

# Project Examination

## Guide for Students, Project Supervisors and Examiners at the Faculty of Engineering and Science, Aalborg University

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### 1. Purpose of this document

Education at Aalborg University is characterized by problem-oriented project work in groups, the intention being that students acquire knowledge and skills in their subject area and develop the ability to analyze and solve problems within their field. The natural and normal type of examination for project work is one where all students in the group take the exam together. In the 2007-2011 period, it was not legal to use this type of examination due to an amendment to the Ministerial Order on Examinations in Higher Education (see Ministerial Order No. 231 of 22.03.2006), but it is again possible (see Ministerial Order No. 666 of 24.06.2012) and has been implemented for all programs at the Faculty of Engineering and Science.

This document outlines what the project examination must examine, how the project examination must be structured and what the participating parties must be aware of.

For the general faculty rules for project examinations, see Examination Policies and Procedures at the Faculty of Engineering and Science and the Faculty of Medicine ([www.tek-nat.aau.dk](http://www.tek-nat.aau.dk)).

### 2. Project examination and learning objectives

The project examination tests the extent to which the stated objectives of the project module have been achieved. The precise formulation of these learning objectives depends on the specific project module. Some project modules have broad learning objectives while others particularly address the competence level. In these cases, the course modules target skills and knowledge. Typically, these are the types of learning objectives for project work:

**Competences** such that the student can analyze an issue, formulate a problem, devise a solution method within the project theme, and independently reflect on and adjust the solution method based on the conclusions reached in the project.

**Skills** such that the student can apply methods and techniques from the field to solve the formulated problem and document this in speaking and writing.

**Knowledge** such that the student can apply and account for theories from the field in connection with analyzing and solving the project's problem, including why these particular theories have been selected.

During the project examination, all students must be examined in terms of the project module's learning objectives.

### 3. Structure of the project examination

The project examination takes the form of a seminar with the main examiner as the moderator. It consists of three elements.

- A *presentation* where each student presents one or more key points in the project or puts them in perspective. The presentation is organized jointly by the group and should appear as a whole, but the responsibility for the specific point falls to the individual student. Typically, 6-10 minutes are allocated per student for the presentation. Since it is part of the exam, students can be questioned during the presentation, but it is recommended that such questions are primarily of a clarifying nature.
- One or more *joint discussion rounds* where the entire group is asked about the problem formulation, the strengths and limitations of the selected methods, contextualization and the like. These are the competences and skills that are necessary in this particular project. The entire group is addressed together, and the examiners evaluate who is contributing and how good the contributions are. It is also possible that individual students relate to each other's contributions. The questions here can be truly open, i.e., they are not necessarily the type where the examiners know the answers.

The joint discussion rounds must elucidate the discussions and decisions that took place during the project, and the skills and knowledge underlying them. Through this process, the examiners as well as the students can clarify the project's strengths and weaknesses.

The assessment of the extent to which the individual student fulfills the project's learning objectives is based on how s/he answers, the extent to which s/he participates in the discussion, and the extent to which s/he can actively account for the analysis of the problem, the choice of method and the reasons for the choices made in the formulation and solution of the problem. If the individual student does not actively participate by volunteering answers then there will be direct inquiry into the student's knowledge, skills and competences. The examiners are tasked with ensuring this (see also section 5).

In addition, the individual student will be assessed on how s/he can analyze an elaboration of the project's issue.

- One or more *individually oriented question rounds* where each student gets a number of questions at a detailed level that must identify his/her knowledge and skills. This is thus an

"excavation of knowledge" for the individual student. What is being examined here is how well the individual student can account for the theories, methods and techniques that have been used in the project.

The presentation always takes place first, and as stated above, discussion and individual question rounds may be conducted several times. Time allocations for the entire examination process are: for projects of 15 ECTS and over, 45 minutes per student with a maximum of five hours in total; for projects of less than 15 ECTS, 35 minutes per student with a maximum of four hours in total; and for final project examinations, 60 minutes per student.

#### **4. Examples of implementing the structure**

It is possible to hold a final joint discussion round that turns the attention toward conclusions and possible further work.

There can be breaks, both after the presentation and during the examination process, where the examiners have the opportunity to talk alone.

The time allocation for the joint discussion and the individual question rounds depends on the specific exam, but both must be of considerable size.

There are several options for the format of the individual question rounds. The project report is always the point of departure and questions are designed so that they require well-founded answers that are not too brief.

Some examples of formats for the individual question rounds:

1. The main examiner prepares a list of topics that collectively cover the project's content and learning objectives and lets the students select one or more topics at random. The student is questioned within the topics selected.
2. The main examiner selects one or more topics for each individual student and questions the student within these topics, ensuring if possible that the topics the student gets are not related to the topic the student presents in the presentation, and that the topics collectively cover the project's content and learning objectives.
3. In combination with or instead of this, the examiners may devise individual questions based on the students' activity level and answers during the joint discussion.

Everyone is present throughout the entire examination process. The main examiner may allow the other students to contribute with answers if the student in focus answers inadequately.

The manner in which the examination will proceed should be made clear to the students well before the exam.

## 5. Role of the examiners

The normal duty to take notes at examinations also applies to project examinations.

As with any examination the assessment is individual. It is therefore extremely important that the examiners each be sure to note the individual student's level of participation, i.e., to what extent and for which questions, each student contributes to the answers as well as the quality of these answers. The examiners must also ensure that all students participate so that individual assessments can be made. During the joint discussion, the examiners can therefore also decide that some questions are only addressed to part of the students.

## 6. Basis for assessment

The individual student is assessed on the basis of an *overall evaluation* of the fulfillment of the project module's learning objectives as reflected in:

- the written project report and the overall presentation
- the student's contribution to the presentation
- the student's contribution during the joint discussion
- the student's contribution during the individual question round(s)

Partial grades are not given, not even "unofficial" ones, for the individual elements, but all aspects must be satisfactory in order for the student to pass the exam.

## 7. End of the examination

Once the assessment has been made each individual student is told his/her grade. A basis for the individual student's grade is also given. The student has the right to be told the grade in private.

Subsequently, the entire project group receives overall feedback from the examiners on the project report, the presentation and the rest of the exam process.