

## **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.

The course evaluation process was continuous throughout the course, mainly via discussions with students during and around the learning activities and in the project groups during the course, and through an individual reflective assignment at the end of the course, focusing on different themes related to the course. In addition, a KTH LEQs Course Evaluation Questionnaire was used at the end of the course. Since only four out of the participating 48 students filled in the LEQ, the results from it are considered to a lesser extent.

The examiner, after consulting the KTH Disability Coordinator (Funka), provided adapted examination for students with documented special needs, e.g. prolonged exam writing time.

## **DESCRIPTION OF MEETINGS WITH STUDENTS**

Describe which meetings that has been arranged with students during the course and after its completion.

- Discussions with the students and the project groups continuously during the course, e.g. in connection to the supervision meetings, as well as with students when meeting them. The discussions generally took place in connection to scheduled learning activities. In addition, an optional feedback meeting after the course's end was offered to all project groups, which has been a part of the course design since the first year it was given. In addition, the students were encouraged to select a student representative for the course, but no student was willing to take on the task of that role in the course.

## **COURSE DESIGN**

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

The course includes different types of learning activities. These are mainly:

- *Lectures*, which give an overview of the subject with theories, facts and applied examples. These include: physical, system, and cognitive ergonomics, anthropometry, biomechanics, visual ergonomics, personal injury risks, methods in ergonomics studies, limit values and recommendations, ergonomics and economics and the product development process. Also how Ergonomics in product development links to the Design Thinking Framework and the United Nations Sustainable Development Goals are included.

- Three *laboratory work sessions*, where the focus is on learning how to apply a selection of ergonomics methods and gain experience based knowledge on their use.

- A *project*, where the objective is to form and carry out a project to improve ergonomics, develop a prototype and evaluate it with the help of real, professional users. The project

includes collaboration as well as independent work and the students exchange peer feedback.

It is possible to get access to the main course book via Prevent's course "onhumanterms", in a digital format. This access also gives opportunities for learning by following the digital course based on the book, with videos, assignments/ quizzes, providing other ways of learning the book's content.

The examination is carried out in three different steps:

- Written exam (TENA; 2 credits)
- Passed project (PROA; 3 credits), oral and written presentation
- Labs, work-shops, seminars, assignments (ÖVNA1; 1.5 credits)

Changes from the last round (presented during the first lecture) were that:

- A course assistant was engaged for part of the administrative tasks in the course, which also involved communication with the students.
- A new lab-supervisor was engaged.
- An additional project supervisor was engaged, which led to that the course had three project supervisors, all experienced in supervising project works in the course.

## **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?

Four out of the 48 students (8 %) following the course filled out the LEQ. According to this, in average, the students worked 18 hours per week with the course. This corresponds to 40 hours per 1.5 credits (18 h / week \* 9 weeks / 4).

## **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?

Out of the 48 students who followed the course this year, all (100%) have passed all three examinations (TEN A, PRO A and ÖVN A) after the first scheduled exam and the second (re-exam) period (in the Easter exam-period). These 48 students acquired the following final grades: A - 9 students, B - 23 students, C - 14 students and D - 2 students. In comparison to previous years, there are no significant differences in the students' results.

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

What does students say in response to the open questions?

The feedback from the students on open questions in the reflective assignment in general signals that they appreciated the course and its design and that they learned much. One student was very unsatisfied with the course. Many students stated that the course design with a theoretical part, laboratory sessions where they got training in how to use some of the methods and then being able to apply them in with the objective of problem solving in

their real-world projects contributed to their learning. Several students stated that they appreciated the teachers' teaching skills and their ways of knowledge-transfer in the learning activities, as well as to give and receive feedback with student peers. Several students stated that they felt stressed, mainly because they had another course running in parallel, which has a "heavy" project in combination to that this course is rather intensive and tight time-wise. Several students expressed that they would have liked to have longer time for the project, e.g. with the course running over two periods instead of one, e.g. at a "quarter's" pace. Some students suggested the lectures to become available online, be recorded, or that the handouts might be provided with descriptions about the slides.

## **SUMMARY OF STUDENTS' OPINIONS**

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

Please see the previous section, where a summary of the students' opinions is given.

## **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.

Short version summary: "Good". My overall impression is that the students worked rather hard, learned a lot and they reached the learning objectives.

## **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 be? Are there significant differences in experience between:

- students identifying as female/male?
- international/national students?
- students with/without disabilities?

No differences between students' course experience were noted or mentioned. In addition, no stronger or weaker areas in the learning environment based on information gathered were identified.

## **PRIORITIZED COURSE DEVELOPMENT**

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

One re-occurring suggestion from a quite large amount of students this year, and for a growing number of years, is to prolong the course time, so that it runs during P1 and P2.

## **OTHER INFORMATION**

Is there anything else you would like to add?

Over the latest years students have suggested advice to future students, including the following suggestions:

- to engage in the course and in the project from the beginning,

- make up a clear deliverables plan for the project, and
- plan for “enough” time for the evaluation with professional users.

For me and my colleagues, it is fun to work with this course! One reason is the interesting discussions throughout the course as well as the supervision meetings. Another is the joy to follow the students’ development in acquiring skills in the topics, which are in focus in the course, including ergonomics, and evaluation of the prototypes they develop to reduce an ergonomic problem and evaluate it involving professional users, as well as their reflections on the role and possibilities having an ergonomics focus in product development. This all in a rather intense course running one period.