HL2027 3D Image Reconstruction and Analysis in Medicine – VT2018

Students: 22, Answer count: 10, Answer frequency: 45%

Students results: A: 4 (18.2%), B: 6 (27.3%), C: 5 (22.7%), D: 4 (18.2%), E: 2 (9.1%), Fx: 1 (4.5%)

Analysis of the responses:

1. Learning experience
- In general the tendency of the answers was positive except for the questions: "my background knowledge was sufficient to follow the course" and "I received regular feedback that helped me to see my progress". The question "the atmosphere on the course was open and inclusive" got either good or bad scores. Also, "I understood what I was expected to learn in order to obtain a certain grade" got scores in the middle of the range.
- In the comments, the students required more clarity in the learning outcomes and the evaluation methodology.
2. Image reconstruction module
- In general, the students are satisfied with the teaching activities of this module with some room for improvement for the CT module.
- The students considered the CT reconstruction part very difficult for student's background
3. Image restoration module
- Students rated the teaching activities as acceptable. Also, they suggested to cover fewer topics but more in detail.
4. Image registration module
- In general, the students are satisfied with this module
5. Image segmentation module
- While happy with the other teaching activities, the students suggest improving the slides and lectures of this module
6. Image analysis module
- While happy with the other teaching activities, the students suggest improving the slides and lectures of this module
7. General questions
- Students suggest improvements in the connection between modules and the projects and more clarity about all organization of the course.
- Activities should be better spread throughout the semester.
- Comments were positive with respects to the teaching activities in general.
- The answers regarding the workload show that some students spent either too little or too much time related to the credits they receive.

Action plan:

This course was completely remade this year in order to improve its quality. The plan was very ambitious. From this year, the course has much more lectures, laboratories and exercises. We use

now modern tools and the covered topics have been updated to cover more advanced techniques. Teachers and TAs did an enormous effort for making this happen in very little time. The responses of the students are in general positive which means that our aims were largely attained. Thus, the main structure of the course will remain next year.

From the course evaluation, there are specific points we must improve for next years:

- **Organization:**
    - this year, we had no flexibility on the time slots, which made the course more demanding in period 3 than in 4. Next year, the workload in both periods will be balanced.
    - The learning outcomes will be updated to make them clearer.
    - The evaluation criteria will be made clearer.
    - Deadline for project 1 will be moved to period 3.
    - In a few cases, we could not manage to give the results of mini exams after 2 weeks of the evaluation. This was due to the fact we were creating new material during the course. This should not be a problem next year.

- **Teaching activities:**
    - The structure lecture -> exercise -> lab was in general well accepted among students. Still, the connections and aims among these three activities must be clearer.
    - The goals of teaching activities will made clearer to show the connections with other modules.
    - Connections among the modules were done through the projects. Such connections will be stressed also in other teaching activities.
    - Every module will be assessed in order to assess if it is possible to reduce the number of covered topics and increase the depth of some.
    - After this first time, all teaching activities will be revised and improved using the feedback of students, TAs and teachers. Especial attention will be given to the CT reconstruction module and the lectures of segmentation and image analysis.
    - Segmentation and image analysis will have mini exams instead of reports.
    - One of the main concerns we had before the course start was that it could exceed the 9 ECTS workload. The answers of the evaluation were unexpected, with some students spending very little time and others very much. This might be connected to the fact that some students had more experience with programming. We will reinforce the labs for learning basics of python programming. Also, next time we will track more closely the workload during the modules.

- **Learning environment:**
    - There were some students scoring low the question: "the atmosphere on the course was open and inclusive". We will assess this issue closely next time as this is a very important part of the course.