

Course analysis evaluation Laser physics SK2410, IO2659, VT-2008

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Number of registered students: 28

Changes in the course made for VT-2008

There were several changes in the Laser physics course compared to previous years:

1. Organizational change – the course SK2410 now runs together with IO2659 in order to make more efficient use of available resources.
2. Using this opportunity provided by distribution of the teaching load between two lecturers we decided to change main textbook with associated total rework of the course plan.
3. The different distribution of material in the course required total change in the selection of problems for the exercise sessions. This, in turn affected the selection of tasks composed for examination.
4. Larger number of students in the combined course necessitated the increase in the number of lab setups in order to increase throughput.

Result of the student survey

The anonymous survey has been conducted at the end of the course just before the examination. The survey consisted of 12 questions soliciting opinions on lectures, excercises, labs, textbook, methodical aspects of the course and students' motivation issues. The results are shown in the Fig. 1. The scale 1-4 (4 maximum) reflects the degree to which students agree with particular statement in the survey. The bars represent averaged responses to the questions.

Motivation:

It is obvious that students think that the course is important for their education and that there was strongly perceived self-motivation to study the subject. Most students disagree that the motivation to attend the course was purely for the purpose of collecting points. It is understandable: Laser physics course is not the course where points are obtained in the easiest way. Motivation was obvious during lectures with students eagerly participating in the process.

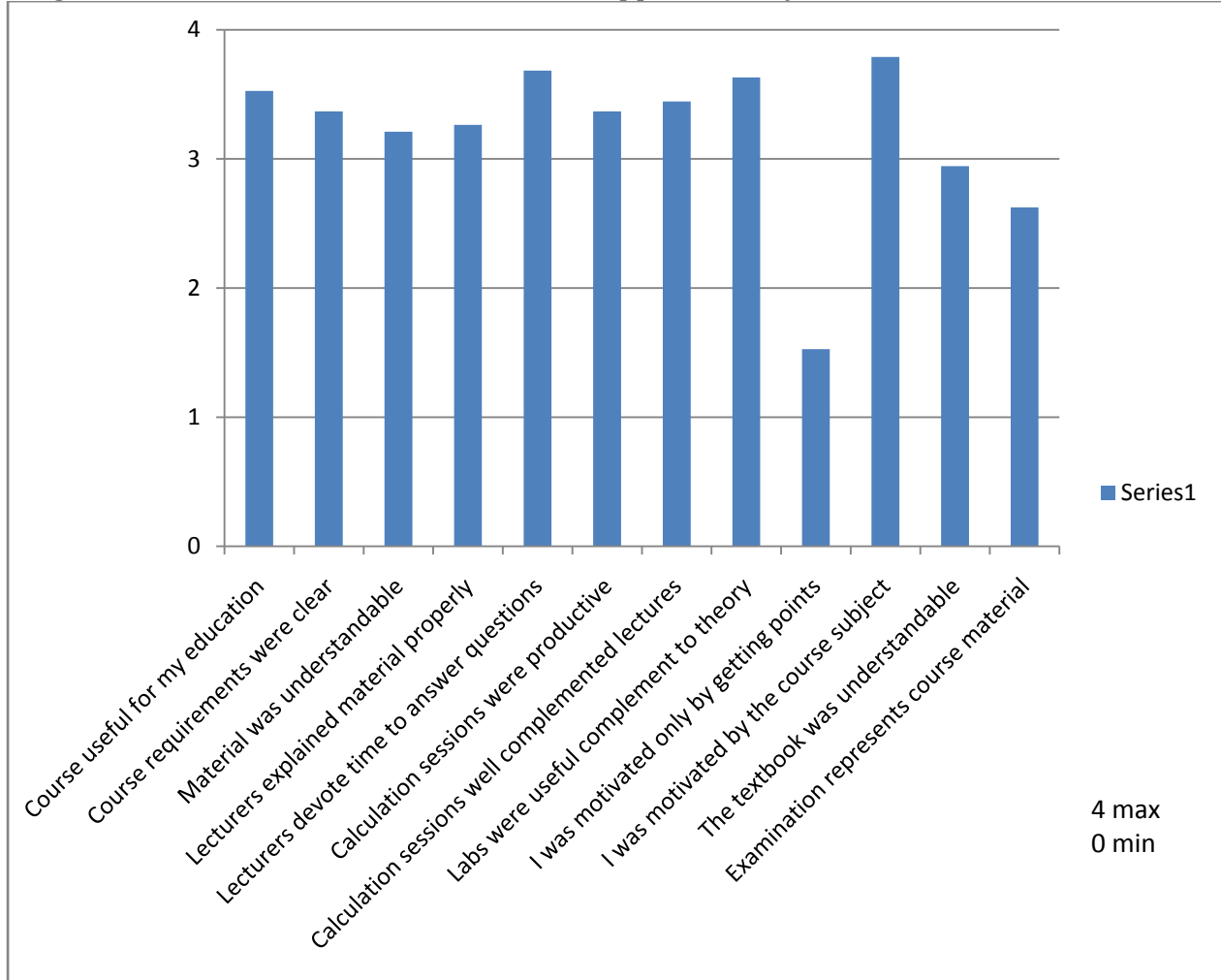
Lectures:

Lecturers and course material distribution has been evaluated very positively. Especially it is reflected by the large average score given to the dialogue between students and lecturers.

Textbook:

Students gave it the score above average. Individual discussions with students revealed very positive response. Although there were complaints that the book is too thick and

expensive. On the other hand the methodical layout and very competent and rather insightful narrative in the book was also well appreciated by the students.



Labs and problem solving practice:

Students gave rather high scores to the problem solving exercise sessions and especially to the labs. In fact, the lecturers were asked to provide additional problems for individual practice. Fortunately the textbook contains extensive selection of problems and some solutions or hints for students.

Examination:

As the survey has been performed just before students started working on examination tasks, the response was rather cautious. After exam the students thanked for the course, which was quite a shock to me personally. I have never heard that before in this course.

Considerations by the lecturers

Summarizing the experiences during this run of the course it is fair to say that textbook change was a successful move. The increased number of students due to integration of two courses also has had a positive effect on more lively discussions and participation of the students and larger variety of questions. It should be noted however that the preparation

level of the students from different programs was notably different and that has to be taken into account in the planning of the lecture material and prompting students to refresh their previous knowledge especially in quantum mechanics and atom and molecular physics. It might be useful to provide in advance home assignments for independent studies and reorganizing problem solving session in the way which would be conducive for more active student participation in these sessions.