

Course analysis

General information

This document provides the course analysis about the master degree course

Introduction to Signal Theory EQ 1210 and Signal Theory EQ 1220

given in the first period 2012/13. The course responsible was Tobias Oechtering, Communication Theory, EES, KTH. Email: oech@kth.se, tel.: 08 790 8462. The course "Introduction to Signal Theory" covers the first 2/3 of the course "Signal Theory." Further, the requirements to pass the project and the difficulty of the exam are lower. The tutorials and projects were given/guided by the teaching assistants Hamed Farhadi, Efthymios Stathakis, and Frédéric Garby, all PhD students in the Communication Theory Lab.

Course organization:

- 12 x 2h lectures
- 12 x 2h tutorial given in two groups
- 9 voluntary reflective questions essays (new!)
- Two mandatory take home project assignments (project 1 is new)
- One written exam, 5h.

Requirements:

- Passed project assignments (PRO1: 1cu, PRO2: 1cu) , grading: passed/failed
- Exam (TEN: 5.5cu), grading: A-F

Material:

- Lecture notes: "Signal theory" by P. Händel, R. Ottoson, H. Hjalmarsson, and M. Jansson.
- Collection of problems in Signal Theory
- Old exams available at the course homepage
- The KTH table of signal processing formulas (in English)
- Two project assignments (made available online during the class)
- 9 reflective question sets for reading assignment (new)
- Lecture slides (new)

Statistics

- 43 students registered for the course EQ1220
from programs: TSCRM, CINEK, CMIEL, TMTHM, TTLSM, TIVNM, exchange students
- 3 students registered for the course EQ1210
from program: CDATE, exchange students

(EQ1210) EQ1220 (Introduction to) Signal Theory, KTH, Period 1, 2012, Instructor: Tobias Oechtering

All students have to do two homework project assignments which are allowed to be done in groups of at most two. The students have the opportunity to revise their project report after a first evaluation of the project report.

Project 1:

- EQ1210: 1 failed in the 1st round and passed in the 2nd round.
- EQ1220: 18 failed and 25 passed in the 1st round and 17 passed in the 2nd round.

Project 2:

- EQ1210: 1 failed in the 1st round.
- EQ1220: 16 failed and 26 passed in the 1st round and 15 passed in the 2nd round.

Exam written on Oct 15th, 2012, 14:00-19:00: Results see *Section Exam results*

Re-exam will be written on Jan 8th, 2013, 8:00-13:00

Course history and development

This was the second time that I gave this course after 2011. The course was previously given by Magnus Jansson, SP. I did not do any major change on the topics covered in the course, but I introduced to use slides during the lectures for definitions and statements. Most derivations and several explanations using pictures were still done on the white board. This gave time to add some examples, small derivations and explanations, as well as two new MATLAB demos. The first demo was about 'autoregressive modeling,' and the second one was on 'zero-pole analysis.' We introduced a new project 1 which aimed more for the material covered in the first lectures so that the project is more aligned with the lecture and the workload is more evenly distributed over the study period. For the project reports we provided writing tutorial material and created report templates in 'Microsoft word' and 'Latex'.

I kept the course material, course book, problem collection, and project assignments, but we introduced reflective questions on the reading assignments. Students were asked to write a short essay about the reflective questions and hand in the essay before the lecture. Successful participation gave them bonus points for Part 'A' of the exam. In the tutorial we kept the style of group work introduced last year, but we did random grouping so that students learn to know each other to build up their network (this is the first study period for new master students at KTH)

We changed the style of the exam this year. There are now two parts: Part A is a questionnaire, where students have to answer questions with 'Yes' or 'No'. A wrong answer gives -1 point, a correct answer gives +1 point, and no answer gives 0 point. EQ1220/EQ1210 students had to have 8/5 points to pass part A and they could have obtained 9/7 bonus points from the reflective questions essays, i.e., students could pass this part during the course. This was done by intention to activate students, which worked perfectly. Part B was about problem solving similar to previous exams. The grade was based on Part B only, which was only assessed if the student passed part A.

To increase the response rate for the course feedback, I provided a few hints about the exam in the internet. The internet address was provided in the questionnaire. I told the students, if they answer the questions, then they get the link and the information. This has led to a high response rate.

The course page has been transferred to KTH social. There we provided additional references to supplementary literature for further reading. To avoid that students only focus on the training of exam problems, we removed the very old exam from the course page – only the last three years are kept. The new course page, including the features offered from KTH social, worked well.

Course feedback

The questions and the answers can be found in *Appendix Course Evaluation Results*. On Oct 26th 2012 the teaching team had a course reflection lunch meeting where we reflected about the course and discussed about actions how to improve the course next year. In particular we discussed how to improve the tutorial. The following discussion and potential course development actions take the students and TAs feedback into account.

Discussion

From small talks with students during the course I got told that they love the new reflective question activity. They personally felt well prepared for the lectures. The course feedback from the students showed this as well. The teacher also felt that the students were well-prepared and participated during the lectures. Due to the exam part A bonus point incentive, all students participated in the end. This new activity can be considered as a great success and can be recommended for other lectures.

Also the trick of providing the link with a few hints for the exam in the questionnaire has led to very high response rate and is considered to be very effective. From the number of returned responses 42 and the number of answers 36 one can see that 6 did not answer the questions. This might be that they signed in twice or they did not want to provide feedback at all.

The project 1 worked well, but the alignment can be still slightly improved. More precisely, I think that it should be delayed by one week so that the revision period of project 1 and the initial phase of project 2 overlap. Also small revision of the project description will be needed. The writing tutorials and templates improved the quality of the reports.

The design of the tutorial session requires improvement. Since the solutions of the problem were afterwards made available on the course page, several students skipped the tutorial. In some groups the group work worked well, but there are also students which do not socially interact. In the feedback we obtained diverse responses so that a clear conclusion is difficult. We think that the main problem is that there is a low incentive to participate in the tutorial. Jointly with the TAs we developed an idea how to run the tutorial next time (next section).

Ethics

One student asked for a deadline extension for the project report 2 since her cousin committed suicide and she wanted to go the funeral. I gave her the extension. Another student asked for some

extra hints for the exam since this was his last exam he misses for his master degree and he is already working for last two years. His employer now wants him to finish his studies otherwise he might lose his job. I did not provide any hints, but offered help to study the material.

The teacher thinks that such decisions are difficult and wants to discuss those issues with more experienced teachers.

Ideas and concrete actions for future course development

The following actions are suggested based on the experiences from the teacher team as well as the response from the students.

- Include more reflective questions during the lectures where students will be allowed to discuss about the answer before they respond to the teacher.
- More small examples and possibly in-class experiments/simulations should be looked for.
- Concrete actions for project 1: Some tasks can be accompanied with extra hints to assist the students in their solution. A bibliographic task could be added at the end of the project statement, asking for the description of applications or fields where the Gaussian distribution and the system models, discussed in the project, arise frequently. Such a task, albeit non-analytical will motivate the students to look themselves for practical aspects and extensions of a seemingly theoretical and abstract project. The accompanying templates for writing the report in Latex and Word, respectively, could be more analytic and give a more concrete idea about the structure of a scientific report.
- Perhaps add more/revise MATLAB demos and ask for feedback if they are appreciated.
- An idea of the new tutorial: The tutorial will be a mixed activity. First the TA gives a recap of the concepts (approx. 10 minutes). Then we have group work where students work in group on a problem. The time is such that most of the groups do not finish, but spend sufficient time on it to get involved. The TA then presents the (main/key steps) to the solution. 3 to 4 problems should be studied discussed sequentially. The grouping is still done randomly, but the TA does it in the tutorial session. To increase the incentive to participate, bonus points for part A of the exam should be offered. For instance, in 4 sessions the groups should hand in the solution of one problem. The students do not know in which session this bonus point problem will be discussed. Only just before the group work starts it is announced that the groups now can jointly work on a solution and hand it in. Everybody in the group may get 1 bonus point for a correct solution. For fairness reasons, the tutorial sessions should be in parallel so that there is no benefit in knowing when the bonus point problem is scheduled.
- To reduce the workload for evaluating the reading assignment, only a random subset of the reports will be assessed. To keep the incentive, one might give 0.5 point per handed in essay and 0.5 point if the essay is correct when it is assessed. The random choice might be done after several reports are collected. Perhaps two out of the first 5 essays, and 2 out of the last 4 essays.
- The achieved bonus points should be revealed to the students to the end of the lecture so that students remain motivated to participate until the end of the course. Therefore, the assessment result of the essays might be handed out late.

- Since the speed in the lecture has changed (some parts are slower due to extra material/examples other parts are faster due to slides). The alignment between tutorial, lecture, reading assignment, and project 1 has to be revised.
- It could be checked if one should call the 'acf' autocovariance function as done in the book Foundations in Digital Communications. This should be done in agreement with the other teachers in related courses.

Ideas from last year which still might be interesting:

- Diagnostic test or questionnaire in the first lecture to see if the students have the required minimum pre-knowledge. Perhaps offer an extra tutorial to address deficiencies, e.g., basics in probability theory might be a topic.
- If a substantial difference in the pre-knowledge can be identified, then perhaps the students should be divided in two groups with different tutorials. Perhaps one has to offer extra tutorial for the weaker group to catch up. If the weaker group consists mainly of EQ1210 students, then as a first action perhaps the EQ1210 course should get its own tutorial, while the lectures are still done jointly.
- Ask for reflective journals during the lecture period to identify miss-conceptions. Possible implementation: Let the students reflect on the course so far – possibly a first one after the first 1/3 of the course and a second one due before the first project. They should discuss about the most important concepts and report about most difficult concepts. This provides feedback about troublesome knowledge and threshold concepts. First, I would suggest to make the journals voluntarily. To animate students to do them, I propose that a good reflection will be worth up to two extra points in the final exam (which usually will have around 50 points in total).
- To make the lectures more interactive, I propose to introduce short quizzes or “clicker” questions to check miss-conception directly in class. To generate more interaction, ask the same question two times before the correct answer is revealed. After the first round, the students see the voting, hear some arguments, or get some hints/explanation before they are supposed to discuss with their fellows before they are asked for an answer again. Further, I have good experience with “5-minute” exercises in class, where the students are supposed to directly apply the newly learned methods.

Overall evaluation

I believe that the course content, lecture notes, project assignments, and problem sets are of very good quality and do not require much revision. Project 1 needs to be revised slightly; additional examples/practical motivations might be added to the lecture. The lectures might benefit from even more interaction, e.g. by concept questions or 5-minute exercises. The reading assignment and the bonus points were a great success and substantially increased the participation in the lecture. A similar strategy should be found for the tutorial.

I will propose to discuss ethics in teaching with my colleagues at our EDU planning meeting next year.

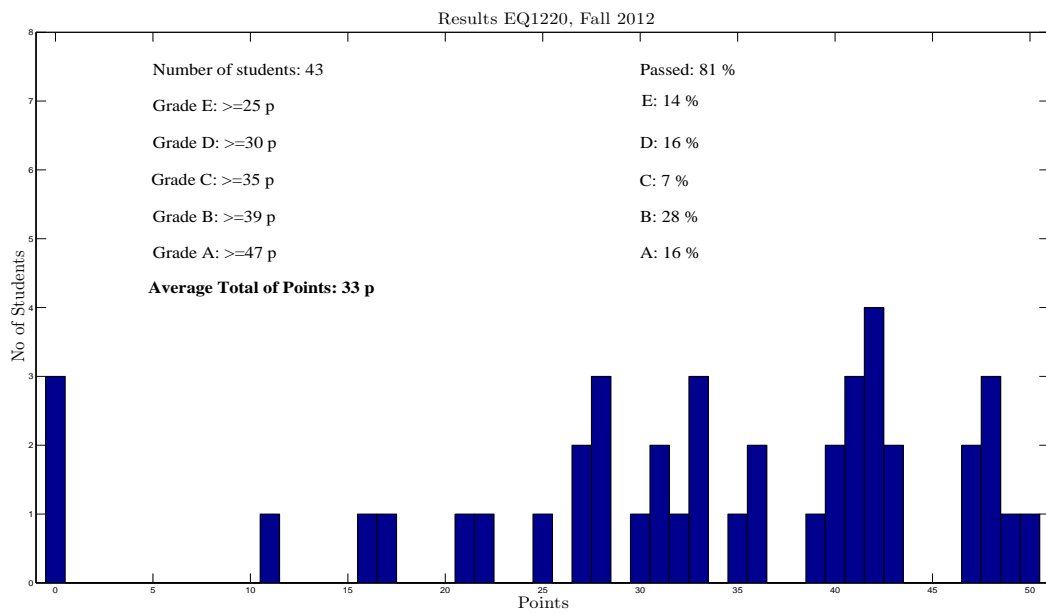
Exam results

Signal Theory, EQ1220, Fall 2012

Introduction in Signal Theory, EQ1210, Fall 2012

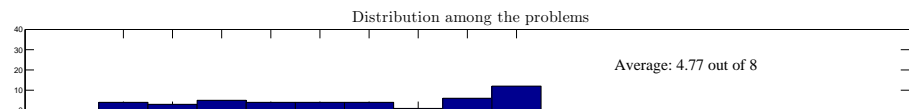
Number of students EQ1210: 3 students; 41 points were the maximum in part B; one achieved a C with 23 points, one achieved a E with 18 points, one failed with 13 points.

Number of students EQ1220: 43 students; 50 points were the maximum in part B; two students failed part A, one student did do part B at all.

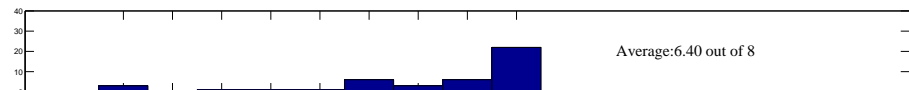


Distribution between problems:

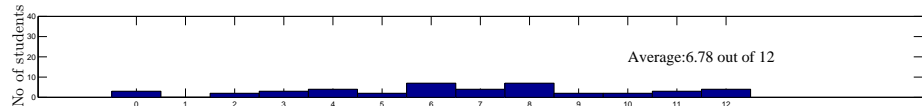
Problem 1:



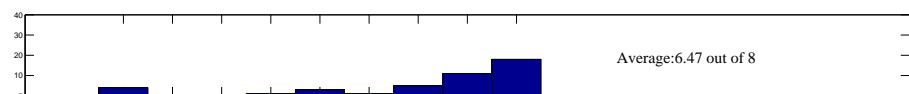
Problem 2:



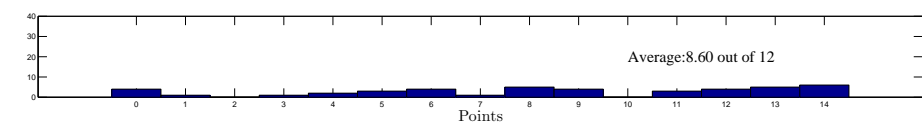
Problem 3:



Problem 4:



Problem 5:



Course feedback

Signal Theory, EQ1220, EQ 1210, Fall 2012

Status: Avslutad

Publicerad under: 2012-09-28 - 2012-10-23






Antal svar: 42

Procent av deltagarna som svarat: ?%

Kontaktperson: [Tobias Oechtering](#)

1. Did the learning activities help you to reach the course goals (mostly learn new concepts and methods in signal theory)?

36 svarande

very much	11		30%
pretty much	20		55%
so and so	5		13%
only a little	0		0%
not at all	0		0%

- [in quite a systematic way. I like it.](#) (pretty much)

- [I only attended the lectures, but I appreciated them very much.](#) (pretty much)

- [The projects were really helpful. The tutorials could be better if we were given the solutions on board.. We study every day on our own, so there is no motivation to attend them just for self-work!! Comparing with Digital Communications, the tutorials in D.C. were much more helpful.](#) (so and so)

2. Threshold concepts are core concepts that once understood, transform perception of a given subject. What threshold concept(s) did you learn in the course?

- [Random Variable, Stochastic Process, Stationarity, Ergodicity.](#)

- [I have learned how to estimate the performance of stochastic process in many different conditions](#)

- [About a third](#)

- [Signal in the nature can be described as random process.](#)

- [The power spectral concept](#)

- [Autocorrelation of stochastic processes and how they react in systems.](#)

- [Stochastic processes, optimal filtering, aliasing, power spectrum, autocorrelation function](#)

- [The last project helped me to see really what is the goal of the filtering.](#)





- [I gained the knowledge how to deal with real time process!](#)

- [Estimation, arma process, stochastic process, ergodicity, WSS process. But I think those are threshold concepts in signal theory, but I still don't see the real interest of those concepts in the real world, or applications. I only see the mathematical concepts.](#)

- sampling, stochastic process, random variable, power spectrum, cross correlation, cross spectrum,
 - 85%
 - signal model as a stochastic process, stationary and ergodicity, signals in frequency domain, PSD. Parameters to describe signals" properties: mean, acf, covariance function(for one signal), crosscorrelation function, crosscovariance function. LTI systems, relationship of the input and the output, Estimation, how we could get the necessary parameters from what we observed. Direct estimation and indirect estimation. Sampling and PAM.
 - WSS, Filters, analysis of processes as stochastic.
 - mean autocorrelation var and so on
 - The use of autocorrelation and cross correlation. The necessity in modeling a channel as stationary. Not very clear on what I know right now, but it often matures after the exam.
 - Stochastic processes, spectrum, properties of them, filtering
 - ?
 - ACF
 - The use of the random variable
-

3. How useful in learning the concepts were the lectures?




35 svarande

<u>useful</u>	21		60%
<u>partially useful</u>	13		37%
<u>useless</u>	1		2%
<u>did not attend</u>	0		0%

- I think it is the basis of my advanced course (useful)
 - lots of documentation in the text book, some complements in the lectures slides. and some more on wikipedia to achieve the essays and to go a bit deeper. (useful)
 - quite useful, i think. We get to know how signals behave in theory, also we know how to estimate signals from what we observed. (useful)
 - The teacher gave good explanations of the concepts (useful)
 - The reading assignments were the most valuable though, since that kept one reading beforhand and reflect a bit of the subject. (partially useful)
 - The concepts were covered and explained completely. I would prefer a macroscopic view of the material, since we wasted lots of time proving formulae we could use as granted. Going so deep in mathematical view did not satisfy my expectations for a MSc course. (partially useful)
 - Everything is well explained in the course book and we have to read it anyway before each lecture so going to the lecture is not very useful in my opinion. (useless)
-

4. How many lectures did you miss so far?



36 svarande

<u>0 - 2</u>	29		80%
<u>3 - 5</u>	5		13%
<u>6 - 8</u>	2		5%

[9 - 12](#) 0 0%

5. Were the reflective questions useful for your preparation?





36 svarande

useful	22		61%
partially useful	14		38%
useless	0		0%
did not do	0		0%

- *but still a bit surprised to have to summarize the lesson before attending it. we often go to the lecture knowing a lot about what's going to be said, in this sense, the lecture was sometime kind of waste of time.* (useful)
 - *This gives me a reason to read the book before lectures. That helps for understanding lectures.* (useful)
 - *The questions were very useful, but sometimes it was not clear exactly what was required.* (useful)
 - *Not only did they encourage reading the material, but more importantly reflecting over and working with it.* (useful)
 - *Reflective questions were very useful. They helped me to study, and check my understanding. There was only a small problem: each lesson was usually about the questions I handed in one lecture before, and not on the questions I handed in on that day.* (useful)
 - *Some reflective questions are too far from the course, I mean some course questions are done earlier for several courses. And it is sometimes confusing, make me don't know what to answer would match the answer* (partially useful)
 - *If I already read the part of the skript which will be discussed in the lecture afterwards, why should I actually come to the lecture? I even wrote a summary, so it is rather boring to attend the lectures.* (partially useful)
-

6. How useful in learning the methods were the tutorials?

35 svarande

useful	16		45%
partially useful	11		31%
useless	3		8%
did not attend	5		14%

- *I think it would be great to have preparational exercises for the tutorials in a similar fashion as the essays for the lectures. Sometimes a lot of time was wasted by looking for formulas and whatnot. Some basic, tutorial like exercises which are doable at home would be very useful.* (useful)
- *I've had never experienced this kind of tutorial, and it is very good! I hope all the courses had it like this.* (useful)
- *I think I can do it at home* (useless)
- *I attend 3 tutorials, I don't understand what's the point, nothing more is said than in the*

online correction. I don't understand why I should go to Main campus, wait for the answer if I don't find it, while I could do it peacefully at home. (useless)

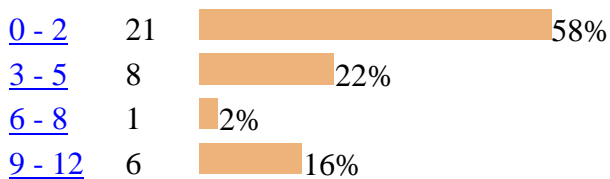
- I stopped participating after the 5-6 first, since there was nothing more than i did at home as homework. I would prefer the solutions to be given by the TAs on board. (useless)

- I didn't like the concept. It wasn't any discussion if you didn't understand the questions. I think you could have divided the tutorials, so that one class could have the discussions, if students like them, and original ones, were the teacher show how to solve them on the board. (did not attend)

- My friends didn't want to attend and I found it useful to work with them. (did not attend)

7. How many tutorials did you miss so far?

36 svarande



8. What do you think about the random grouping in the tutorials?

36 svarande



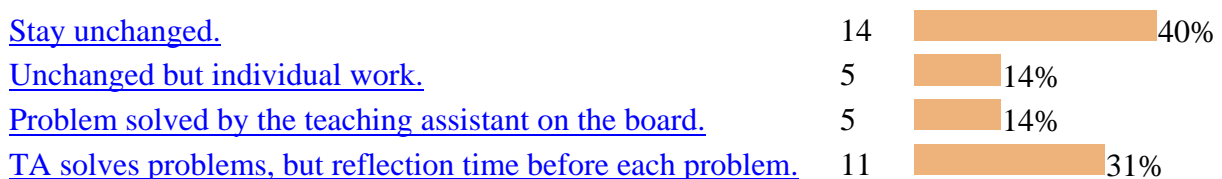
- I think grouping should happen on the spot. There are always absent students at each tutorials, so it would be more sensible to make it regarding the actual number of participants. (Helped me to get to know my fellows.)

- Group work is essential for engineers. Thus, it was a really good approach for us!! (Helped me to get to know my fellows.)

- I don't really like group work but I don't mind them if I can do it with friends (Like group work, but with my friends/chosen partners only.)

9. Which kind of style would you prefer for the tutorials?

35 svarande



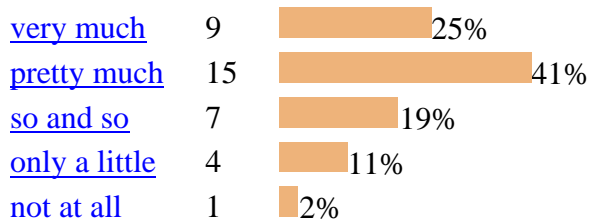
no opinion

0 0%

- some students are asked to solve the problem but reflection time should be given. (?)
 - Unchanged but let students choose if they want to work in groups or alone (Stay unchanged.)
 - maybe the group should be more compulsory. and maybe one group could be valid for two or three tutorials and then be changed. (Stay unchanged.)
 - Actually, all alternatives are incorrect with respect to what I think. I would like to work with my friends. (Stay unchanged.)
 - perhaps mixed? (Stay unchanged.)
 - On board solutions while discussing each step in order to gain attention and create knowledge (Problem solved by the teaching assistant on the board.)
-

10. Do you feel that you got constructive feedback from the TAs on the project and during the tutorials?

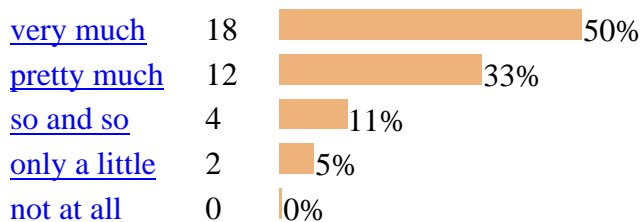
36 svarande



- The TAs were really good and helped a lot. The only problem was in the end of the course when groups were merged, and then they did not have that much time for all the people in the large group. (very much)
 - In particular, I liked the feedback from Efthymios Stathakis, who used to check your work even when you were not asking for it. It was good, since sometimes you make mistakes but you don't realize it. (very much)
 - TA help me a lot in tutorial, but it is hard to get in touch with TA during the project. I suggest TA select a period of time e.g 2hours in one classroom open for students to ask for help (so and so)
 - We didn't get any feedback on the project. It was that good, already. (not at all)
-

11. Do you feel that the projects required from you to learn or improve relevant skills (programming, report writing, etc.)?






36 svarande



- Try not to wait for something that has not been seen so far, that was really vicious, and a huge waste of time for people who looked for the answer without google (like me). (very much)
 - In particular, the report writing was very interesting. (very much)
 - Had to read a lot before it was taken up in the course, for project 1. (pretty much)
 - The first project came to early since we hadn't learn the theory yet. (so and so)
 - It depends on our previous knowledge of Matlab (so and so)
-

12. Did the project assignments improve your understanding of the material?






35 svarande

<u>very much</u>	20		57%
<u>pretty much</u>	11		31%
<u>so and so</u>	2		5%
<u>only a little</u>	1		2%
<u>not at all</u>	1		2%

- Yes. Maybe a few hints would be better. (very much)
 - It was interesting in seeing the application of all theoretical stuff that is seen during the lectures. (pretty much)
-






13. How many hours of work did you spend in project 1?

36 svarande

<u><10h</u>	4		11%
<u>10-20h</u>	11		30%
<u>20-25h</u>	10		27%
<u>25-35h</u>	9		25%
<u>>35h</u>	2		5%

14. How many hours of work did you spend in project 2?

36 svarande

<u><10h</u>	4		11%
<u>10-20h</u>	13		36%
<u>20-30h</u>	14		38%
<u>>30h</u>	3		8%
<u>ongoing</u>	2		5%

15. How would you rate the level of difficulty of the course?

36 svarande

too easy	0	0%
ok	21	58%
tough	14	38%
too tough	1	2%

16. What was good and should not be changed?

- [Reading Assignment helps a lot!](#)
 - [The tutorials should be given.](#)
 - [Project](#)
 - [The reflective questions make me to read the textbook more carefully than other courses.](#)
 - [The exercise class and the project assignment](#)
 - [The lectures, reading assignments](#)
 - [The essays are very useful, learning subjects before getting detailed explanation is much appreciated. There is also a huge motivational force, getting plus points. This is one of the best inspiring method in academia I experienced so far.](#)
 - [The fact that we have to read before the course](#)
 - [the reading assignments](#)
 - [the reflective assignments, and the project should not be changed but improved in the way student interact with the real time process.](#)
 - [teacher, slides, correction online of the tutorials.](#)
 - [The courses given by professor are great. And the reading assignment really help me to prepare lessons before class.](#)
 - [tutorial and reflective assignment!](#)
 - [nothing!](#)
 - [reading assignment](#)
 - [The project part.](#)
 - [Tutorial style](#)
 - [reflective questions projects](#)
 - [Reflective questions.](#)
 - [I like this group work](#)
 - [projects](#)
 - [Tutorials, reflective questions, projects.](#)
 - [The lectures were good.](#)
 - [Tutorials](#)
 - [Tutorial](#)
-

17. How can the course be improved?

- [In tutorial, I hope TAs can solve problems or provide some approach after we try to solve problems in groups.](#)
- [I think the part for students to ask questions, not only do the questions in the exam, but the course concerning concepts and projects.](#)
- [Tell more how the concepts is useful in practical applications.](#)
- [Add some homework](#)
- [Tutorials can change style, projects in phase with the lectures and no mistakes on the](#)

projectassignment.

- Give concrete examples in the course, for example, what is the aliasing effect in image processing...
 - During lectures, I think more detailed explanation of the concepts with examples and illustrations would be very useful. For instance: aliasing could be presented through images, sound, etc.. in my opinion there was a bit of too much stress on the mathematical proofs of the several concepts. Proofs can be followed from the book and slides as well, but having a strong logical link to the concepts are much more important. (Note: this is a software engineers opinion, I am not an electric engineer)
 - The bonus questions should be on the chapter we are working at this moment.
 - i would love to see the course being more practical. i am fun of real time process!!
 - system of tutorials. more examples of applications in the lectures, more applications and uses of the theory in project one for example also. Other non compulsory and non corrected projects, just for interested people to go a bit deeper.
 - The problem may can be solved by the teaching assistant on the board during the tutorials.
 - Maybe the professor can put the slide online before the lecture.
 - Less tutorial. Because sometimes the tutoring seems to be a waste of time.
 - Increase the group size of the projects
 - do better on tutorials about the group work.
 - More then 2 projects that will be smaller. Some of the material never had any HW related to.
 - No idea
 - Signal Theory is one of the most important and basic courses of a Communications Engineer. We wasted all the lectures proving mathematical formulae, while we could just use the outcomes for practical applications, which is the demand of an engineer. Teacher is very friendly and open for questions, so really helpful for us. Unfortunately I was totally disappointed by the lectures, since they provided nothing more than definitions and proofs of formulae. I strongly believe that we should take advantage of good teachers with a more productive way!!
 - The only small problem I noticed is the relation between the pace of lectures and projects. It happened quite frequently to have to study material which had not been taught in class yet.
 - Lectures should be in phase with homework.
 - As you already know, delay the first project so that the course material is more in sync.
 - Focus more on calculations and math than on written things. E.g. exchange reading assignment essays with exercises we have to hand in or focus more on calculations and coding in the project than on the written report.
-

18. Did the course schedule conflict with other courses (simultaneous classes, etc)?

34 svarande

<u>Yes</u>	19		55%
<u>No</u>	15		44%

- only one tutorial. (Yes)
- some overlaps with Introduction to computer graphics and visualization. (Yes)
- not too many conflicts (Yes)
- Quite often but this is due to the fact that I also have 2 courses at Kista so conflicts were

inevitable. (Yes)

- many times!! with my entrepreneurship course and computer graphics. (Yes)
- EL1820 (Yes)
- once with digital communication. (Yes)
- Only once conflict with Digital Communication, this can be ignored. (Yes)
- one exercise class conflicts with Digital Communication lecture. (Yes)
- IV1200, once a week (Yes)
- Machine learning, but only 2 tutorials. (Yes)
- Only once, with Digital Communication. (Yes)
- There was one or two conflicts with course ME2305. (Yes)
- Several of the tutorials, but was an advanced course so hard to avoid conflicts (SF2812, Applied Linear Optimization). (Yes)
- Internetworking, for about several times. (Yes)
- Courses in Kista (Yes)
- Digital Communications (Yes)
- Only once the tutorial conflicted with Digital Communications (No)

19. Did you do this questionnaire since you want to get the link "www.ee.kth.se/~oech/examinfo.pdf"?

36 svarande

<u>Yes, because of that only.</u>	6	16%
<u>Yes, but I would have provided feedback anyway.</u>	25	69%
<u>No</u>	5	13%

- It is a good way to make people do the evaluation, I dont know if it is the best way but I like it. (Yes, because of that only.)

- I do want to say thanks to the course, the teacher and the TAs. I think the course helps in my knowledge system. (Yes, but I would have provided feedback anyway.)

- It was a very good course, and I am happy to state it. (Yes, but I would have provided feedback anyway.)

20. For which course are you registered?

36 svarande

<u>EQ1220</u>	35	97%
<u>EQ1210</u>	1	2%
<u>EQ1240</u>	0	0%
<u>EQ1260</u>	0	0%
<u>other</u>	0	0%

21. Please feel free to add any other comment?

- Projects are a little too tough. sometimes the projects are released before we could have covered those knowledge in lectures.
- This class have helped me to clarify several important concepts I was confused about in my undergraduate study. Thanks!
- Project 2 was a very good example how the subjects relates to "real life" problems. I think making some similar mini-projects (optional ones) through the course would really help people understanding fundamental principles.
- I am happy with the way the course is organized. the reference, the tutorial, the projects and the assignment. keep it up!
- It is a good course and reading assignment is really helpful for us to learn more about the lecture, it is a good way to prepare before the lecture.
- The lectures should not only constraint to the text book. It is better to extend I think.
- You have done a good job. Thanks!
- No idea