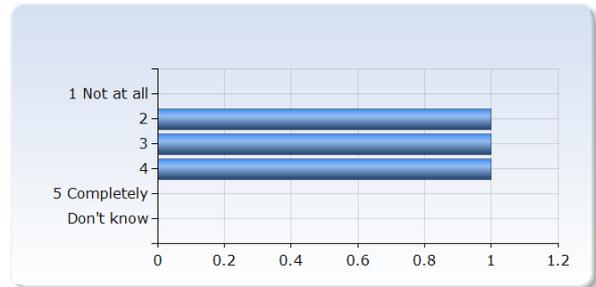


FK5028 - Radiation sources with medical applications

Respondents: 12
Answer Count: 3
Answer Frequency: 25.00 %

5. Overall impression

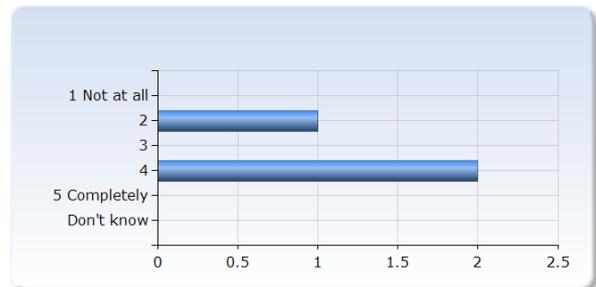
Overall I am satisfied with this course	Number of Responses
1 Not at all	0 (0.0%)
2	1 (33.3%)
3	1 (33.3%)
4	1 (33.3%)
5 Completely	0 (0.0%)
Don't know	0 (0.0%)
Total	3 (100.0%)



6. Student contribution

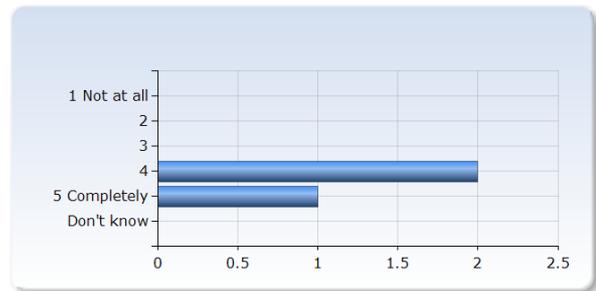
I am satisfied with my own effort in the course

I am satisfied with my own effort in the course	Number of Responses
1 Not at all	0 (0.0%)
2	1 (33.3%)
3	0 (0.0%)
4	2 (66.7%)
5 Completely	0 (0.0%)
Don't know	0 (0.0%)
Total	3 (100.0%)



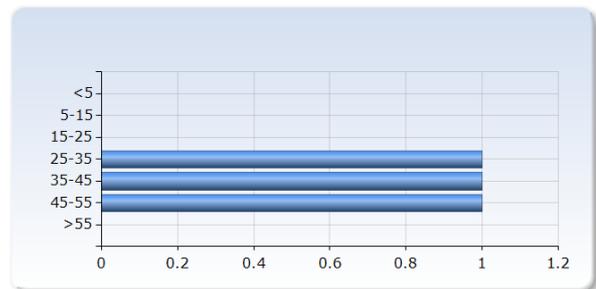
I took responsibility for my own learning in the course

I took responsibility for my own learning in the course	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	0 (0.0%)
4	2 (66.7%)
5 Completely	1 (33.3%)
Don't know	0 (0.0%)
Total	3 (100.0%)



7. Work load

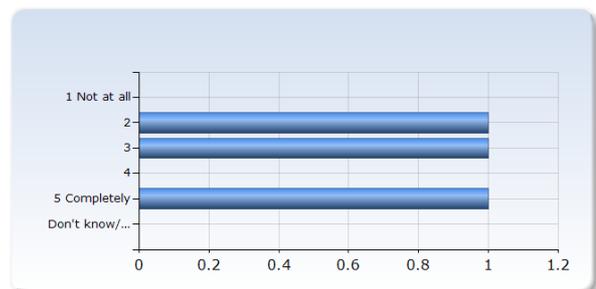
Indicate how many hours per week on average you have spent on the course, including self-studies and scheduled study time	Number of Responses
<5	0 (0.0%)
5-15	0 (0.0%)
15-25	0 (0.0%)
25-35	1 (33.3%)
35-45	1 (33.3%)
45-55	1 (33.3%)
>55	0 (0.0%)
Total	3 (100.0%)



8. Clear aims

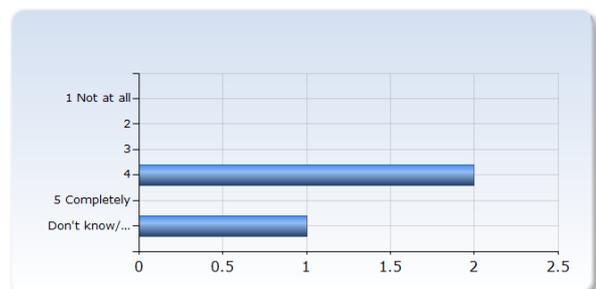
It was clear to me what I was expected to learn

It was clear to me what I was expected to learn	Number of Responses
1 Not at all	0 (0.0%)
2	1 (33.3%)
3	1 (33.3%)
4	0 (0.0%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



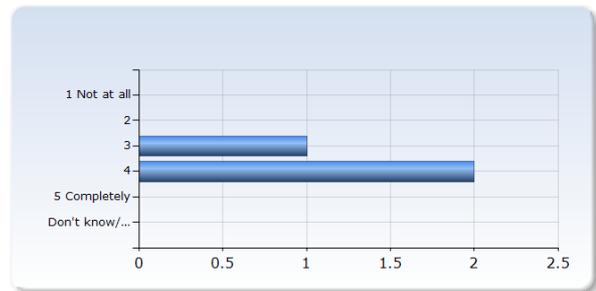
I felt that the course content and teaching methods were relevant to the learning outcomes

I felt that the course content and teaching methods were relevant to the learning outcomes	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	0 (0.0%)
4	2 (66.7%)
5 Completely	0 (0.0%)
Don't know/ Not relevant	1 (33.3%)
Total	3 (100.0%)



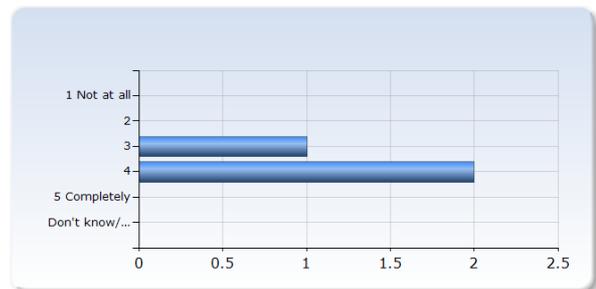
The examination tested how well I had achieved the learning outcomes

The examination tested how well I had achieved the learning outcomes	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	1 (33.3%)
4	2 (66.7%)
5 Completely	0 (0.0%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



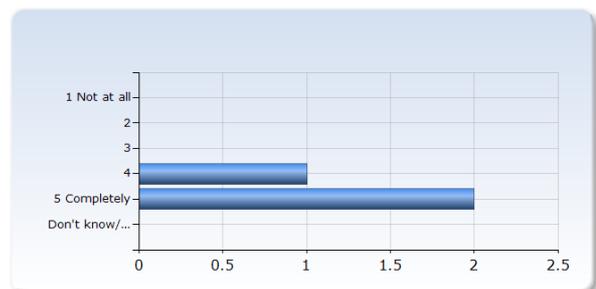
The course corresponded to my expectations

The course corresponded to my expectations	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	1 (33.3%)
4	2 (66.7%)
5 Completely	0 (0.0%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



I feel that I will have use of what I have learnt after my studies

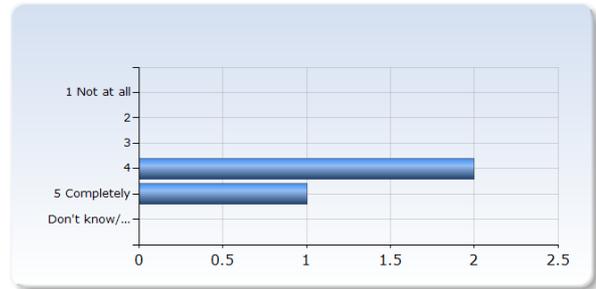
I feel that I will have use of what I have learnt after my studies	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	0 (0.0%)
4	1 (33.3%)
5 Completely	2 (66.7%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



9. Good teaching

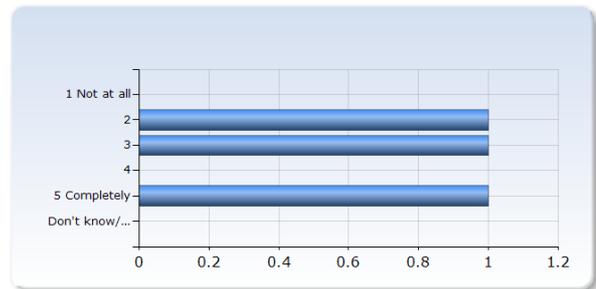
The course prerequisites were sufficient to follow the course

The course prerequisites were sufficient to follow the course	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	0 (0.0%)
4	2 (66.7%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



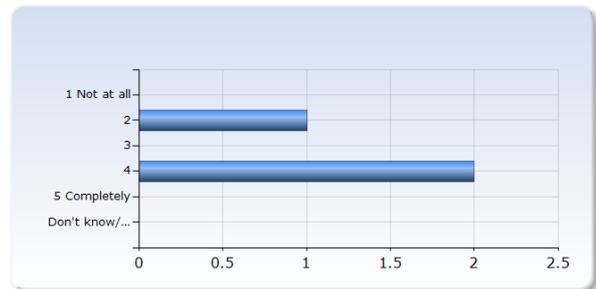
I felt that the course was well structured

I felt that the course was well structured	Number of Responses
1 Not at all	0 (0.0%)
2	1 (33.3%)
3	1 (33.3%)
4	0 (0.0%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



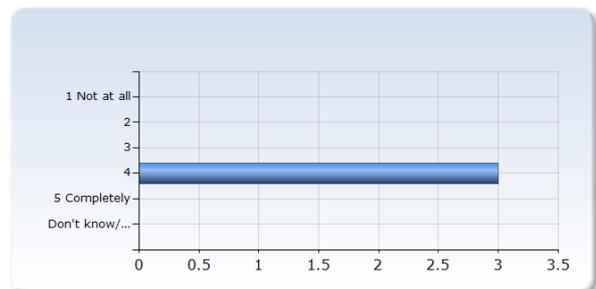
I felt that the teachers have helped me to reach the learning outcomes

I felt that the teachers have helped me to reach the learning outcomes	Number of Responses
1 Not at all	0 (0.0%)
2	1 (33.3%)
3	0 (0.0%)
4	2 (66.7%)
5 Completely	0 (0.0%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



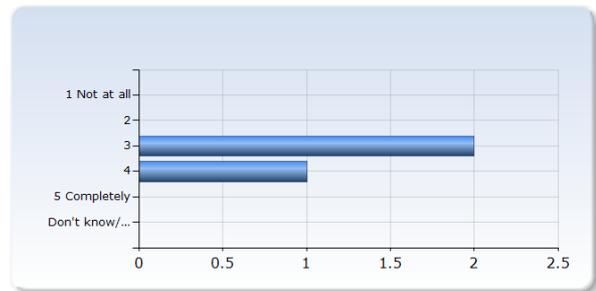
I could understand what was being taught

I could understand what was being taught	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	0 (0.0%)
4	3 (100.0%)
5 Completely	0 (0.0%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



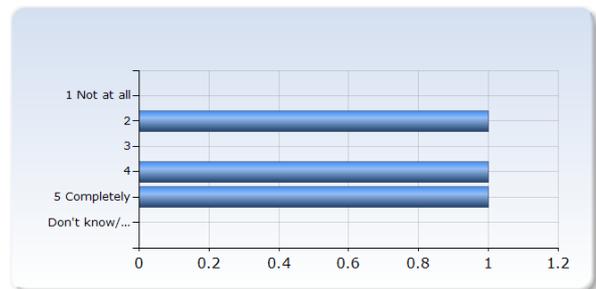
I have received constructive feedback on my performance

I have received constructive feedback on my performance	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	2 (66.7%)
4	1 (33.3%)
5 Completely	0 (0.0%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



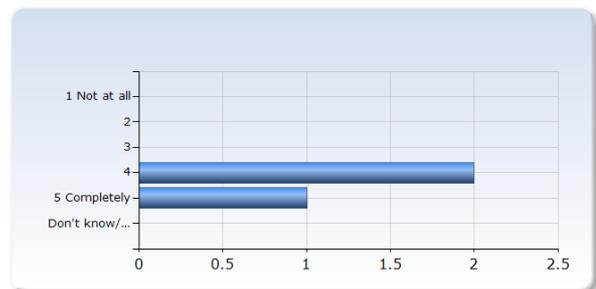
I was encouraged to reflect on my learning during the course

I was encouraged to reflect on my learning during the course	Number of Responses
1 Not at all	0 (0.0%)
2	1 (33.3%)
3	0 (0.0%)
4	1 (33.3%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



The course material helped me in my work to achieve the learning outcomes (literature, e-resources etc.)

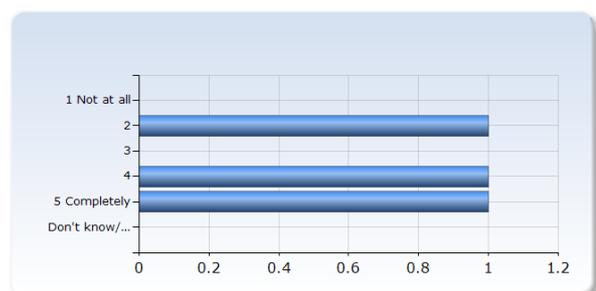
The course material helped me in my work to achieve the learning outcomes (literature, e-resources etc.)	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	0 (0.0%)
4	2 (66.7%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



10. Administration and study environment

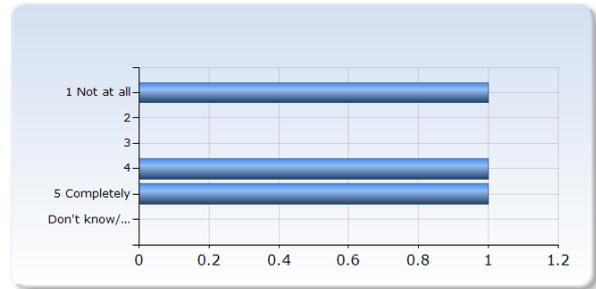
I felt that the course was well organized

I felt that the course was well organized	Number of Responses
1 Not at all	0 (0.0%)
2	1 (33.3%)
3	0 (0.0%)
4	1 (33.3%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



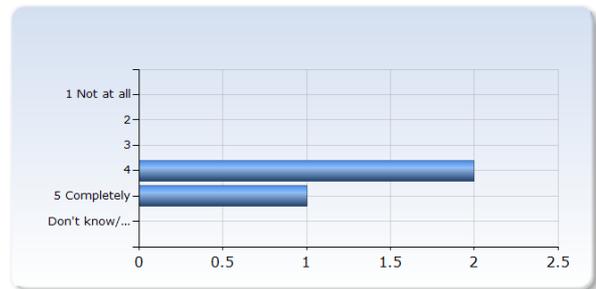
I have been able to find the information I felt I needed before and during the course

I have been able to find the information I felt I needed before and during the course	Number of Responses
1 Not at all	1 (33.3%)
2	0 (0.0%)
3	0 (0.0%)
4	1 (33.3%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



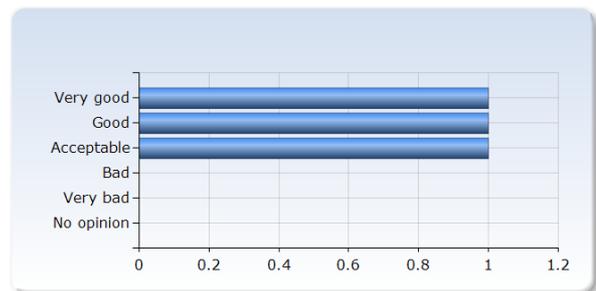
I was able to get support when I needed it

I was able to get support when I needed it	Number of Responses
1 Not at all	0 (0.0%)
2	0 (0.0%)
3	0 (0.0%)
4	2 (66.7%)
5 Completely	1 (33.3%)
Don't know/ Not relevant	0 (0.0%)
Total	3 (100.0%)



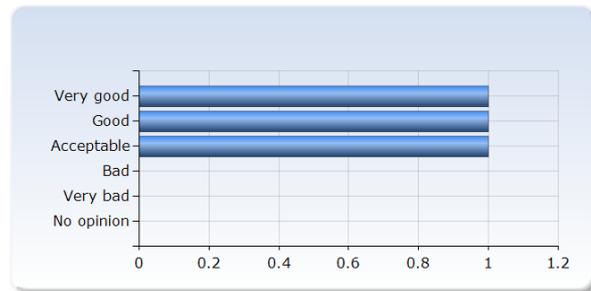
12. What do you think of the lectures given in this course?

What do you think of the lectures given in this course?	Number of Responses
Very good	1 (33.3%)
Good	1 (33.3%)
Acceptable	1 (33.3%)
Bad	0 (0.0%)
Very bad	0 (0.0%)
No opinion	0 (0.0%)
Total	3 (100.0%)



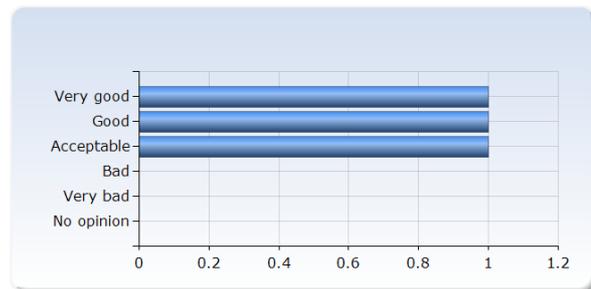
13. What do you think of the laborations given in this course?

What do you think of the laborations given in this course?	Number of Responses
Very good	1 (33.3%)
Good	1 (33.3%)
Acceptable	1 (33.3%)
Bad	0 (0.0%)
Very bad	0 (0.0%)
No opinion	0 (0.0%)
Total	3 (100.0%)



14. What do you think of the calculation exercises given in this course?

What do you think of the calculation exercises given in this course?	Number of Responses
Very good	1 (33.3%)
Good	1 (33.3%)
Acceptable	1 (33.3%)
Bad	0 (0.0%)
Very bad	0 (0.0%)
No opinion	0 (0.0%)
Total	3 (100.0%)



Comments and reflections on the course evaluation “Radiation Sources with Medical Applications” 7.5 hp, FK5028, HT2018.

1. Structure of the course in brief:

The radiation source course is divided in two parts. As described in the syllabus of the course and presented in class on the first day of the course, part 1 corresponds to 3 hp and covers the following topics: introduction to radiation physics (classification of radiation, quantities, units, radiation field, basic radiation interaction processes, dosimetric principles); principles for particle accelerators (electron-, proton- and ion accelerators), nuclear reactions, fission and fusion processes. In part 2 (3 hp), the fundamental processes in nuclear physics that result in radioactive decay, equations for radioactive decay, radioactive decay series decay, alpha- and beta decay, gamma de-excitation, internal conversion electrons; interpretation of radioactive decay scheme; production of radioactive nuclei were presented. Lectures on the course are not compulsory but recommended and the importance of attending them is stressed to the students. Two compulsory moments of the course (1.5 hp) are the laboratory exercise (radionuclide studies) and the presentation of the project on “Important events in the history of radiation physics”.

The theory lectures were more than 20 hours. Extensive exercise sessions in groups with the supervision of the teacher were done for a total of more than 20 hours. Following last year’s suggestions from the students, we decided to alternate theoretical lectures with exercise sessions related to the content of the proceeding lecture to immediately apply the new acquired knowledge, as well as to introduce new theory contents more slowly in time.

A pre-exam covering the exercises of Part 2 was held in the middle of the course (4 bonus points to be added to the final score of the exam were given for correct answers to the numerical exercises).

For the first time this year, we introduced different possibilities for the students to give feedback on the lectures so to adjust to the students’ needs during the course. After lecture feedback was asked in different occasions through the use of an anonymous software and general feedback on the course was asked during the “Kursforum” meeting. Moreover, all the lectures were uploaded on a platform (*Scalable Learning*) so the students could have the possibility to ask questions anonymously and communicate with both the teachers and their peers. Time was scheduled for theory and exercise discussions. The exam was divided in Part 1 and Part 2 each part covering 20 points.

2. About the survey

Only 3 students (25%) have responded to the survey.

Due to a mistake when constructing the survey, the question regarding my own lectures was not included. However, since I had the majority of the lectures in the course and general feedback on the quality of the lectures is asked to the students in the survey and, at the same

time, feedback was in different occasions asked after the class during the course, as mentioned above, I have some elements to comment (at least partially) on this.

3. About the lectures and exercise sessions

In general, lectures seemed to be positively received by the students. The lectures on the accelerator part need to be revised for next year following the students' feedback.

In order to make the lectures more interactive and less heavy at the same time, lectures will be divided, as much as possible, next year in different days and different activities may be introduced, such as quizzes or seminars given by the students to enhance their engagement in class.

During the *Kursforum* discussion, more information on the content of each single lecture was asked to be available in advance by the students so that they can study the content in advance. This is an important and easy to implement suggestion that we will introduce next year. Reading chapters will be more specifically divided, as asked by one of the students. Anyhow, course content was reported by the students as easily available on the Power Point presentations.

In the current version of the exam, the theory has a weight of 30 points out of the total 40 points, it is extremely important for the students to realise this from the beginning. My impression was that some of the students concentrated more on the exercises than theory. We will then stress this aspect even more next year as well as the fact that all the topics treated are of equal importance to acquire the knowledge needed for future courses in the Medical Radiation Physics program.

The exercises were felt to be very useful in order to better understand the theory part. Positive feedback was given to the lecturer.

4. About the exam

Part1 of the exam was a mixture of theory questions and short exercises. Part 2 was composed of fewer theory questions and two more extensive exercises.

Questions on the exam were targeted to cover the whole program of the course and covered topics presented both in class (and found in the handouts) and in the two main books of reference for the course. At least one question for each topic of the course was given in the exam, so to test the student knowledge in every topic.

From the survey, it appears that the examination succeeded in testing how well the students had achieved the learning outcomes.

One student commented on the difficulty of the questions in the exam. However, questions were not more difficult than previous years and old exams were available for the students in Mondo since the beginning of the course. Indeed, as an extra check before the exam, feedback was also asked to the previous lecturer in the course. Next year, time could be allocated for having a simulation of the exam (with no grade given) so to make the students train before the

actual exam session in answering the questions in a time-effective, concise as well as comprehensive way.

5. About the lab

Lab sessions were considered as interesting and important to achieve the required knowledge. However, one student suggested that the lab should be moved after the exam so to make them not to lose the focus on the exam preparation. I think this solution would be unpractical and not optimal for the learning process since the participation in the lab is of help to have a deeper understanding of the theory. Furthermore, the submission of the actual lab report before the exam is not required and students have 3 week time for submitting the first version of their report. An efficient administration of the time when multiple tasks are required to be performed is crucial to learn for the students' future studies.

A major issue with the lab report is that students felt that they did not know how to write a lab report. Nevertheless, a short description on how to write a lab report is given to them at the start of the course and the lab supervisor was available to answer questions on this issue during the lab hours (as well as afterwards, if contacted by the students). The students have 4 attempts to pass the lab report. Detailed comments and feedback is provided to them after each submission to improve the quality of the report. From one hand, it is my opinion that the students can only improve in this and become more efficient in achieving the final goal of a lab report of an acceptable quality by doing it, on the other hand, we could provide them a more detailed description on how to write a lab report for next year (which may be jointly written by the lecturers of all the courses where a lab report is required) so to further help the students on this point.

Marta Lazzeroni