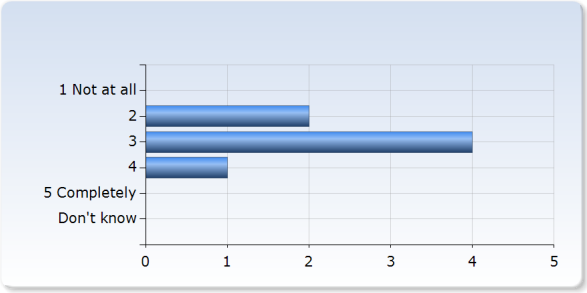
# FK5031 - Radiation Dosimetry

Respondents: 13
Answer Count: 7
Answer Frequency: 53,85 %

## 5. Overall impression

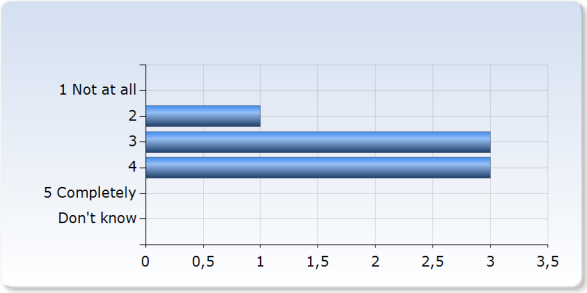
| Overall I am satisfied with this course | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 2 (28,6%) |
| 3 | 4 (57,1%) |
| 4 | 1 (14,3%) |
| 5 Completely | 0 (0,0%) |
| Don't know | 0 (0,0%) |
| Total | 7 (100,0%) |




## 6. Student contribution

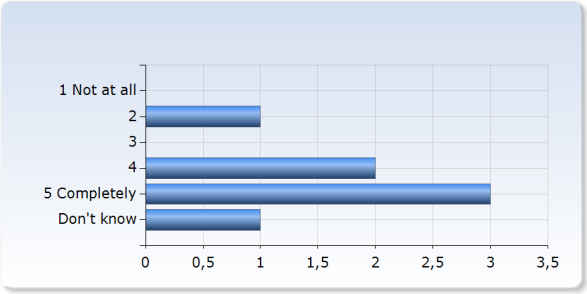
### I am satisfied with my own effort in the course

| I am satisfied with my own effort in the course | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 1 (14,3%) |
| 3 | 3 (42,9%) |
| 4 | 3 (42,9%) |
| 5 Completely | 0 (0,0%) |
| Don't know | 0 (0,0%) |
| Total | 7 (100,0%) |



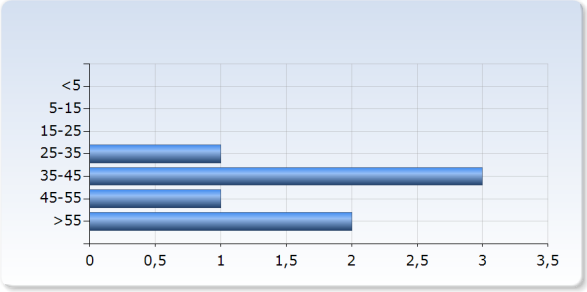
## I took responsibility for my own learning in the course

| I took responsibility for my own learning in the course | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 1 (14,3%) |
| 3 | 0 (0,0%) |
| 4 | 2 (28,6%) |
| 5 Completely | 3 (42,9%) |
| Don't know | 1 (14,3%) |
| Total | 7 (100,0%) |




# 7. Work load

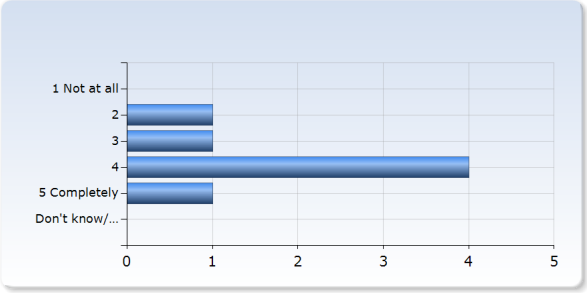
| Indicate how many hours per week on average you have spent on the course, including self-studies and scheduled study time | Number of Responses |
|---|---|
| <5 | 0 (0,0%) |
| 5-15 | 0 (0,0%) |
| 15-25 | 0 (0,0%) |
| 25-35 | 1 (14,3%) |
| 35-45 | 3 (42,9%) |
| 45-55 | 1 (14,3%) |
| >55 | 2 (28,6%) |
| Total | 7 (100,0%) |




# 8. Clear aims

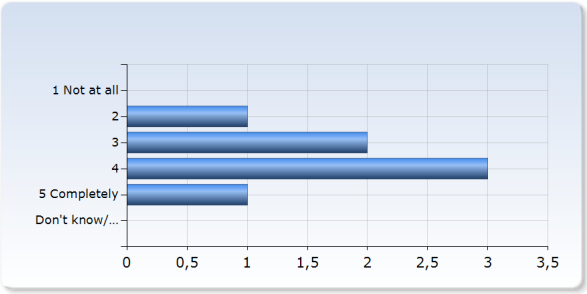
## It was clear to me what I was expected to learn

| It was clear to me what I was expected to learn | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 1 (14,3%) |
| 3 | 1 (14,3%) |
| 4 | 4 (57,1%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



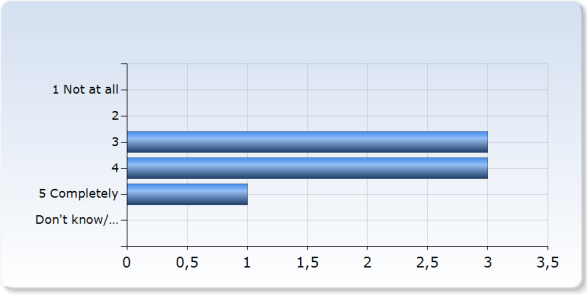

## I felt that the course content and teaching methods were relevant to the learning outcomes

| 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 | 1 (14,3%) |
| 3 | 2 (28,6%) |
| 4 | 3 (42,9%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



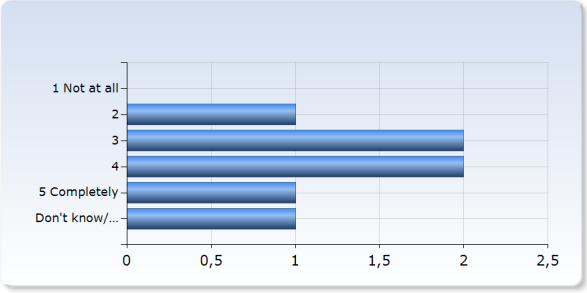
## The examination tested how well I had achieved the learning outcomes

| 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 | 3 (42,9%) |
| 4 | 3 (42,9%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



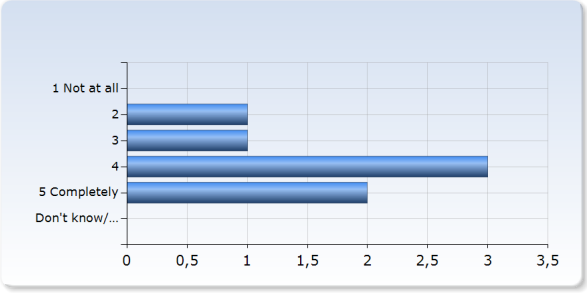

## The course corresponded to my expectations

| The course corresponded to my expectations | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 1 (14,3%) |
| 3 | 2 (28,6%) |
| 4 | 2 (28,6%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 1 (14,3%) |
| Total | 7 (100,0%) |




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

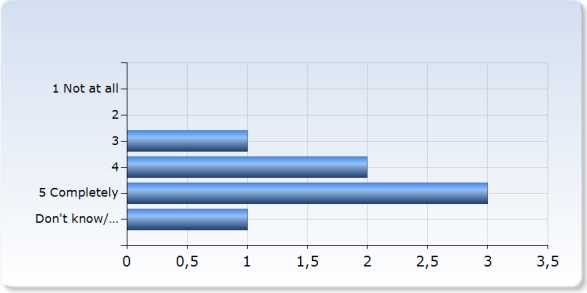
| I feel that I will have use of what I have learnt after my studies | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 1 (14,3%) |
| 3 | 1 (14,3%) |
| 4 | 3 (42,9%) |
| 5 Completely | 2 (28,6%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |




# 9. Good teaching

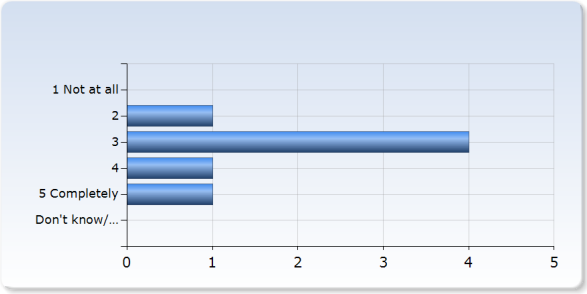
## The course prerequisites were sufficient to follow the course

| The course prerequisites were sufficient to follow the course | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 0 (0,0%) |
| 3 | 1 (14,3%) |
| 4 | 2 (28,6%) |
| 5 Completely | 3 (42,9%) |
| Don't know/ Not relevant | 1 (14,3%) |
| Total | 7 (100,0%) |



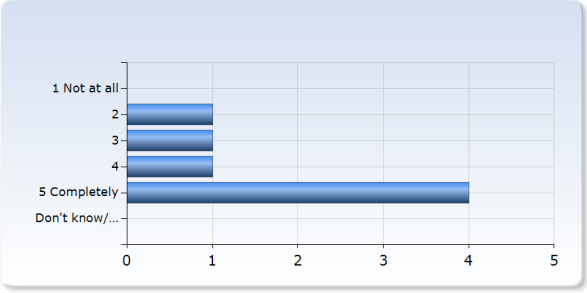
## I felt that the course was well structured

| I felt that the course was well structured | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 1 (14,3%) |
| 3 | 4 (57,1%) |
| 4 | 1 (14,3%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



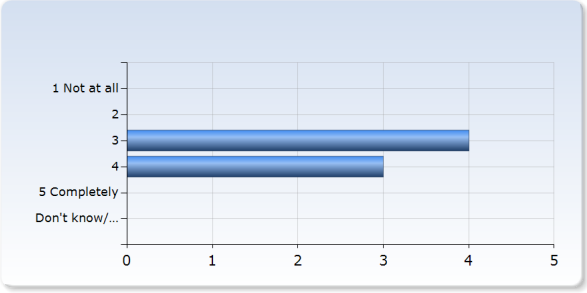

## I felt that the teachers have helped me to reach the learning outcomes

| 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 (14,3%) |
| 3 | 1 (14,3%) |
| 4 | 1 (14,3%) |
| 5 Completely | 4 (57,1%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



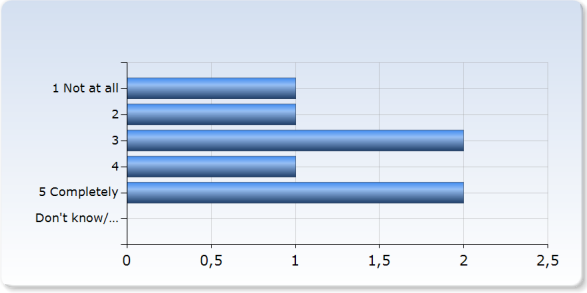

## I could understand what was being taught

| I could understand what was being taught | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 0 (0,0%) |
| 3 | 4 (57,1%) |
| 4 | 3 (42,9%) |
| 5 Completely | 0 (0,0%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



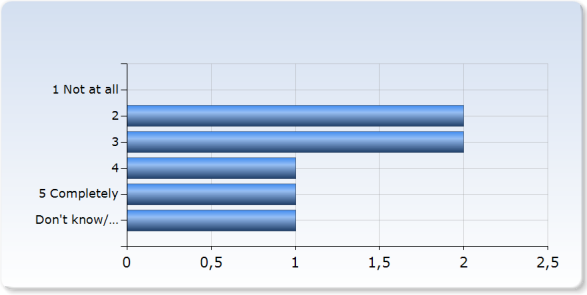

## I have received constructive feedback on my performance

| I have received constructive feedback on my performance | Number of Responses |
|---|---|
| 1 Not at all | 1 (14,3%) |
| 2 | 1 (14,3%) |
| 3 | 2 (28,6%) |
| 4 | 1 (14,3%) |
| 5 Completely | 2 (28,6%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



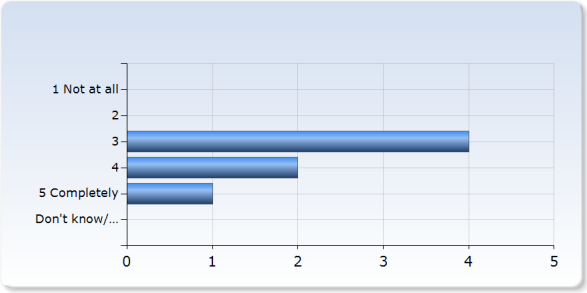
## I was encouraged to reflect on my learning during the course

| I was encouraged to reflect on my learning during the course | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 2 (28,6%) |
| 3 | 2 (28,6%) |
| 4 | 1 (14,3%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 1 (14,3%) |
| Total | 7 (100,0%) |




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

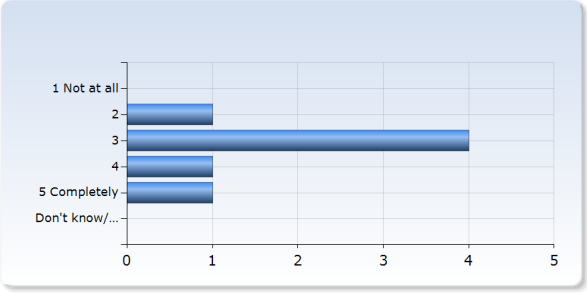
| The course material helped me in my work to achieve the learning outcomes (literature, e-resources etc.) | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 0 (0,0%) |
| 3 | 4 (57,1%) |
| 4 | 2 (28,6%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |




# 10. Administration and study environment

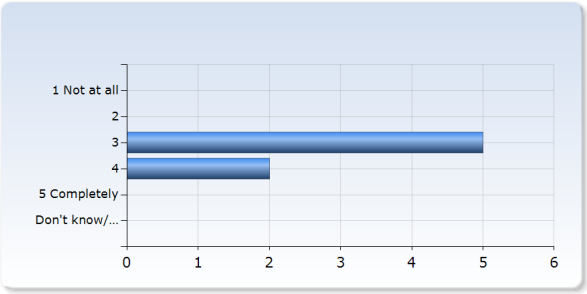
## I felt that the course was well organized

| I felt that the course was well organized | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 1 (14,3%) |
| 3 | 4 (57,1%) |
| 4 | 1 (14,3%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (100,0%) |



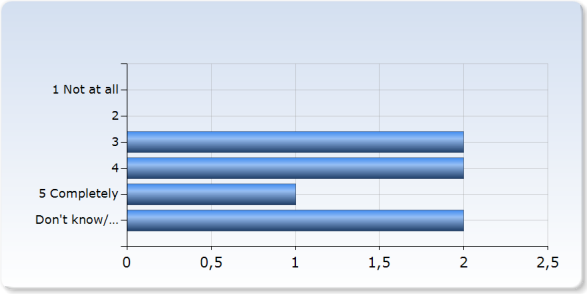

## I have been able to find the information I felt I needed before and during the course

| I have been able to find the information I felt I needed before and during the course | Number of Responses |
|---|---|
| 1 Not at all | 0 (0,0%) |
| 2 | 0 (0,0%) |
| 3 | 5 (71,4%) |
| 4 | 2 (28,6%) |
| 5 Completely | 0 (0,0%) |
| Don't know/ Not relevant | 0 (0,0%) |
| Total | 7 (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 | 2 (28,6%) |
| 4 | 2 (28,6%) |
| 5 Completely | 1 (14,3%) |
| Don't know/ Not relevant | 2 (28,6%) |
| Total | 7 (100,0%) |



**Dosimetry (FK5031) - Comments by the course coordinator Iuliana Dasu and the main lecturer Niels Bassler**

I (Iuliana Dasu) hereby acknowledge that on 170313 I received the evaluation of the Dosimetry (FK5031) course, Semester VT2017.

As the main lecturer on this course this year was Niels Bassler who is also going to be responsible with the course starting from next year, the reflections on the Dosimetry Course 2017 listed below were elaborated by him.

More than half of the students failed examination (F or Fx), which is somewhat disappointing and should lead to reflection. The course is generally regarded as difficult among the students according to the student feedback. Nonetheless we can identify some and outrule some other issues on what may go wrong here.

First of all, previously, the failure rate at this course is similar to the previous year. The grading spectrum is pretty much identical to what was it used to be last year the course was conducted.

This must be seen in the light that the main teacher was changed. Basically, I (Niels Bassler) took over the existing course structure, and decided to do slowly evolve the course rather than radically transforming it, simply because a radical transform may introduce a bigger risk which may not be manageable in the given time.

Thus:

• Slides were mostly kept, however updated to reduce the amount of prosa on them, highlighting key concepts. Some omissions were done (such as presenting dosimetry protocols which are no longer current etc).

• For the calculation exercises, a new approach was attempted. I understood normally the lecturer would go through them at the blackboard; however the usual problem is to activate the students sufficiently.

Instead I decided to let the students calculate. Ideally they should have prepared on beforehand, or at least try to do so. The students were allowed to work individually or in groups, and encouraged to present the results at the blackboard after it.

The purpose of this change was:

◦ to move the focus away from getting the correct result and direct it more to the process of how to obtain the result

◦ when students experience a problem they cannot solve, they should train to think about why they cannot solve it, i.e. express what piece of knowledge they miss.

◦ to see how the students actually attack a problem, for me as a teacher I get a better feeling for the level of understanding of the students, and what problems should be better understood

• Exam form and content were kept, but in my objective simplified as it focused on the core concept.

I had a very good feeling from the new form of the calculation exercises. I noticed the typical “browse the teaching material for some equation which may fit the question”-behaviour which indicates prestructural knowledge. Emphasizing that the purpose was not to get the correct result at this level, but rather to understand the process, my hopes were to change this behaviour. I presume this also stems from expectations to the typical examination form, where also algorithms may be applied without really understanding the fundamental parts behind it, or just even why these must be applied (i.e. “type-tasks”).

From the feedback I see the students have received the new form of calculation exercises with mixed feelings. I agree that more time could be spent on presenting some results in plenum with appropriate discussions. This will also work best, after the students have had some time to work with the question themselves beforehand.

However, at the same time from some answers I still suspect the desire for type-task examinations, and logically the expectations are the calculation exercises are aligned to this.

In-spite of these efforts, the failure rate is still too high. Correcting the examination I was not convinced that the desired knowledge was achieved. Due to experience described above and also taking the feedback into account, I see a very strong indication that the entire course should be redesigned from scratch instead. The course itself has parts which appear as excrescences and may obscure the core elements which must be understood.

Some critics have been given to the lab courses. Whereas the content is important, some fine tuning may be done in the number of hours students have for this part.

Finally, a presentation was supposed to be done by students. This was done in the way that about 8 topics were handed out to about 11 students, which they then had to present. All presentations were done during a single day, and since the students did not know about the each other topics, discussions are limited and the attention span may be low. Quality of the presentation was very varying. This can clearly be improved as mentioned below.

A new dosimetry course could be crafted the following way:

• identify the core parts of knowledge, and build up the course around this

• Lectures:

◦ reduce lectures to cover and emphasize the core parts

◦ examples of exercises will be given in conjunction with the respective lecture

• Calculation Exercises:

◦ increase calculation exercises hours

◦ introduce elements of peer-feedback if possible

• Lab course

◦ may have to be tuned accordingly

• Presentations

◦ Let the students prepare presentation throughout the course, so not all are collected on a single day

◦ Introduce formalized peer-feedback. Formalising the feedback will enable to be more time efficient, so a single presentation should be able to be done within 20-30 minutes: The students must read the article beforehand, and will every time be divided into three new groups which will give constructive feedback following a well defined scheme I have used with success at my previous employment

▪ Group 1 will comment on the contents

▪ Group 2 will comment on the technical aspects (clarity of figures, timing, quality of slides etc.)

▪ Group 3 will comment on the “artistic value” (tempo, engagement, “climate”, eye-contact with the audience etc

• Examination

Examination must be aligned with the core elements which are expected to be understood from this course. Closed book-examination however emphasizes memorizing (blindly) rather than understanding. Ideally I would prefer to have the course evaluated as oral-examination (with external reviewer), since this better enables probing what has been learned and engage the students into discussions where they also may reflect and hypothesize on it.

However, I do understand the tradition for oral examination at SU is not prominent, which is why a gradual change may be more appropriate.

One step on the way would be to allow the students to bring any book / teaching material they want, and yet emphasize that a proper answer to an exam question demonstrates their understanding (i.e. blindly reciting text-passages from teaching books will not give points even if they are correct).