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Handling plan for the course DM828 after students' evaluation

The course DM828 was offered for the second time after renaming it from DM533. The first time the course was offered it was not well received. In the handling plan after the course, I proposed to take the following actions:

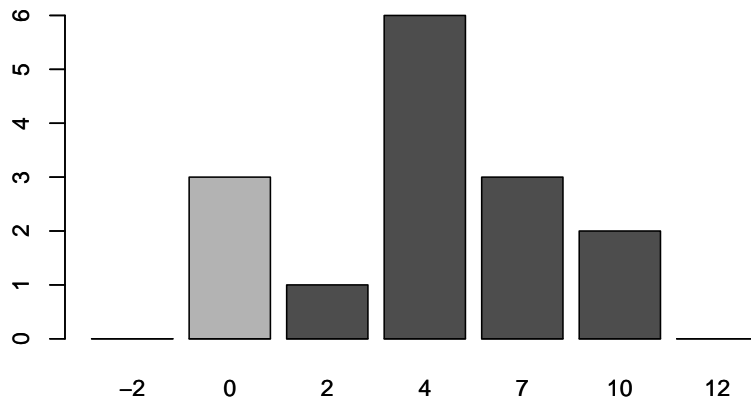
1. Changing the form of the written exam allowing open books
2. Including exercise sessions
3. Rearranging the content of the course avoiding overlaps with other courses
4. Emphasizing the importance in the course of probability calculus while being aware that this is not the favorite topic for CS students.
5. Emphasizing the main topics of the course.

In the new edition, I have addressed all points except the first. In particular, the content was restructured removing the part on logic and moving the part on probabilistic models earlier in the time schedule of the course. It was repeatedly mentioned in class that probability is a central notion in modern artificial intelligence and that students typically have hard time with those concepts. The first point was not addressed because it requires a change in the course description and it was decided to wait for the new digital forms of exams.

The evaluation form remained unchanged and consisted of a series of obligatory pass/fail assignments and a final written exam with grades and external censor. An important difference with respect to the previous edition has been the adoption for the obligatory assignments of the Pacman Projects developed for a similar course at UC Berkeley. This yielded four obligatory assignments with programming tasks.

There were 22 students registered in Black Board at the beginning of the course; 20 submitted a reply to the first obligatory assignment and 17 passed the four assignments. For unclear reasons in the protocol of the final written

exam there were 21 registered; 15 students took part at the exam and 12 obtained a grade above zero. The distribution of grades is shown below. The course evaluation form was filled by 13 students, of which 9 attended more than 75% of the sessions.



The following observations arise from the evaluation.

- Almost all students were from the third year of the CS curriculum. At the first lecture I was told that the main reason for taking this elective course was the lack of alternative offers in the quarter.
- Half of the participants declared to have worked more than 16 hours per week on this course. Accounting 40 hours working time per week and attendance to 3 courses, this effort may be slightly above the recommendable one. More than half of the students perceived the course as difficult and that the amount of material is too much to be thoroughly comprehended.
- Very different opinions were expressed about the concordance between course description and its effective content but 7 students found a discrepancy between the information beforehand and the real situation. From the comments it seems that the students expected the course to reflect the applied nature of the obligatory assignments and perceived assignments not preparing them for the exam. The theoretical nature of the large part of the lectures surprised them and they felt unprepared for the written exam focused on the theory. Seven students found that the prerequisites demanded were no used.
- Coherence between syllabus and studying curriculum was slightly

above average and stressed by some positive comments.

- The planning of the course was considered by 7 students as not satisfactory. Four assignments plus a written exam was considered too much. Also, the content was too broad. Some deepening and extensions that were not needed for the exam puzzled the students who did not know what to expect.
- The text book and the projects were considered good by more than 10 students while opposite opinions were expressed on the slides: 50% thought they were not good because too many, boring and because the black board would have imposed a better pace for the subject.
- More than half of the students are dissatisfied with the pedagogical competences of the teacher and his preparation for the lectures although they recognize some commitment. In the comments it is pointed out that: there was an insufficient number of examples, lectures were too abstract, there were mistakes in the presentation and there was the lack of an instructor. For the exercise sessions students recommend publishing the numerical result to verify the outcome of derivations and more separation in time between when exercises are posted and when they are solved in class. Expectation to solve everything and level of difficulty discouraged some.
- The Pacman projects were very well received.
- Half of the students seem not to have had clear the learning objectives of the course and what was expected from them.
- The majority report to have been intellectually stimulated and interested in the field of study.

Taking these comments into consideration, the following concrete actions will be undertaken. Some of them require the course description to be changed and approved.

- It was my intention to use assignments and written exams to test two different learning goals of this course: being able to apply the techniques and understanding the theory behind, in large part based on probability calculus. Hence it is no surprise that students perceived a difference between their nature. However, for some reasons that I have not fully understood (presentation at the pizza meeting?) students arrive to this course with the expectation that it is an applied course at the level of a programming class.

I will change the nature of the final exam, either simplifying it, or

focusing it on the applied part or removing it completely. In any case, I will revise the presentation and description of the course to make clear that a good deal of theory is present and is relevant.

- I will remove some of the content and spend more time adding examples on the topics treated. I will plan the lectures with theoretical aspects at a lower pace making the content less abstract by presenting worked out examples.
- I will spend more time commenting on the content of the exam and do only exercises in class that have the same difficulty of those at the exam. I will work more on the alignment course activities and exam form.
- I will include exercises that are more simple and I will lower the expectation that students have worked them out when they are treated in class. Just presenting the solution at the blackboard seems to be fine for the students.

I remain convinced that this is an interesting course that should be present in the curriculum of computer science students. I am aware that I must improve the way I deliver it.

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