

## General Course Analysis Template

Course code, title: HN2024

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### Summary of Changes (max 2000 characters)

Over the past 4 years the course seminars have been aligning more and more with the course project to add more meaning and real-world application to how the course objectives are achieved. This year we plan to keep refining in this direction by reordering some of the main topics so that the learning arrives just before it is needed in the course project. The project requirements will get more detail to specifically include links to provisions and standards, more guidance on development of requirement specifications, and more a holistic design focus (i.e. this is not a risk assessment project like some others in the program).

### 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.

We administered an electronic course survey using the KTH system, which distinguishes aggregated feedback by gender and disability status. However, only 4 of the 14 students who completed the course participated. Lead teachers met to discuss the course, share their own experiences and reflections on student performance and course flow. In addition, a few informal chats were held at physical course meetings; in line with the participatory course topics the students were encouraged to give their opinion on the course activities throughout the term.

### 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.)

On the last day of the course after all the project presentations were completed we had a course reflections session where students were invited to give feedback on different aspects of the course, specifically ideas of things to start doing, stop doing, and continue doing relative to course communication, guest lectures, course project, and seminars. Summary of this feedback appears below:

Regarding Group Project

- Continue:
  - A practical applied project in real worksites
  - Studio sessions with supervision
  - Linked Seminars and discussions with Jörgen
  - Taking the whole 2 periods for the project
- Start:
  - Clarify what the students will/should deliver to the worksite/participating company so that students know what to communicate to them in the beginning (this can prevent applying a known template of 'risk assessment')
  - Make clear what participatory method is good for what purpose

- Warning students and giving them tools for potential pitfalls:
  - What if they switch companies?
  - What if the company has a specific problem solution in mind and is not amenable to participatory methods?
- Stop:
  - Fix challenges related to the mismatch between what a workplace wants and what is required for the course

#### Regarding Guest Lectures

- Continue:
  - Keep lecture sand workshops with a diversity of perspectives, get nuance form the examples
  - Circularity and Health care lecture very appreciated – would be good to expand diversity of sectors and workplace types.
  - Keep the Brile lecture on provisions to occur before the role-playing seminar
  - Keep (and expand) the blue print lectures
  - Keep things real and practical with examples
- Start:
  - Posting all recorded lectures with changeable speed (recorded powerpoint presentations do not allow for this)
  - Make clear that the course is offered in English in Antagning (specifically for LLL)
  - Provide potential exam questions early on in the course
  - More involvement in real-life scenarios at real workplaces
  - More recorded lectures, particularly on Blueprints. Would be good to get more opportunity to draw blueprints and symbols
- Stop:
  - Long recorded lectures

#### Regarding Seminars

- Continue:
  - Feedback about projects alongside semianrs
  - Participatory workshop
  - Role playing workshop
  - Sketch up
- Start:
  - Add dedicated lectures for the seminars to ensure deeper understanding and participation
  - Have a sketch-up introduction and Practice Sketch up together (x6)
- Stop:
  - The 'surprise' element of role playing seminar so that students can prepare more in advance and know what to expect.

#### Regarding Overall teaching and course communication

- Continue:
  - Keep lots of focus on participatory methods
  - Keep the communication and teaching approaches
  - Keep the email at the start of the week about what is going on and what is due (but schedule the emails to come out during work times, not midnight!!)
- Start:
  - Online exam or exam in the afternoon (8AM on campus was widely hated)
  - Describe what will be coming in the exam throughout the course
  - Give assignments for different planning approaches
  - Summarize and review earlier concepts (it is a long course and the topics don't always come at the time that matches with the project application)
  - Facilitated participation for hybrid (not just breakout rooms and student discussion)
- Stop:
  - No more written exam
  - No more 8AM class starts (difficult with the train chaos this year)

### Course design

Describe briefly the course design, the constructive alignment (intended learning objectives, learning activities, assessment, and how they interact), and the development that has been implemented since last course offering.

Intended learning outcomes:

- Describe and discuss design projects, their management, and in which stages and contexts different sub-processes and methods are suitable.
- Describe and discuss the involvement of different stakeholders, their roles and political navigation in the planning process.
- Describe different methods, models and tools for planning.
- Choose and use relevant planning methods and models that are central for the course and reflect on their usefulness and relevance.
- Describe and discuss planning in practice.
- Give proposals of how to design workplaces and equipment in a practical case.

These ILOs are met through lectures interspersed with in-class activities, seminars, assigned readings, and work on the assignments. Evaluation of student learning took the form of 3 seminars, a course-long project, and a final exam. The seminars this year were more applied and practical, including a student-facilitated participatory workshops and role-playing scenario on design responsibilities (topics which students had previously struggled with). The addition of these seminars was in response to student requests to develop skills with methods.

We also had workshops led by guest teachers, one was longstanding (Broberg) and the other was fairly newly adapted (Svensson).

### Students' workload

Are the students working to the expected extent in relation to the course credits? If there is a significant difference from the expected, what can be the reason?

3 students were in the range 9-17 hours per week, one indicated 36-38. More than 25 hours per week would be quite a lot for this course, but from text comments it seems

this may have been related to exam study. Based on student performance and text comments, we feel that the workload is reasonable.

### **Students' results on the course**

How have the students succeeded in the course? If there is a significant difference compared to previous course offerings, what can be the reason?

Students demonstrated good grasp of course concepts in discussion and presentations, the group project also demonstrated integration of course concepts. Student performance was very high this year. All students that attempted the exam passed, the lowest grade was a C and >60% of students got an A.

### **Students' answers to open questions**

What do students say in response to the open questions?

Course evaluation responses, students appreciated:

- Students especially appreciated learning from Jörgen Eklund's experiences
- Guest lecturers
- Hands-on practice, real-life and applied aspects of the course activities and course project.
- Role playing activities were in some cases unfamiliar to students, but mostly well-received.

Recommendations for improvements included:

- More workshops
- Starting class later than 8 AM
- More time with blueprints
- Less reading, and spread the readings out more
- Group project described as 'tiring'

### **Summary of students' opinions**

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

Most of the statements received positive 'agree' responses, with all LEQ6 items receiving average grades of 6-7 out of 7. There are some aspects to consider for improvement, but mostly the course seems to be going well and student learning experiences seem positive.

### **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.

As in the past few years, the course was fairly successful, in terms of the very high student participation and good performance in seminars, workshops, and the performance on assignments. There remain opportunities to increase application and practice with design methods, which also a goal after last year, and will remain a goal for improvement for the next course offering. Skills-based seminars are good, and there are opportunities to prepare students more regarding expectations and evaluation. There is an opportunity

to increase the interaction between students by incorporating more group-based learning activities during class.

We also plan to continue with increased communication with guest teachers to make sure that their content is well-linked with course content and to help guest teachers deliver more participatory learning activities.

### **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?

There are not enough survey responses to do stratified analysis, there were some comments indicating no discrimination was felt and students felt appreciated for in-class contributions.

These additional comments are based on teacher perceptions:

We have continued with the ongoing possibility for hybrid participation, where some students participate at a distance and some are in the room. Some guest teachers are on zoom and some are in person. Even for in-person classes, students bring their laptops and participate in short group activities where they collaborate on google documents. We also use zoom polls to review and check understanding.

The project work in an organization is more difficult for foreign students due to language barriers. Here we plan to continue with creating project groups that have at least some Swedish-speaking members to help with communications at project worksites.

### **Prioritized course development**

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

We have successfully added more practical application through seminars and 'flipped classroom' style lectures.

We have increased communication with guest teachers to improve the course-specificity and pedagogy of their sessions, and we need to continue with this. We have developed some 'Guest teacher guides' which we will share with guest teachers next year.

In the next iteration of the course we will continue to combine the Masters program students with industry practitioners taking the life-long-learning version of the course. We hope this will give more opportunities to interact and receive project mentorship from those with 'real world' experience.

It was successful to split up the project into 'chapters' and space the due dates for these sections out across the course weeks.

### **Other information you want to share**

There are a few content things to update: with the new AFS 2020:1, and the increased demands on accessibility and evacuation for people with disabilities there is a need to increase the diversity, inclusion, and accessibility perspective.

