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## Report - IL2236 - 2020-07-03

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Respondents: 1  
Answer Count: 1  
Answer Frequency: 100.00%

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**Please note that there is only one respondent to this form: the person that performs the course analysis.**

**Course analysis carried out by (name, e-mail):**

Zhonghai Lu, zhonghai@kth.se

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**DESCRIPTION OF THE COURSE EVALUATION PROCESS**

**Describe the course evaluation process. Describe how all students have been given the possibility to give their opinions on the course. Describe how aspects regarding gender, and disabled students are investigated.**

Course evaluation was continuous, by asking students' feedback throughout the course offering, in particular, collecting feedback at the meeting with students after each lecture. All students were informed and encouraged to give feedback.

The course evaluation survey was conducted online and open to all students for two weeks from 2020-05-18 to 2020-05-31, one week before and one week after the written examination on 2020-05-25. The survey uses the standard LEQ questionnaire from KTH. The answers are anonymous. Besides automatic reminder sent from the system, I also sent an email reminder to students for participation.

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**DESCRIPTION OF MEETINGS WITH STUDENTS**

**Describe which meetings that has been arranged with students during the course and after its completion. (The outcomes of these meetings should be reported under 7, below.)**

Regular meetings with students were arranged after each and every lecture. All students were welcome to ask questions and give comments on current lecture and any of the course activities. Each meeting lasts until no more questions from students, usually taking about 30 to 60 minutes each time.

Other meetings were arranged on demand as requested from students by email. Since this course offering was done online and students were distributed around the world (due to Covid-19, campus was closed to students and many students went back to their home countries), this kind of arrangement was also important to address students' concerns and questions in a more flexible way.

Furthermore, specific open-office meetings were also organized before the examination to answer questions from students.

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**COURSE DESIGN**

**Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.**

The course contains 3 modules, each with 4 lectures. It includes 3 home assignments and one mini-project as the fourth assignment. Each home assignment has a corresponding student recitation session. A teaching assistant is leading the student recitation session.

The examination consists of two parts. The first part is the home assignment and project work, and the second part constitutes one written examination.

Compared to previous course offering, I have added more materials in lectures about the on-chip network simulation. I have changed the mini-project from individual assignment to group assignment. The intention was to encourage peer-learning even in the remote teaching environment. The students can help each other and learn from each other. In previous offerings, the mini-project had been a challenging task for quite some students. The group work has largely facilitated to mitigate the challenge through active discussions and interactions within a student group and among student groups.

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### **THE STUDENTS' WORKLOAD**

**Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If there is a significant deviation from the expected, what can be the reason?**

The course is worth 7.5 credits, running for 10 weeks from start (week 12) to end (first examination in week 22). The nominal workload for each student is 20 hours per week (40 hours of full-time study for 1.5 credits, 200 hours for 7.5 credits).

There are 24 students attending the course. 11 of them answered the course evaluation survey.

The weighted average of workload is calculated via picking up the middle value in each scale, for example, the middle value of scale 21-23 hours is 22 hours. Weighted workload in hours =  $(1*40+2*22+2*19+4*13+1*10+1*4)/11=17.1$  hours. Considering variations in estimation accuracy and individual differences, the workload is generally reasonable.

### **THE STUDENTS' RESULTS**

**How well have the students succeeded on the course? If there are significant differences compared to previous course offerings, what can be the reason?**

There are 24 students attending the course. 23 students have completed the Home Assignment part. One student has one assignment to complete.

The first examination was carried out on May 25, 2020. 20 students attended the first examination. 17 students passed and 3 students failed. The score distribution is as follows: 1A, 4B, 1C, 7D, 4E, 3F.

The results have no large deviation from previous course offerings.

### **STUDENTS' ANSWERS TO OPEN QUESTIONS**

**What does students say in response to the open questions?**

The best aspects of the course as liked by the students are combination of lectures and exercises, online lecturing plus video recordings for off-line learning, detailed coverage of on-chip and off-chip networks, the teacher's engagement of learning and close interactions with students.

The aspects to improve include the clarify of some homework tasks and the description of the mini-project tasks, and assistance in conducting the mini-project.

### **SUMMARY OF STUDENTS' OPINIONS**

**Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.**

The questionnaire has shown the strength of the course, and teacher's commitment to quality teaching. The students have also suggested a few aspects about homework, mini-project and lecturing to improve in the questionnaire.

Overall it is considered to be a good course and a great learning experience for students. Already now, one student expressed interest to do master thesis with the teacher in the questionnaire. "Zhonghai, I would like (to) have (you) as my mentor when I start my Master thesis :)" Another student commented "I think that despite all issues during this spring Zhonghai has handled this course well and done his best to assure that we all will learn from him."



### **OVERALL IMPRESSION**

**Summarize the teachers' overall impressions of the course offering in relation to students' results and their evaluation of the course, as well as in relation to the changes implemented since last course offering.**

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Due to Covid-19, this course offering was done remotely online. This is the first time that the course is offered in this way. Most of the students went back to their home countries. Since students were distributed in different locations, it had been difficult for some students to join the course activities. To incorporate this demanding situation, the course provided both online lecturing and off-line video recordings to help out all students, making synchronized and un-synchronized learning possible. Also, I have spared much more time after each and every lecture to handle possible questions from students and to collect feedback from students. Even though video recordings were provided for off-line learning, I encouraged online synchronized teaching and learning, in particular, to encourage teacher-student interactions during lectures and after lectures. To encourage and create a peer-learning environment, I changed the mini-project implementation from individual work to group work. The groups were formed randomly, and a group leader was appointed after consensus with students. All these measures have shown to be effective and welcomed by the students. For instance, one student commented on the question "I felt togetherness with others on the course" by saying that "It was nice to do the simulations as a group project."

Overall, the course was doing quite well, even in face of the difficult situation without in-person physical classes. The teacher-student interaction and student-student interaction were especially important for good learning experience and effective learning under such online remote education circumstances. From the course evaluation by students, the course was appreciated, so were the teacher's efforts. Overall the students have also shown good results, achieving intended learning outcomes.

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### **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?
  - students with or without disabilities?
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- per gender response: very similar.

- per type of students: similar.

About "Constructive alignment" (Q12 The course activities helped me to achieve the intended learning outcomes efficiently, and Q13 I understood what I was expected to learn in order to obtain a certain grade) and "Understanding of subject matter" (e.g. Q11 Understanding of key concepts had high priority), the national students give higher marks.

One national student commented: Very good course and teacher.

- per disability. Only one funk student in the class. No comparison shown in the polar diagram, as noted in the questionnaire, "A group has to include at least 3 respondents in order to appear in a diagram."

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### **PRIORITIZED COURSE DEVELOPMENT**

**What aspects of the course should be developed primarily? How can these aspects be developed in short and long term?**

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The course shall be further developed in strengthening the homework description and the mini-project. The homework tasks, which the students like, will be reviewed and improved, in particular, to clarify their descriptions. The mini-project will improve its clarity. We will also give more guidance to students, since students with different backgrounds show varying difficulty in handling the tasks. The group work for the mini-project implementation was working well and will continue. In the long run, more difficult exercises and sub-tasks will be incorporated into the homework assignments and mini-project in order to give students more challenges.

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### **OTHER INFORMATION**

**Is there anything else you would like to add?**

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This course edition in Spring 2020 was offered remotely online due to Covid-19. All activities (lectures, exercise sessions, meetings, examination etc.) were conducted online.

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