



**AALBORG UNIVERSITY**  
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# Principles of Group Formation

## Background

Group formation processes are an essential part of the project based learning approach at AAU, and these processes greatly influence the students' wellbeing and learning in the project work. Usually the group formations are carried out without problems, but for some students the group formation process can be experienced as problematic, chaotic and sometimes unpleasant and associated with exclusion.

A number of different stakeholders with varying levels of interest are involved in the group formation processes. The most important stakeholders are the students, the semester coordinators (who are overall responsible for the processes) and the university (academically/pedagogically/didactically).

These guidelines attempt to establish some tools to assist with the group formation process, including different possibilities for the course of the process, and they address the problems that can arise during the group formation process, e.g. students who are not assigned to a group and subsequently the possibility of splitting and reorganising groups.

## Overall Principles

Overall, group formation processes can vary from the entirely administrative groupings where the university takes full responsibility (for example P0) to processes that are fully managed by students. Despite the different attitudes to and wishes for group formations, a number of conditions can be agreed upon:

- As a starting point, it is a good principle that no group is closed until all students have been assigned to a group.
- Especially at the first semesters of the study programmes, conditions could call for more controlled group formation processes (for instance administratively formed groups).
- In semesters with international students, it is desirable to mix the groups so different nationalities are represented.
- Generally, students learn different things by working in different groups, and for this reason, this must be attempted.
- Project supervision is not just limited to academic guidance, but also pedagogical guidance. It is therefore important that the supervisors are professionally prepared to support and challenge the students in both the group formation process and the collaboration process.

- The semester coordinators must be in a position to change and adjust the group formation processes to accommodate different study programmes and semesters.
- Coordination between semester coordinators should be established in order to enable an exchange of experiences from previous semesters in terms of group formation and the group work in general (without stigmatising any individual students).
- The group formation process should as a minimum be evaluated in connection with the semester evaluations.

It may be desirable in certain semesters to change the normal group formation processes controlled by students in order to ensure that students are not always working with the same group. This can for instance be done through different semester structures, other working methods than the 'AAU-project', varying group sizes or new group formation processes.

### Choice of Project

Prior to the beginning of the semester, the semester coordinator has collected project proposals from supervisors and possibly students. In collaboration with the supervisors, the coordinator has ensured that the project proposals relate to the topic of the semester and that the proposals are realistic in terms of learning objectives, time frame, equipment, laboratories, etc.

The project proposals must be made public no later than 20 August for the autumn semester and 20 January for the spring semester. In certain semesters, the project can be more fixed due to specific laboratory work or the like. In these instances a description of the project must, however, still be available at the beginning of the semester.

### Group Sizes

Group sizes are determined by the Head of Studies in cooperation with the Study Board of Energy, and the aim is to ensure that projects are carried out in groups. The group sizes are recommended to be:

- 1<sup>st</sup>-2<sup>nd</sup> semester: 7 students per group
- 3<sup>rd</sup>-5<sup>th</sup> semester: 6 students per group
- 6<sup>th</sup> semester: 4 students per group
- 7<sup>th</sup> semester B.Eng.: project must be written individually
- 1<sup>st</sup>-2<sup>rd</sup> semester Master's programme: 4-6 students per group
- 3<sup>rd</sup> semester Master's programme: 2-4 students per group
- 4<sup>th</sup> semester Master's thesis or extended Master's thesis: max. 3 students per group

### Different Methods of Group Formation

#### **Full student control**

The students themselves control the group formation process. The semester coordinator defines the conditions for the group formation and supervises the process, including the number of groups, number of group members in each group etc. It will help facilitate the group formation if the semester coordinator announces these conditions prior to the day of the group formation so the students can be prepared. The groups can be formed according to the topic of interest and/or the persons the students wish to be in a group with. As a

starting point, the groups are not final until everyone is assigned to a group.

Based on previous experience, the group formation process is carried out most effectively if the students demonstrate:

- Honesty – state your opinion, but in a nice way
- Openness – say what you think
- Respect – show your fellow students respect. Even when there is someone who you at first hand do not wish to be in a group with
- Responsibility – remember that you as a student are responsible for ensuring that the group formation is carried out without problems and that everyone is satisfied in the end.

If it, contrary to expectations, turns out that one or more students claim their right to write by themselves this right cannot be denied. However, the student(s) must be informed that the allocated supervision is reduced accordingly, e.g. proportionally according to the size of the group.

If it turns out that the other students refuse to accept one or more students in a group (it is impossible to close the groups) resulting in students involuntarily left without a group, it will be possible in certain cases to agree upon a 'conditional' admission to a group. This means that a student, who experiences difficulties with finding a group, is accepted by a group on the condition that the collaboration between the group and the student proceeds satisfactorily. In this way, the group can reserve the right to exclude the student in question within a time period agree upon (try-out period).

It is the responsibility of the semester coordinator to supervise the group formation process and to step in if the process reaches a deadlock. Normally, the semester coordinator is not present at the actual group formation but must be available in case of problems. If the students are not able to manage the group formation process themselves, the semester coordinator must intervene and can then for example divide the groups administratively.

Specifically for the INTRO semester in the Master's programmes, where students without a Bachelor's degree from AAU take part in an introduction course, the students are allowed to form groups across similar specialisations. This is also possible in other semesters if the learning objectives of the project theme can be achieved by a joint project.

### ***Partial student control***

In some cases, it can be necessary to control the group formation process to a larger extent than with full student control, but in such a way that it is still possible for the students to have influence on the group formation.

This can, for example, be the case in the first semester of the Master's programme Advanced Power Electronics in Esbjerg where some of the students come from Bachelor's programmes outside AAU while others come directly from an AAU Bachelor's programme. In this case, there can be an interest in forming the groups based on the students' backgrounds. In groups with Bachelor's students from outside AAU, the students learn about the PBL process and attend the course "Control Theory and MATLAB" and in groups with Bachelor's students from AAU study programmes, the students choose the project with an extra elective course about scientific paper writing. Given these premises, the students can form groups based on their interests and/or who they would like to work with. If there are students who can/will not join a group, then the same rules as

previously described in the full student control process apply.

Another variant of partial student control could be that the groups are changed from semester to semester in order to ensure new groups. In this case, it is decided how many students from the previous groups are permitted in the new groups.

### ***Administrative group formation***

In some cases, it may be an advantage to form the groups administratively. This is typically the case in the first semester of a study programme where the students do not know each other yet. This approach can, however, be unsuitable if the project groups have different topics, because the individual student is then deprived of the possibility to freely choose of topic.

With an administrative group formation the groups can either be composed randomly, or they can be formed on the basis of personality tests to compose a group of students with different competences.

### **Split-Up of a Group**

As a last resort, a group of students can be split up if the collaboration does not work and the main supervisor or semester coordinator has actively attempted mediation, etc. All the students are equally entitled to the materials (documents, data, prototypes, experimental setup, etc.) that exist at the time of the split-up. Before the group is split up, a clarifying meeting with the main supervisor and the semester coordinator must be held. The split-up must take place well in advance of the conclusion of the project period, i.e. within the first 1-2 months of the project period. If the period is exceeded, the group should apply for an exemption from the Study Board of Energy.