropriate, and the key point is

on how we allocate the workload reasonably to ensure that the entire project can be carried out in an orderly manner.”.

From the comment, the student has workload more than 30 h/week maybe due to the new knowledge, ”The project is about something brand new to me, so I need more time daily to be familiar with the case, the tools, and the knowledge to solve it.”

## **The Students’ Results**

**How well have the students succeeded on the course? If there are significant differences compared to previous course offerings, what can be the reason?**

26 students passed the course and all project groups successfully obtained the planned and expected goals. 1 student dropped out the study at KTH and another student needs to make extra work to pass, since he did not make sufficient contribution during the course period.

## **The intended learning outcomes helped me to understand what I was expected to achieve**

The answer is general very positive. From score range of -3 (strongly disagree) to +3 (strongly agree), 6 students (48%) answer +3 and 5 +2 and only 2 (15%) answer -2. The reason of -2 may be the student did not fully understand the ILO at the first place: ”I knew that I achieve something but I don’t know if what I have achieved is the 100% that I should’ve achieved at the first place”

## **I worked with interesting issues**

The answers are in general positive. 9 students answer +3, 1 student +1 and 2 students -1 and 1 student -2. There are 3 students (totally about 20%) responded below 0 (neutral). Despite of major positive, we still need to work on the project topics in future round. In comments and separate discussion with students, we got feedback that the projects are all somehow related to machine learning. Some students expect to get some project with communication or signal processing in experiments.

## **Answers to Open Questions**

### **Positive answers**

My group is randomly chosen but I love working with them.

Learn not only knowledge, but also more importantly how to manage a project.

The best thing about this course is that we are required to complete a project in a short period of time, including stage assessment and final report. This can greatly improve our time planning ability, and at the same time requires us

to actively communicate and cooperate with team members to ensure that the project can be completed.

## **Suggestions for improvement**

More information about what is required to pass the course or to reach a certain grade.

I need clearer instruction or template of how the presentation slides should look like, and how the report should be made like how many pages and whether it should be two-column conference paper style or a simple report.

My main complaint about this course regards the project proposals. First of all the number of projects available is very small and similar, if you want students to be able to pick a project appealing somewhat to their interest I suggest you give them more options to work with or at least keep some variety in the options. All the projects were, it seems, just something directly related to the work of the corresponding PhD student, this leaves us with the feeling we are just doing free labour for the PhD students. Also with this few and similar project options most students will evidently choose the most interesting project (which is what happened) and assign the limited spots, to my best knowledge, randomly?? further guaranteeing fewer students get to do the projects they really want to do. My suggestion is have more variety in projects and simply more options, you could even do a survey beforehand allowing students to bring their own ideas and interests to the table.

There can be more topics and less students in a group. So every can get more involved in the project.

More Q&A between different groups when doing the presentation.

more variety in the projects: they were pretty similar. Federated learning or yolo for example both were the main topic of two projects.

## **Priority Course Development**

**What aspects of the course should primarily be developed?  
How could these aspects be developed in the short or long term?**

Projects were closely related to the machine learning and the pure communication and signal processing projects are largely lacking. This is mainly because the projects are designed and offered by Ph.D students or PostDocs in the division. Presently, most of students or Postdocs are working on projects related to machine learning. For the future rounds, communication and signal processing experiment projects should be added. There is some preliminary plan for this.

One student did not make active contributions. All other team members have complained on him. We also interviewed project owner and got a similar conclusion. Thus, we gave him extra task to finish to pass the course. For future round, it may be good to keep the track of individual contribution of students. Weekly diaries is a good way to achieve the purpose.

For next course round, the following changes are planned

- Officially extend the course into Period 1 (1cr in P1+6.5cr. in P2), to reflect the fact that the match making seminar takes places during the last

weeks of P1 and that the students should do the initial project planning before the kick-off seminar in first week of P2.

- Clarify the instructions for the different seminars.
- Use Canvas to collect weekly diaries from the students.

## **Other Information**

### **Is there anything else you would like to add?**

One student dropped out in the middle of the course (actually he left KTH). However, since there were 5 students in his group, the project could still run with slightly reduced targets.

# Course evaluation EQ24443-5, HT22

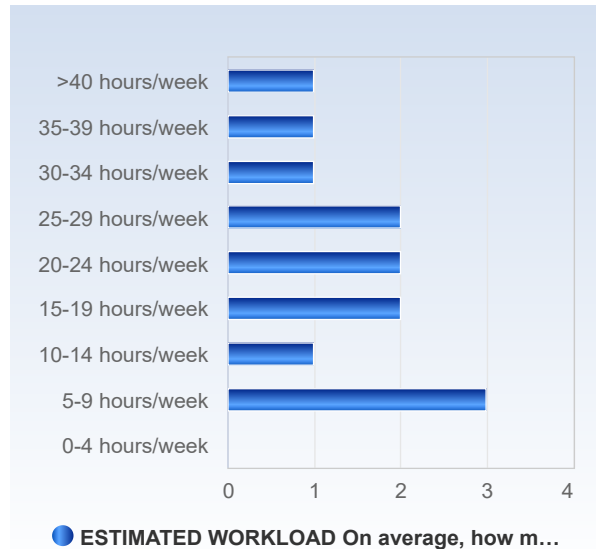
Respondents: 27  
 Answer Count: 13  
 Answer Frequency: 48.15%

## ESTIMATED WORKLOAD

On average, how many hour/week did your work with the course (including scheduled hours)?

Select from the list:

| ESTIMATED WORKLOAD  | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| On average, how many hour/week did your work with the course (including scheduled hours)? |                     |                     |
| Select from the list:   |                     |                     |
| 0-4 hours/week  | 0 (0.0%)            | 0 (0.0%)            |
| 5-9 hours/week  | 3 (23.1%)           | 3 (23.1%)           |
| 10-14 hours/week  | 1 (7.7%)            | 4 (30.8%)           |
| 15-19 hours/week  | 2 (15.4%)           | 6 (46.2%)           |
| 20-24 hours/week  | 2 (15.4%)           | 8 (61.5%)           |
| 25-29 hours/week  | 2 (15.4%)           | 10 (76.9%)          |
| 30-34 hours/week  | 1 (7.7%)            | 11 (84.6%)          |
| 35-39 hours/week  | 1 (7.7%)            | 12 (92.3%)          |
| >40 hours/week  | 1 (7.7%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



| ESTIMATED WORKLOAD  | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| On average, how many hour/week did your work with the course (including scheduled hours)? |      |                    |                          |     |                |        |                |     |
| Select from the list:   | 4.8  | 2.3                | 47.5 %                   | 2.0 | 3.0            | 5.0    | 6.0            | 9.0 |

Please comment on the course from this perspective:

The project is about something brand new to me, so I need more time daily to be familiar with the case, the tools, and the knowledge to solve it.

Acceptable to me.

Quite ok

I think my weekly workload is appropriate, and the key point is on how we allocate the workload reasonably to ensure that the entire project can be carried out in an orderly manner.

Through this course, I have gained rich experience in in-depth learning projects, and also have a clear understanding of the implementation process of the project

## LEARNING EXPERIENCE

Now your task is to consider a number of statements on a scale between -3 and +3 where:

-3 = No, I strongly disagree with the statement

0 = I am neutral to the statement

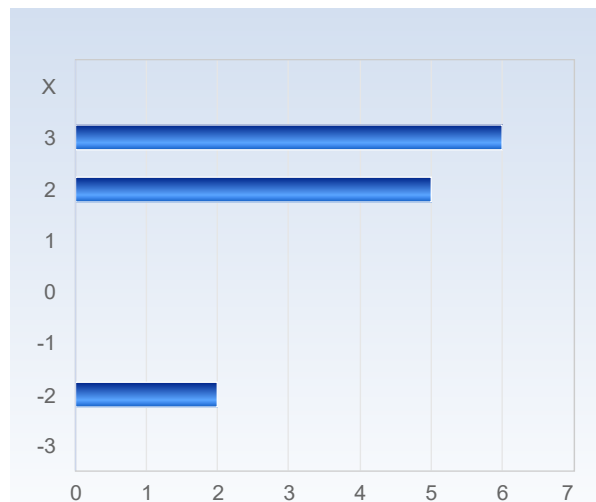
+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement (please explain why in a comment)

If possible, please clarify your opinion with a sincere and considerate comment!

The intended learning outcomes helped me to understand what I was expected to achieve

| The intended learning outcomes helped me to understand what I was expected to achieve | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 2 (15.4%)           | 2 (15.4%)           |
| -1  | 0 (0.0%)            | 2 (15.4%)           |
| 0   | 0 (0.0%)            | 2 (15.4%)           |
| 1   | 0 (0.0%)            | 2 (15.4%)           |
| 2   | 5 (38.5%)           | 7 (53.8%)           |
| 3   | 6 (46.2%)           | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |

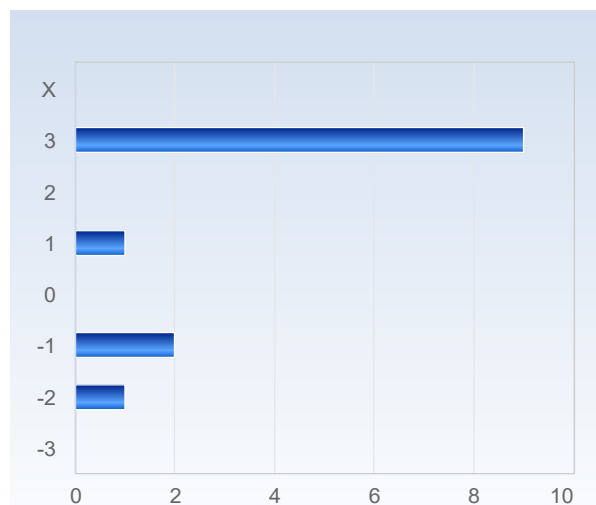


● The intended learning outcomes helped me to ...

|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| The intended learning outcomes helped me to understand what I was expected to achieve | 5.8  | 1.8                | 30.3 %                   | 2.0 | 6.0            | 6.0    | 7.0            | 7.0 |

I worked with interesting issues

| I worked with interesting issues | Number of responses | Cumulated responses |
|----------------------------------|---------------------|---------------------|
| -3                               | 0 (0.0%)            | 0 (0.0%)            |
| -2                               | 1 (7.7%)            | 1 (7.7%)            |
| -1                               | 2 (15.4%)           | 3 (23.1%)           |
| 0                                | 0 (0.0%)            | 3 (23.1%)           |
| 1                                | 1 (7.7%)            | 4 (30.8%)           |
| 2                                | 0 (0.0%)            | 4 (30.8%)           |
| 3                                | 9 (69.2%)           | 13 (100.0%)         |
| X                                | 0 (0.0%)            | 13 (100.0%)         |
| Total                            | 13 (100.0%)         | 13 (100.0%)         |

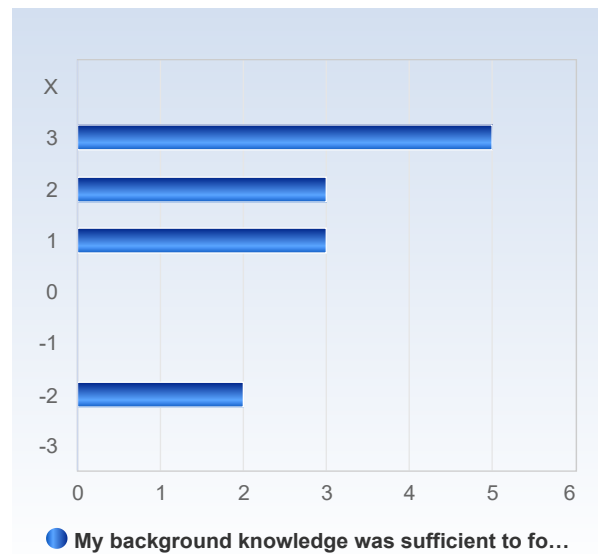


● I worked with interesting issues

|                                  | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|----------------------------------|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| I worked with interesting issues | 5.8  | 1.9                | 32.6 %                   | 2.0 | 5.0            | 7.0    | 7.0            | 7.0 |

My background knowledge was sufficient to follow the course

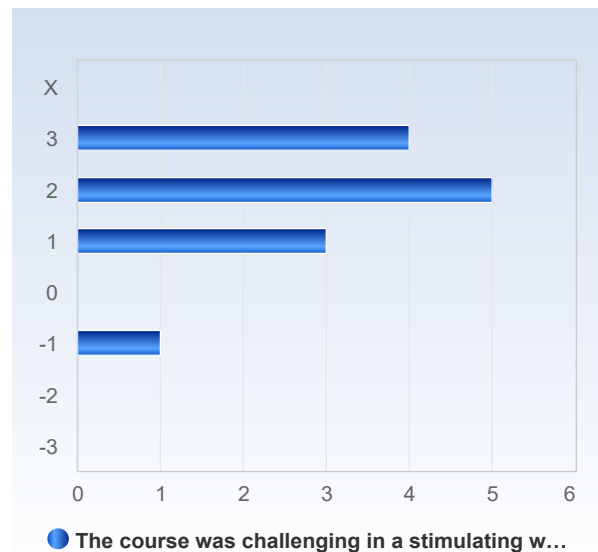
| My background knowledge was sufficient to follow the course | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 2 (15.4%)           | 2 (15.4%)           |
| -1  | 0 (0.0%)            | 2 (15.4%)           |
| 0   | 0 (0.0%)            | 2 (15.4%)           |
| 1   | 3 (23.1%)           | 5 (38.5%)           |
| 2   | 3 (23.1%)           | 8 (61.5%)           |
| 3   | 5 (38.5%)           | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| My background knowledge was sufficient to follow the course | 5.5  | 1.8                | 31.8 %                   | 2.0 | 5.0            | 6.0    | 7.0            | 7.0 |

The course was challenging in a stimulating way

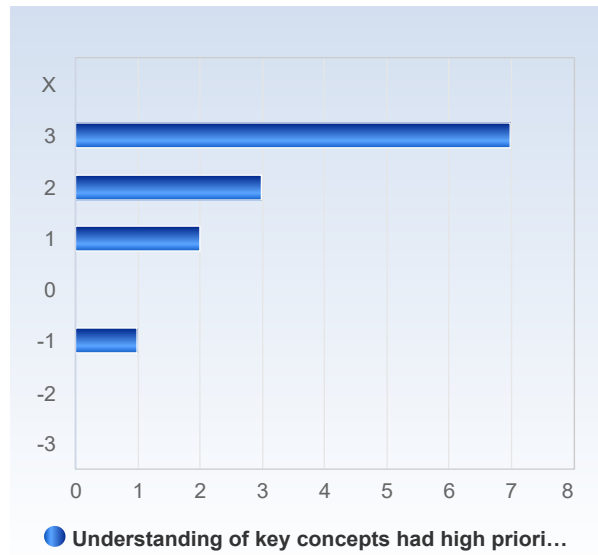
| The course was challenging in a stimulating way | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 0 (0.0%)            | 0 (0.0%)            |
| -1  | 1 (7.7%)            | 1 (7.7%)            |
| 0   | 0 (0.0%)            | 1 (7.7%)            |
| 1   | 3 (23.1%)           | 4 (30.8%)           |
| 2   | 5 (38.5%)           | 9 (69.2%)           |
| 3   | 4 (30.8%)           | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| The course was challenging in a stimulating way | 5.8  | 1.1                | 19.6 %                   | 3.0 | 5.0            | 6.0    | 7.0            | 7.0 |

Understanding of key concepts had high priority

| Understanding of key concepts had high priority | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 0 (0.0%)            | 0 (0.0%)            |
| -1  | 1 (7.7%)            | 1 (7.7%)            |
| 0   | 0 (0.0%)            | 1 (7.7%)            |
| 1   | 2 (15.4%)           | 3 (23.1%)           |
| 2   | 3 (23.1%)           | 6 (46.2%)           |
| 3   | 7 (53.8%)           | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| Understanding of key concepts had high priority | 6.2  | 1.2                | 19.7 %                   | 3.0 | 6.0            | 7.0    | 7.0            | 7.0 |

I was able to practice and receive feedback without being graded

| I was able to practice and receive feedback without being graded | Number of responses | Cumulated responses |
|--|---------------------|---------------------|
| -3   | 0 (0.0%)            | 0 (0.0%)            |
| -2   | 1 (7.7%)            | 1 (7.7%)            |
| -1   | 2 (15.4%)           | 3 (23.1%)           |
| 0  | 0 (0.0%)            | 3 (23.1%)           |
| 1  | 0 (0.0%)            | 3 (23.1%)           |
| 2  | 2 (15.4%)           | 5 (38.5%)           |
| 3  | 8 (61.5%)           | 13 (100.0%)         |
| X  | 0 (0.0%)            | 13 (100.0%)         |
| Total  | 13 (100.0%)         | 13 (100.0%)         |



|  | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|--|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| I was able to practice and receive feedback without being graded | 5.8  | 1.9                | 31.9 %                   | 2.0 | 6.0            | 7.0    | 7.0            | 7.0 |



The course activities helped me to achieve the intended learning outcomes efficiently

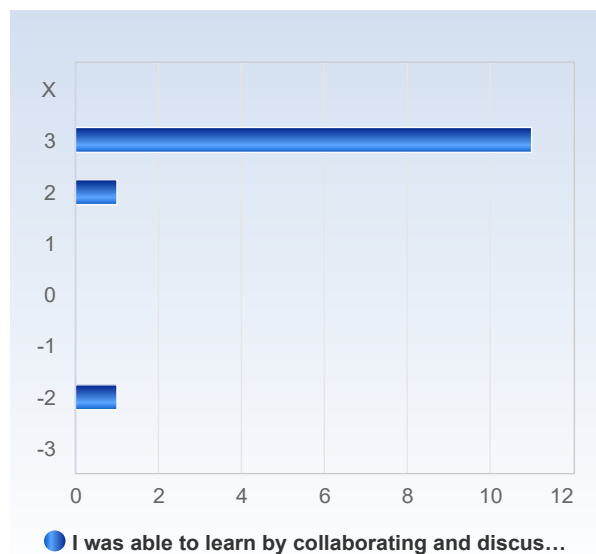
| The course activities helped me to achieve the intended learning outcomes efficiently | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 1 (7.7%)            | 1 (7.7%)            |
| -1  | 1 (7.7%)            | 2 (15.4%)           |
| 0   | 1 (7.7%)            | 3 (23.1%)           |
| 1   | 0 (0.0%)            | 3 (23.1%)           |
| 2   | 5 (38.5%)           | 8 (61.5%)           |
| 3   | 5 (38.5%)           | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| The course activities helped me to achieve the intended learning outcomes efficiently | 5.7  | 1.7                | 29.0 %                   | 2.0 | 6.0            | 6.0    | 7.0            | 7.0 |

I was able to learn by collaborating and discussing with others

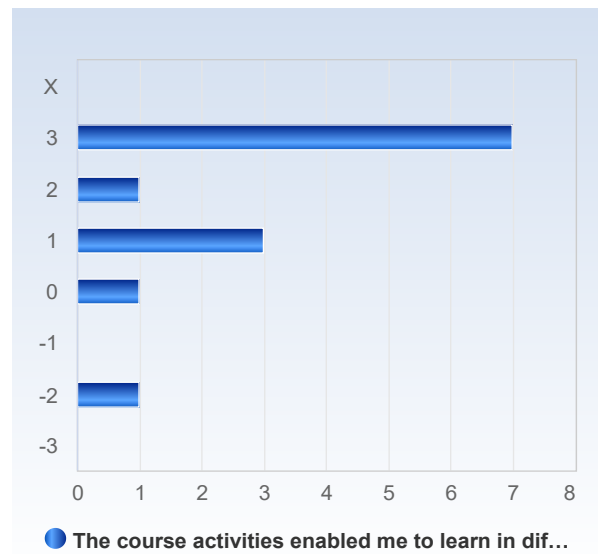
| I was able to learn by collaborating and discussing with others | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 1 (7.7%)            | 1 (7.7%)            |
| -1  | 0 (0.0%)            | 1 (7.7%)            |
| 0   | 0 (0.0%)            | 1 (7.7%)            |
| 1   | 0 (0.0%)            | 1 (7.7%)            |
| 2   | 1 (7.7%)            | 2 (15.4%)           |
| 3   | 11 (84.6%)          | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| I was able to learn by collaborating and discussing with others | 6.5  | 1.4                | 21.3 %                   | 2.0 | 7.0            | 7.0    | 7.0            | 7.0 |

The course activities enabled me to learn in different ways

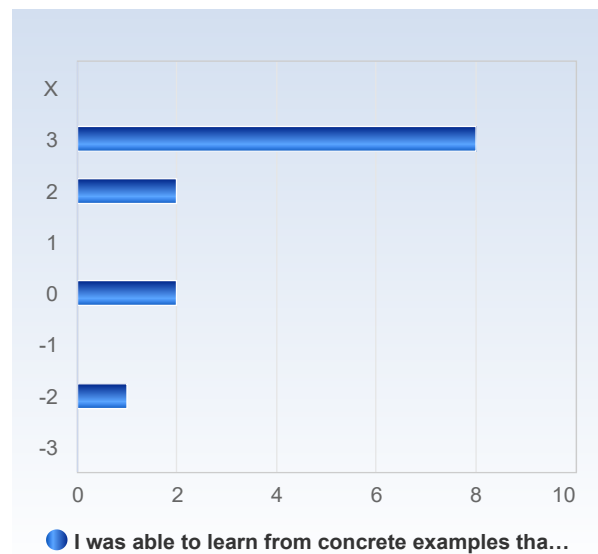
| The course activities enabled me to learn in different ways | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 1 (7.7%)            | 1 (7.7%)            |
| -1  | 0 (0.0%)            | 1 (7.7%)            |
| 0   | 1 (7.7%)            | 2 (15.4%)           |
| 1   | 3 (23.1%)           | 5 (38.5%)           |
| 2   | 1 (7.7%)            | 6 (46.2%)           |
| 3   | 7 (53.8%)           | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| The course activities enabled me to learn in different ways | 5.8  | 1.6                | 26.9 %                   | 2.0 | 5.0            | 7.0    | 7.0            | 7.0 |

I was able to learn from concrete examples that I could relate to

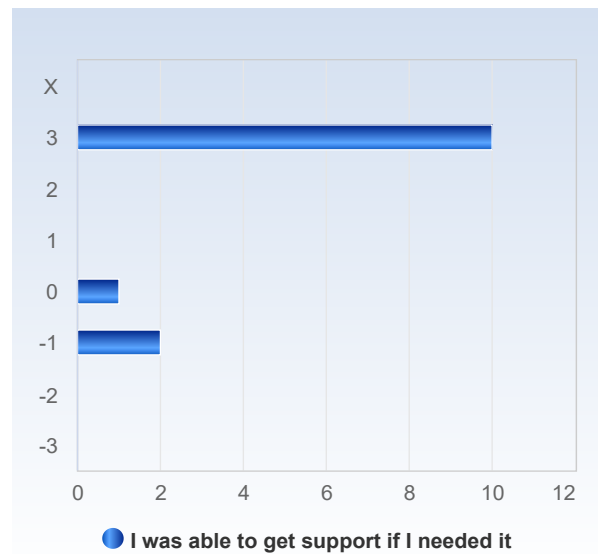
| I was able to learn from concrete examples that I could relate to | Number of responses | Cumulated responses |
|---|---------------------|---------------------|
| -3  | 0 (0.0%)            | 0 (0.0%)            |
| -2  | 1 (7.7%)            | 1 (7.7%)            |
| -1  | 0 (0.0%)            | 1 (7.7%)            |
| 0   | 2 (15.4%)           | 3 (23.1%)           |
| 1   | 0 (0.0%)            | 3 (23.1%)           |
| 2   | 2 (15.4%)           | 5 (38.5%)           |
| 3   | 8 (61.5%)           | 13 (100.0%)         |
| X   | 0 (0.0%)            | 13 (100.0%)         |
| Total   | 13 (100.0%)         | 13 (100.0%)         |



|   | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|---|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| I was able to learn from concrete examples that I could relate to | 6.0  | 1.6                | 27.2 %                   | 2.0 | 6.0            | 7.0    | 7.0            | 7.0 |

I was able to get support if I needed it

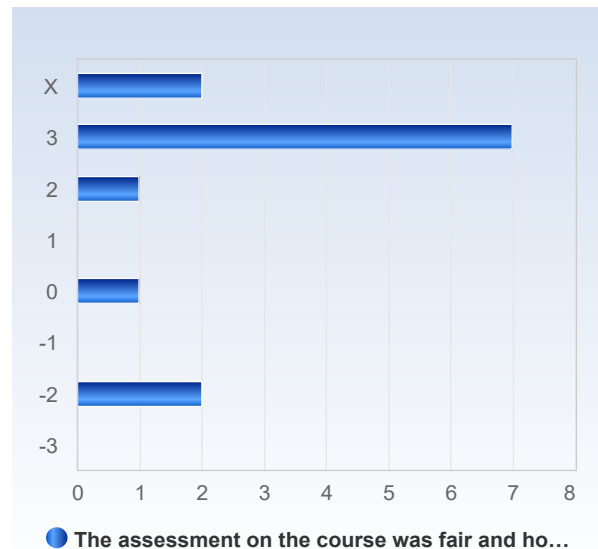
| I was able to get support if I needed it | Number of responses | Cumulated responses |
|--|---------------------|---------------------|
| -3                                       | 0 (0.0%)            | 0 (0.0%)            |
| -2                                       | 0 (0.0%)            | 0 (0.0%)            |
| -1                                       | 2 (15.4%)           | 2 (15.4%)           |
| 0  | 1 (7.7%)            | 3 (23.1%)           |
| 1  | 0 (0.0%)            | 3 (23.1%)           |
| 2  | 0 (0.0%)            | 3 (23.1%)           |
| 3  | 10 (76.9%)          | 13 (100.0%)         |
| X  | 0 (0.0%)            | 13 (100.0%)         |
| Total                                    | 13 (100.0%)         | 13 (100.0%)         |



|  | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|--|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| I was able to get support if I needed it | 6.2  | 1.6                | 26.4 %                   | 3.0 | 7.0            | 7.0    | 7.0            | 7.0 |

The assessment on the course was fair and honest

| The assessment on the course was fair and honest | Number of responses | Cumulated responses |
|--|---------------------|---------------------|
| -3   | 0 (0.0%)            | 0 (0.0%)            |
| -2   | 2 (15.4%)           | 2 (15.4%)           |
| -1   | 0 (0.0%)            | 2 (15.4%)           |
| 0  | 1 (7.7%)            | 3 (23.1%)           |
| 1  | 0 (0.0%)            | 3 (23.1%)           |
| 2  | 1 (7.7%)            | 4 (30.8%)           |
| 3  | 7 (53.8%)           | 11 (84.6%)          |
| X  | 2 (15.4%)           | 13 (100.0%)         |
| Total  | 13 (100.0%)         | 13 (100.0%)         |



|  | Mean | Standard Deviation | Coefficient of Variation | Min | Lower Quartile | Median | Upper Quartile | Max |
|--|------|--------------------|--------------------------|-----|----------------|--------|----------------|-----|
| The assessment on the course was fair and honest | 6.1  | 2.1                | 33.9 %                   | 2.0 | 6.0            | 7.0    | 7.0            | 8.0 |

The intended learning outcomes helped me to understand what I was expected to achieve -

I knew that I achieve something but I don't know if what I have achieved is the 100% that I should've achieved at the first place

I worked with interesting issues -

Yes, it is a new issue and I personally love trying to solve it.

My background knowledge was sufficient to follow the course -

Since machine learning courses is not mandatory for all study tracks, I thought it was weird that all projects revolved around machine learning of some form

I'll say I lack of key knowledge to solve it but I can keep up with my friends to solve the case

Understanding of key concepts had high priority -

It is easily tested with a question after presentation naturally not

I was able to practice and receive feedback without being graded -

To me, feedback is more important than grade in this case because the problem I worked here is real problem not just a matter of homework

I was able to learn by collaborating and discussing with others -

My group is randomly chosen but I love working with them

The assessment on the course was fair and honest -

We have not received any assessment yet grading hasn't been done yet

### **GENERAL QUESTIONS**

What was the best aspect of the course?

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What was the best aspect of the course?

Practicing working in a project group.

There is no routine class to attend

Getting practical experience working on a machine learning problem

Learn not only knowledge, but also more importantly how to manage a project.

Teamwork and weekly meetings with the supervisor.

Working in groups and being able to discuss things among us and with our supervisor.

The best thing about this course is that we are required to complete a project in a short period of time, including stage assessment and final report. This can greatly improve our time planning ability, and at the same time requires us to actively communicate and cooperate with team members to ensure that the project can be completed.

Have a concrete and feasible idea, and let students carry out projects independently

What would you suggest to improve?

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More information about what is required to pass the course or to reach a certain grade.

I need clearer instruction or template of how the presentation slides should look like, and how the report should be made like how many pages and whether it should be two-column conference paper style or a simple report.

My main complaint about this course regards the project proposals.

First of all the number of projects available is very small and similar, if you want students to be able to pick a project appealing somewhat to their interest I suggest you give them more options to work with or at least keep some variety in the options. All the projects were, it seems, just something directly related to the work of the corresponding PhD student, this leaves us with the feeling we are just doing free labour for the PhD students. Also with this few and similar project options most students will evidently choose the most interesting project (which is what happened) and assign the limited spots, to my best knowledge, randomly?? further guaranteeing fewer students get to do the projects they really want to do. My suggestion is have more variety in projects and simply more options, you could even do a survey beforehand allowing students to bring their own ideas and interests to the table.

There can be more topics and less students in a group. So every can get more involved in the project.

More Q&A between different groups when doing the presentation.

The presentations were too long if we had to listen to all of them. I would suggest assigning a time slot to each group and making attendance to one other presentation mandatory but not to all.

more variety in the projects: they were pretty similar. Federated learning or yolo for example both were the main topic of two projects.

I think this course should add a personal evaluation part, for example, we can have a personal contribution part in the final report, and each of us can write a short report about what did he do and what problem he solved. I think this can help to urge everyone to participate in the project actively.

For the in-depth learning project, we hope that the course can provide GPU resources.

How did you perceive the collaboration among your group members and how would you improve the group collaboration to achieve a better project progress?

How did you perceive the collaboration among your group members and how would you improve the group collaboration to achieve a better project progress?

The collaboration was good, maybe we could have had more physical meetings but everyone did their part of the work and we had good communication.

My group member has different skills that puzzled well to finish the project. It is just there was a time that we lack communication so that we understood things in different perspectives

The collaboration was not great as a couple of my fellow members contributed very little to the project. This was a problem mostly because the nature of the project was such that it was very difficult a to work on different tasks simultaneously as each task depended on the earlier tasks

Our group collaborates well.

Great experience.

I would have liked to have a space to work from there regularly all together

worked fairly good. We had one member who was a little difficult, but we managed to deal with it I think

I think the most difficult problem to solve is that we can't assign any tasks to people who don't want to work at all, we can only take more work.

Our team members are very good at completing their tasks, but sometimes the results can not be integrated. We should increase communication.

What advice would you like to give to future participants?

What advice would you like to give to future participants?

Make a realistic time plan and try to follow it.

start earlier and write the final report week by week.

The earlier you learn to use git the better

Plan the project in advance and prepare for backup strategy.

Find an interesting topic.

To have a clear planning of the work and an overview of the project objectives from the beginning.

I suggest that you start working earlier and prepare more about presentations at different stages.

I think the key is to have a reasonable schedule and report the progress every week. Strengthen communication and cooperation in the task.

Is there anything else you would like to add?

Is there anything else you would like to add?

In our group, we wrote the diaries weekly and sent them by email but received no feedback and we heard other groups were not doing it. I would like to have a more precise idea of what is mandatory and what is not, and how the course is evaluated. Maybe just having the assignments in canvas created from the first day and with clear deadlines would be the best approach.

maybe encourage the PhD students to only offer projects that are on topics that they actually know. At some point, our project owner basically could help us because he knew as little about the concrete topic as we did. It feels like we could have learned a lot more in this course if the topic was actually something he was experienced in

I think weekly reports should also be compulsory and must be collected for final grading.