



## Course Analysis MF217X and MF227X

### Degree Project in Industrial Design Engineering, Second Cycle 30.0 credits Spring and autumn term 2021

*Date and author: 2021-11-17 by Jenny Janhager Stier*

#### 1 Course information

##### Course responsible teacher:

Jenny Janhager Stier

##### Other teachers in the course:

Supervisors: Roger Berg, Qian Chen, Anna Hedlund Åström, Mia Hesselgren, Sara Ilstedt, Rafael Laurenti, Martin Sjöman, Liridona Sopjani, Leif Thies, Claes Tisell, Erik Widmark

##### Examiner:

Claes Tisell

##### Learning activities:

The education of a five-year engineering degree (course MF217X) or two-year master's degree (course MF227X) is concluded with a degree project in which the student is expected to demonstrate his/her ability to independently solve a technical design problem in an engineering way. The work should be based on relevant theories and be presented as a written report and an oral presentation. In the degree project, it is also included to be present at the public presentations of two other degree projects at KTH and to review and publicly discuss another degree project.

The degree project must have a significant content of technical design, while focus can vary significantly between different degree projects. Examples of different focuses can be:

- to develop a new concept for a technical system
  
- to design and evaluate a new component in an existing technical system
  
- to investigate and develop new design/design methods and/or design tools.

Provided that the degree project satisfies the requirements above, as decided by the course coordinator or examiner, and provided that qualified supervision is provided throughout the degree project, the student can choose to carry out the degree project either at an academic department, within an industrial company, or at a consulting firm in Sweden or abroad.

Five compulsory components are included in the degree project, i.e. the technology student should:

1. Be present at, at least two presentations of other master's degree projects, before review/opposition and final presentation. Attendance at final presentations of degree projects, completed by students of other master programmes, may be included.
2. Be present and review at a planning seminar where problem definitions are discussed, together with method choices and the definition of the theoretical framework.
3. Review and be opponent at the presentation of another master's degree project.
4. Carry out and submit an approved master's degree project, as well as present it at a public seminar.
5. Create an A2 poster for the exhibition MEXpo.

The Degree Project and the critical review should be carried out by one or two students.

## **2 Students' view of the course**

### **Response rate of LEQ course evaluation survey:**

7 % (questionnaire sent out from Canvas).

The analysis is also based on discussions with and oral feedback from the students.

### **Brief summary of students' responses from the LEQ survey and/or other types of course evaluation:**

There are only two questionnaire answers to base this analysis on. Together with the oral feedback, it can be concluded that the students think that the supervision has been good.

One student asked for clearer instructions regarding the expectation of the planning report.

### **3 Teacher analysis of the course**

#### **Changes of the course before this course offering:**

Prior to this course, the following changes have been made:

- a simplification of the registration process, which made it faster for the students to be registered for the course and thus receive study grants on time, etc.
- changes and supplements to Canvas, e.g. supplemented with a process description and figure for the last phase of the degree project work.
- refinements of the adjustments that needed to be made last year due to Covid-19.

#### **The course's strengths**

Interesting and educational projects, competent supervisors, and clear information.

#### **Areas for improvement of the course**

An appendix to the course manual contains a description of each heading that is expected to be included in the planning report. The instructions are intentionally designed so as not to be too strict when it comes to content. During the planning seminar, the students are in different stages, due to the nature of the project and their different starting points and the students need help in different parts of the project. If students are unsure about what to write in the planning report, they need to ask their supervisor for support. However, I will go out with a written clarification on this and revise the instructions for the Planning report.

#### **Proposed changes to the next course round:**

The reason for the low response rate is probably due to the fact that this is the last course in the students' education and that they have left KTH (mentally) when the questionnaire is sent out. Next year, I will capture their views earlier.

Both students and teachers have found an advantage in being able to carry out both the planning seminar, the final seminar, the opposition, and the auscultations digitally. Many students are in other places and in other countries during the degree project period. It will also be easier to find times when supervisors and industry supervisors can participate. In addition, it will be much easier for others such as family members, friends, company representatives, etc. to listen to the final seminar. We will probably keep the digital seminars even though the Corona restrictions have been lifted.

Three concrete changes for next year:

- It will be mandatory for opponents to use a PowerPoint presentation or equivalent when they oppose. It is observed that the opposition becomes much stronger when a PPT is used. Important comments and questions are not forgotten during the opposition, and it becomes clearer to the audience what is being discussed.
- As these courses (MF217X and MF227X) do not fully follow MMK's course manual, the handbook will be revised slightly and adapted to them.