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1. Description of the course evaluation process

The group of students is usually small and there is a close rapport between students and teacher. The course has a home exam, and a questionnaire (see below) is distributed and handed in with the exam but anonymously. The questionnaire responses are compiled by myself. The final question concerns fair and equal treatment.

2. Description of meetings with students

Student opinions are solicited during the course and discussed at a mid-point workshop in conjunction with a progress report on the group assignment task. Several of the students are exchange students that return home at the Christmas break.

3. Course design

Learning activities include

- 13 double-hour lectures;
- 3 tutorial sessions;
- one or two field trips;
- one group assignment in groups of three students: write an in-depth article, *or* solve a set of fairly complex audio programming tasks. Good articles are accumulated from earlier course rounds and used as add-on literature in this course.
- 4 three-hour laboratories, with ears-on activities using audio equipment in studios (not computer labs);
- author a candidate problem for the exam, including a solution and marking criteria; good problems will appear on the actual exam; ex-exams are *not* made available (but probably circulate anyway...).
- complete a home exam which may involve a lot of independent literature research, to be handed in in January. Students report spending at least 10 hours on the exam.

4. Students' workload

The students usually report being kept quite busy and that the workload is evenly distributed across the course. The authoring of a usable exam problem is seen as particularly difficult but very instructive.

5. Students' results on the course

It is rare for students to fail this course; in 2019 no-one did. Generally their motivation is very high and they invest many hours of work in the home exam, where creativity and integrity are encouraged. Grades tend to spread evenly from E to A. The background knowledge varies wildly, those with no prior signal processing have a somewhat harder time.

6. Students' answers to open questions

7. Summary of students' opinions

The questionnaire with average scores and samples of compiled comments is given at the end of this document.

8. Overall impression

This is a specialized course that attracts highly motivated students with an interest in sound processing and sound reproduction. The ambience during the course is generally very good and positive, and much effort is invested in trying to keep everyone on board even though the pace through complex topics is rather high. The laboratories are manned by persons who work with advanced audio on a daily basis, and they invariably receive very positive ratings and remarks – also in 2019.

9. Analysis

Is it possible to identify stronger and weaker areas in the learning environment based on the information you have gathered during the evaluation and analysis process? What can the reason for these be? Are there significant difference in experience between:

- students identifying as female and male?
- international and national students?

International students sometimes do better thanks to a stronger background in signal processing

- students with or without disabilities?

10. Prioritized course development

The technology for audio is evolving rather rapidly. This year, the somewhat dated section on optical storage of audio (CD, DVD etc) was delegated to self-study, and a guest lecture by a professional in audio streaming from Spotify was introduced instead. This will be repeated in 2020.

In 2019 we had only six students, which is below the minimum of 10. We had to offer the course anyway, since 3 students were from the CMETE programme's Sound track (year 3) in which this course is compulsory. This track no longer exists from 2020, so recruiting more students for 2020 will be a concern. On the other hand, this creates the opportunity for raising parts of the curriculum to Master programme level, as was originally intended when the course was created in 2002.

11. Other information you want to share'

The course offers a lot of teacher time per student, since the labs only take three students at a time, in specially equipped rooms. This is a bit of a luxury, but it is tremendously appreciated and the free comment 'I learned a lot from the labs' always appears in the course evaluation. In 2019, one student commented that the assignment, labs and authoring of the own exam problem all came at about the same time towards the end. It would probably be a good idea to schedule the labs a bit earlier in the course.

Course assessment DT2410 Audio Technology 2019

Your anonymous response may be given in Swedish or English.

	Bad-Good	<i>Based on 5 responses; 6 took the exam</i>
Lectures	1-5 Means	Comments (<i>Compiled</i>)
<i>Damian Murphy</i> : spatial sound (3 sessions + tutorial)	5	
Visit to KMH for spatial audio demo in the loudspeaker dome	4.8	
Analog-digital-conversion, 2 sessions + tutorial	4.0	
Audio IC's	4.0	
Software architecture (x 2)	4.0	
Audio coding/compression	4.0	
Connection and transmission	3.3	<i>Perceived as overly technical and difficult by 1 student</i>
<i>Rosholm</i> from Spotify on streaming	5.0	
<i>Nygren</i> and <i>Schön</i> : Audio in broadcasting	4.0	<i>Some had heard them do a similar presentation in other courses</i>
Other, please specify:		
Labs	1-5	Comment
A: The mixing console and outboard units	4.7	
B: Audio coding	4.7	
C: Analytical listening and voice reproduction	4.7	<i>Fascinating</i>
D: Spatial sound and virtual acoustics with Ambisonics	4.7	
Enough time? Would have needed more preparation? Function? Competent lab-assistants?	4.3	<i>Very competent assistants, great labs. One comment on weak preparations and limited time</i>
Assignment	1-5	Comment
Clear directives?	4.8	
Access to materials/guidance?	4.8	
Cooperation in the group?	4.4	
General	1-5	Comment
Textbook: <i>Pohlmann</i> , Principles of Digital Audio, 6 th edition (or other)	4.3	
Curriculum: topics missing, or redundant topics?	4.3	
Did the course fit your prior knowledge?	4.3	
Did the exam reflect the course contents well?	4.3	
Overall disposition of the course	4.3	<i>Learned a lot. Great labs</i>
Participants were treated fairly and without discrimination	5.0	
Other		