Graph theory SF2740, Fall 2021
Course analysis

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1 Basic data

The main person responsible for the course was me, Johan Håstad, and I was assisted by René Corbet who gave five lectures and also helped out in most other aspects of the course.

The examination of the course consisted of two homeworks (maximum 60 points each), a presentation (maximum 120 points) and a final exam (maximum 160 points). The final grade was based on the total number of points obtained. The thresholds were as follows A (320), B (290), C (260), D (230), E (200) and Fx (170).

It is not obvious how many students initially did join the course in an attempt to complete it. The first event in the course that was strictly recorded was handing in the first homework which was done by 33 students.

After the final exam, the number of students that have completed the course is 21 with 5 As, 5 BS, 4 Cs, 4 Ds and 3 Es. Two students were given the grade Fox and one of the students is currently working to complete the course. No student taking the final exam received the grade F, but some students were unable to attend the final exam and will probably take the re-exam in April.

2 The lectures

The lectures were given on the blackboard. They were sent over zoom. They were also recorded and the recordings were made available at the Canvas page of the course.

3 The examination

The homeworks were due on November 9 and December 14 (lectures 9 and 14 of the course). It was allowed for groups for groups of up to three students to collaborate on the homework. They were published two weeks prior do the deadline.

The students were supposed to find the topic of their presentation on their own. This topic was due on November 9 and the actual presentations were

held in the two final weeks of the course (December 6-December 16). The presentation were organized in session of about 5 students. Immediate feedback including the grade was given for each presentation.

The final exam took place on January 13.

4 Course evaluation

A link to perform a course evaluation was sent out on January 12 and 11 students responded. A complete version can be found in a separate file. Some highlights.

1. The most common answer to the workload was 3-5 hours a week. This is rather low, even if the course is only running at 25% pace. There were a few comments about the workload being essentially concentrated to the second part of the course.

2. A couple of students complained of lack of formal detail in the lectures.

3. In most dimensions, most students were happy with the course.

4. The question that received the most negative answer is "I was able to practice and receive feedback without being graded".

Let me comment on these. I think they are all, more or less correct. As for the lectures I try to emphasize intuition and let the students read formal definitions in the book. At least one student commented that it is important to read the corresponding parts of the book for the formal details and seemed to feel that this was OK.

As for getting feedback to the students without grading, it is correct that this did not happen. Already a lot of time is spent on feedback and I do not see a possibility to increase this time. Thus the only way to fit non-grading feedback into the course is to decrease the grading part. Several students were happy with the multitude of ways to get credits in the course and hence I am reluctant to make this change.

5 Possible changes for next time

My feeling is that the course evaluation was mostly positive and the main components of the course with homeworks, presentation and a final exam will largely remain. There are, however, some components that I could consider beneficial to change.

1. I think graph theory is tightly connected with algorithms on graphs. I think it would be nice to have a course book that describes some algorithms. I will look for such an alternative.

2. It seems like there is room to get the students more active in the first half of the course. In particular the pace of the lectures could be increased in the first half. Increasing the number of homeworks (but making each smaller) and handing them out earlier in the course should be considered. One could also move the homeworks earlier in the course and allow the later material only to be examined on the final exam.

3. Making recorded lectures available on the Internet seems to have been appreciated. This practice might be repeated even if not required by a pandemic.

There is also the question whether to make the lectures more formal. It is my belief that lectures are there to give intuitive understanding of the material and not to give formal definitions better left to a book. I need to consider that I did go too far in this direction and, at least to some extent, take a more formal approach.