FACULTY
OF SCIENCE

Department of Physics
Division of Nuclear Physcis
Prof. Dirk Rudolph

April 2019

Course Evaluation FYSC12, VT19

At the beginning of the VT19 lecture series, the need for course representatives was pointed out by the lecturer, and early on two student course representatives were elected (Isabel Hendriks and Jim Klintrup). Towards the end of the course, an evaluation sheet was agreed upon, practically the same as developed VT18. It was possible to prepare and submit course evaluation sheets both in person (21/3, 14:00, once all oral examinations were conducted) and via e-mail to the course representatives. The fact that handing in course evaluations is in principle mandatory was mentioned during lectures and by e-mail to all students, with the evaluation form attached to that e-mail as well. Despite these efforts from our side and reminders from the student representatives, the feedback turned out to be even less than previously.

All student replies are attached. The course representatives prepared a brief summary from the student perspective (see attachment, part 1). The statistical and graphical analysis was done by the course responsible teacher (DR). The material is circulated amongst all teachers, i.e. lecturers and laboratory assistants, to take more specific notes on their parts of the course.

Comments

Only (!!) 17 out of 45 registered FYSC12 students (38%) participated in the course evaluation. Moreover, the feedback is dominated by three hand-ins with five, four, and three students answering the same form, respectively. The number of student evaluations should be much higher, one can wonder whether a student feedback on that level can be considered statistically relevant (in all respects), while it is difficult to see a solution on how to ensure that students fulfil their mandatory task in terms of submitting course evaluation form.

Nevertheless, the overall picture is very much compatible with the evaluation conducted VT18 nad VT19, with a grand average of a score of about 4 on an evaluation scale 1 to 5, i.e. we teachers are once again happy to see that all in all the course as such is apparently appreciated by the students.

Lectures & Hand Outs

As stated in earlier replies, given that there is a planned major revision of the bachelor programmes at the science faculty, an update of course contents (and alignment with a similar introductory course at LTH) is due in the coming two years. This involves an update of the course plan, which will take care of several points mentioned in the evaluation. In terms of contents, a more relevant (in Lund) “ESS-neutron” complex is likely to also formally replace the “nuclear reactor” part. Therefore, and expectedly, the two topics with respect to fission reactors have

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relatively low scores. In the to-be-updated course plan, the weight of societal relevance of nuclear physics will also increase. Hand-outs are meant to provide guidelines and summaries of topics. There are the course books for learning / recovering details. An alternative course book containing more modern societal impact is being introduced. The conversion of the mind map is essentially the sequence of the lectures, which is visible from the very beginning of the course within the FYSC12 Live@Lund pages.

Problem Sheets / Sessions

The wish for more problem sessions or tutorials continues to be asked for, besides the ones offered in connection with the mandatory hand-ins. On the one hand, this is a matter of (financial) resources. This can be discussed with the head of studies in connection with the ongoing revisions. On the other hand, there is a study environment including rooms for student groups, thus one can sit together with fellow students and discuss topics, while there is an open-door policy such that such a group of students can ask for support from lecturers or laboratory supervisors – which does happen.

We apologize for the mismatch in timing of lecture material and problems on the third hand-in sheet. This was an unfortunate combination of a heave flu of the main teacher and a coordination mistake of the two younger fellows. It should not have happened.

Laboratories

In terms of laboratory exercises, modernisation of primarily the more “classic” alpha, beta, and gamma laboratories is on the to-do list. Prior to that, it is planned to introduce increasingly individualized assessments of the beta and neutron laboratories, which we succeeded with VT19. We will have another look at the material, work load, and online and offline tasks for the gamma laboratory. Once again, there are ideas in connection with the new course plan. In turn, the gamma laboratory is eventually the first ‘heavy’ laboratory encountered, demanding many analysis and statistics tools to be at hand and to be applied, which potentially is at variance with too low demands on laboratory reports in earlier courses.

Course Evaluation

Seemingly, it was not obvious for some students what this point was aiming at. A digital version of the evaluation form is on the to-do list.

Examination

While the style may or may not be very different, we do look at statistics, both in terms of the examiners and, for instance, gender related. Neither for FYSC12 VT19 nor in previous years we were able to identify any bias in one or the other direction.

Learning Outcomes

In view of the expected revision of the course plan and in line with the European Spallation Source being constructed in Lund, lectures concerning nuclear reactors (fission type) have been reduced on account of more neutron/ESS related topics. The future course plan (and title of the FYSC12 course) will reflect that shift as well. Concerning experiment planning, this may relate to the level of preparation *prior* to the laboratories. Current research is explicitly mentioned during research lectures, which another student group highly appreciates, as well as indicated in a number of the more standard lectures.

Course in general:

Lectures: Avg: 4.1 Low: 3 High: 5

Request for review lectures was made by a few students.

More structured by having mind map also as a list and in beginning of lectures do a run through of what is planned for the day. (some students)

Material for 3rd hand out was not covered in time. (some students)

Research lectures were great. Very informative. (Most students)

Hand-outs: Avg: 4.5 Low: 3 High: 5

The hand-outs were good. (Hand-outs should be called lecture notes)

Course book: Avg: 3.9 Low: 3 High: 5

Many students said like the course book needed to be updated.

Problem sheets: Avg: 4.3 Low: 3 High: 5

Material for 3rd hand out was not covered in time. (most students). A few students wanted some hints in the lectures.

Problem sessions: Avg: 4.7 Low: 4 High: 5

Most student want more exercise sessions and there was not enough room for everybody.

Gamma-lab: Avg: 3.1 Low: 1 High: 5

Most students comment that the work to be done with coding and analysis for the gamma-lab took a lot of time and says that more could be done during the lab.

Beta-lab: Avg: 5.0

No comments and only 6/15 had done the lab of those that did the evaluation.

Alpha-lab: Avg: 4.2 Low: 2.5 High: 5

Some students say that the discussion was good exercise but the supervisor could have been a bit clearer in their explanations.

Neutron-lab: Avg: 4.9 Low: 3 High: 5

The neutron was great. All who took said this.

Examination: Avg: 4.1 Low: 3 High: 5

Many students say that Dirk and Pico had different styles. Dirk narrower in subjects while Pico covered many subjects. A minority of students said that they wanted more time in the exam.

Course evaluation: Avg: 4.5 Low: 4 High: 5

Some students wanted the option to do a digital evaluation.

General comments:

Request for a field-trip. Material for the labs was hard to find in the zip-file. Summary sheet was requested. Discussions in lectures was good. Liked working in pair for the labs.

Course content coverage:

Basic properties of nuclei:	Avg: 4.9	Low: 4	High: 5
Deuteron…	Avg: 3.7	Low: 2	High: 5
Decay:	Avg: 4.9	Low: 4	High: 5
Nuclear structures:	Avg: 4.6	Low: 4	High: 5
Nuclear reactions:	Avg: 3.8	Low: 3	High: 5
Applied:	Avg: 4.1	Low: 3	High: 5
Fission reactors:	Avg: 3.2	Low: 1	High: 5
Reactors, environment…:	Avg: 2.7	Low: 1	High: 5

Learning outcomes:

Most student feel they had fulfilled all the learning outcomes.

Four out of the fifteen feel that they did not get to plan an experiment. They also said that they could not describe current research, understand the function of nuclear reactors and the role of nuclear physics in society.

Suggestion from course rep.

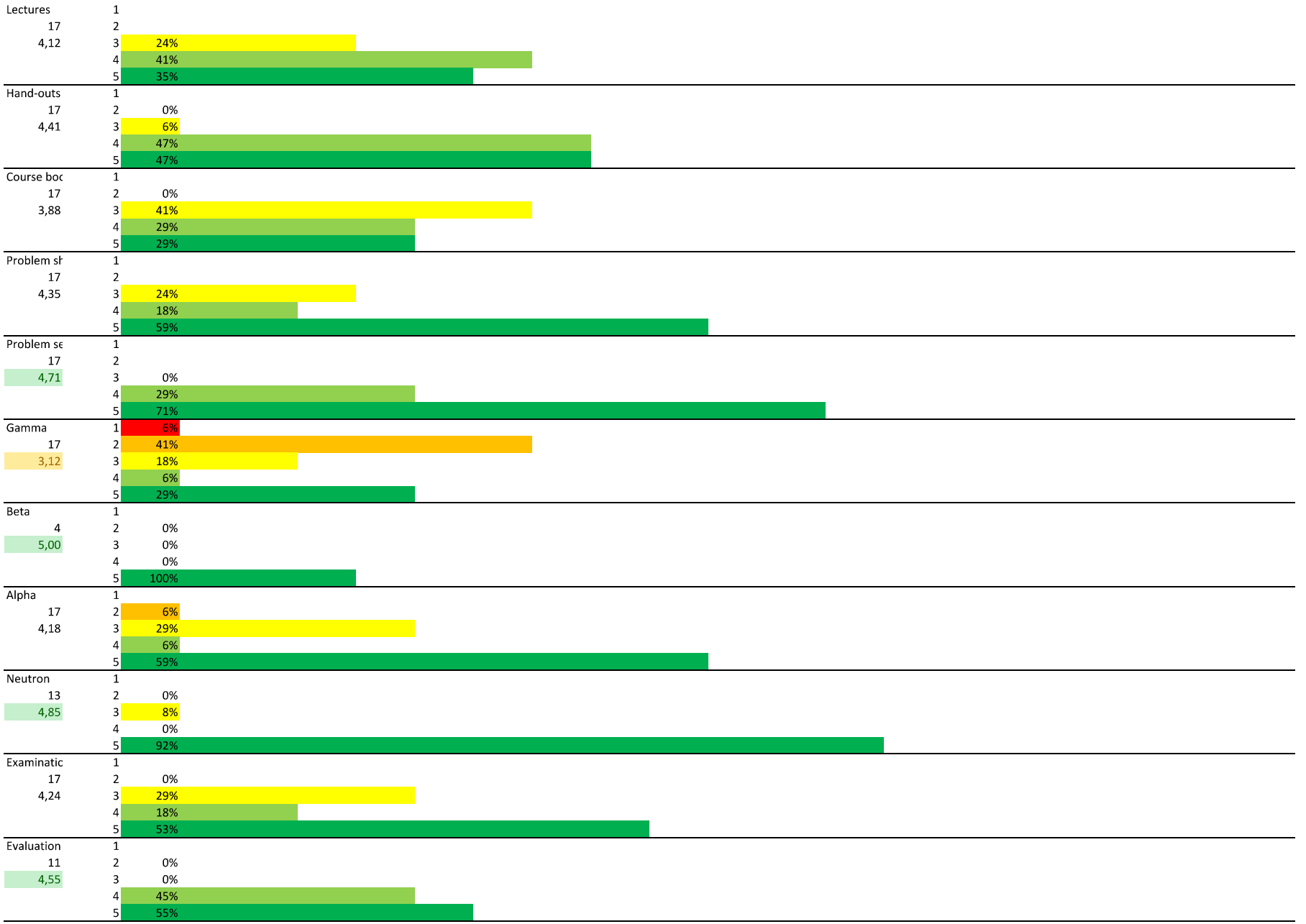
Add point to evaluate the L@L-page.

VT19	FYSC12	ÄFYD04	FKFN20	separate evaluation (CEQ)
Number of participants	45	0	0	
of which re-registered	2			
Number of evaluations	17	0		
	38%	#DIV/0!		

	1	2	3	4	5	total	average
Lectures			4	7	6	17	4,12
Hand-outs		0	1	8	8	17	4,41
Course book		0	7	5	5	17	3,88
Problem sheets		0	4	3	10	17	4,35
Problem sessions			0	5	12	17	4,71
Gamma lab	1	7	3	1	5	17	3,12
Beta lab		0	0	0	4	4	5,00
Alpha lab		1	5	1	10	17	4,18
Neutron lab		0	1	0	12	13	4,85
Examination		0	5	3	9	17	4,24
Evaluation	0	0	0	5	6	11	4,55
	1	8	18	18	68	113	4,27

	1	2	3	4	5	total	average
Basic properties			0	2	14	16	4,88
Two-nucleon systems		3	4	2	7	16	3,81
Decay modes			0	3	13	16	4,81
Nuclear structure models		0	0	6	10	16	4,63
Nuclear reactions			4	11	1	16	3,81
Applied nuclear physics		0	5	5	6	16	4,06
Fission reactors	3	4	0	3	6	16	3,31
Reactors as source of energy	7	0	2	5	2	16	2,69
	10	7	15	37	59	128	4,00

	yes		maybe		no		sum
… describe and use basic modern physics …	16	100%	0	0%	0	0%	16
… plan, conduct and report experiments?	12	75%	0	0%	4	25%	16
… assess experimental results?	16	100%	0	0%	0	0%	16
… judge … limitation of physical models?	16	100%	0	0%	0	0%	16
… obtain new knowledge and report …	16	100%	0	0%	0	0%	16
… exemplify and describe … current research …	12	75%	0	0%	4	25%	16
… role of nuclear physics in society?	12	75%	0	0%	4	25%	16
… function and use of nuclear reactors?	12	75%	0	0%	4	25%	16
	112	88%	0	0%	16	13%	128


Lectures
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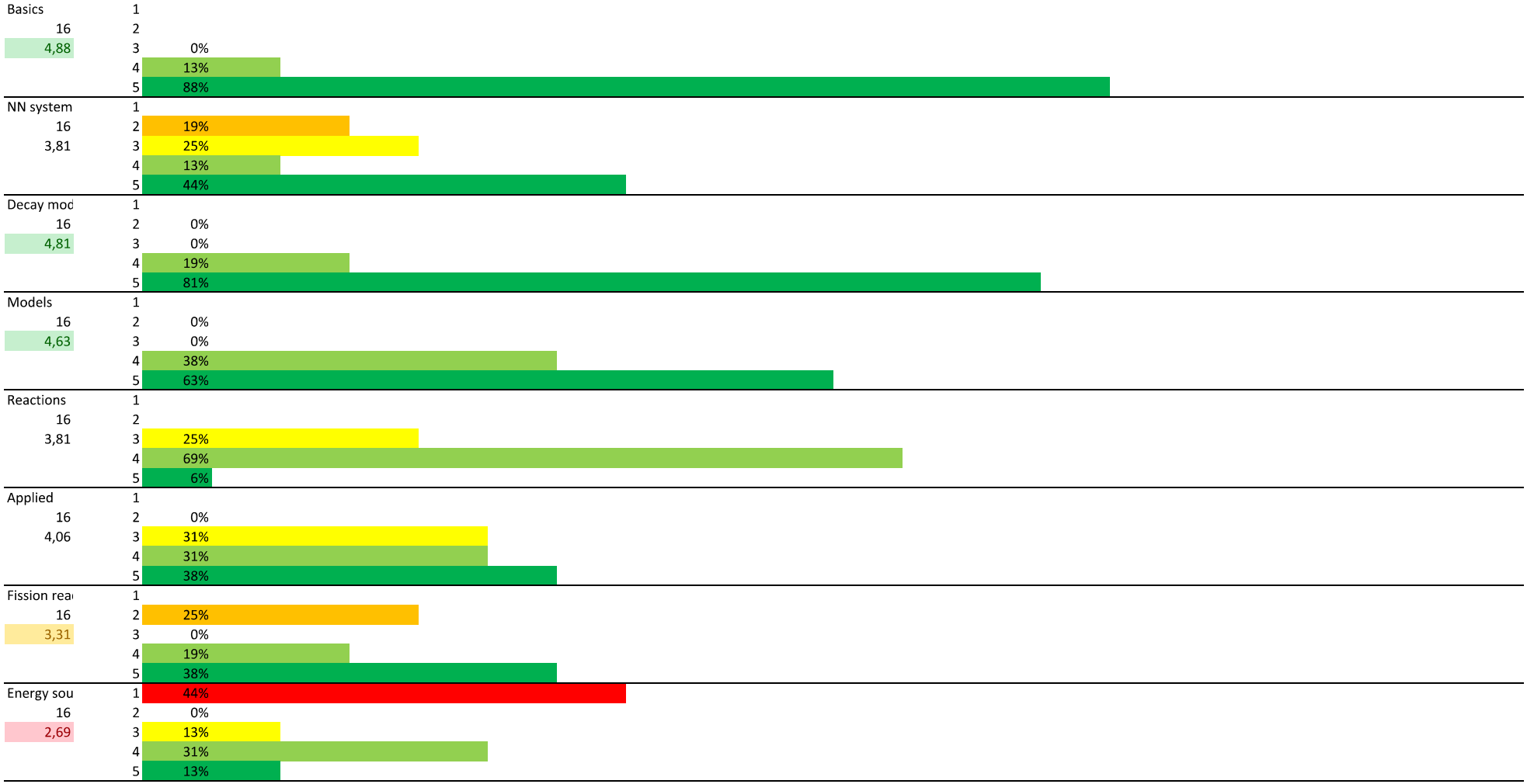
Basics
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