Advanced Design Projects @ Dep. 16

An important part of the Master's degree programs are project work, in which you as students work in teams to develop solutions, discuss them with each other, take into account feedback from the supervisors and present results. You will have the opportunity to participate in the current research topics of the offering disciplines and to apply the engineering-specific methodologies for real projects. In a team, you will either solve a design task (design, process development, control strategy or operating concept) using the development methodology of mechanical engineering or analyse and structure a complex, open-ended research question, select suitable methods, generate solution variants, and finally evaluate and select them.

To ensure that your insight into the typical engineering working methods of your later professional life is a success, we have compiled the essential information for you here.

Content

1 Where can I find ADPs and other students for my team?

- Overview of student project work on the department's website → **Website**
- Partly on → **subject pages** in the "Studies" section
- Notices at the institutes
- Mechanical Engineering Forum → **Website**
- Alternatively, take the initiative to reach out to institutes and ask about the possibility of an ADP in your preferred subject area

Some ADP groups know each other before the start of the project work, others only get to know each other during a kick-off meeting. If additional people are needed for an ADP, a corresponding call via the Mechanical

Engineering Forum is a good idea. The institute may be encouraged to advertise the task (bilingual) at the places mentioned here.

2 What kind of framework conditions do I have to consider for ADPs?

- An ADP has a scope of 6 CP = 180 hours.
- The project work can be offered full-time or stretched over the semester.
- Start and end dates are coordinated with supervision and team.
- The group should consist of at least 4 to approx. 8 persons.
- Necessary previous knowledge is announced by the institute.
- Form of examination: Written paper (80%), oral examination (20%); Each group participant has a speech of 5-15 minutes, depending on the size of the group.
- Students in the Master's program in Aerospace Engineering must choose at least one ADP related to Aerospace Engineering (see page 6).
- Further information in the → module handbook

3 How do I register for the ADP?

- Registration:
  - A team member of the ADP sends the assignment signed by the professor to ✉ **pruefungsmanagement@mechcenter.tu-darmstadt.de**
  - The e-mail must state the names, matriculation numbers and the course of study of all students participating in the ADP
  - The other fellow students will be included in the CC of the email
  - After approval of the assignment by the Dean of Studies, the examination management of the MechCenter carries out the registration for all participants across departments in TUCaN
- After registration, it is no longer possible to deregister!
- If you fail an ADP, you can register for another ADP at any institute
- A maximum of two ADPs or one ADP and one external project work can be registered in the "Project work" area.

4 What do I have to consider during the ADP?

4.1 What should I clarify at the beginning of the project work?

For a successful ADP, good communication and a common understanding of cooperation is extremely important, both within the ADP group and with the supervisor. In addition, ADPs can prove to be very time-consuming; therefore, adapt your study planning accordingly. At the beginning of the project work, for example, the following things should be discussed and recorded:

- What are the goals of the project work and what expectations do you and the supervisor have of the project?

- Which work packages result from this and how are they distributed (taking into account exam dates and other scheduling restrictions of the team members)?
- Develop a timeline (taking into account whether the project will be worked on full-time or part-time) with milestones.
- Who has which role in the team?
- How do you communicate with each other and what tools are used for collaboration? Will meetings take place in person or digitally? How is it dealt with when agreements are not kept?
- What does the cooperation with the supervisor look like? Is there a common understanding of "good and successful cooperation"?
- What is the procedure in case of difficulties (technical or within the group)?

→ **Helpful workshops** in the field of presentation techniques and teamwork are offered regularly by the HDA.

4.2 What do I have to consider in the report?

The written elaboration is a scientific report. Support for → academic work and writing is available from the Writing Center of the TU Darmstadt and the ULB (the subpages of the Website are available in English). The Writing Center also provides tips on how to → **avoid plagiarism**. The declaration of independent work must be included in the report.

5 What do I need to do at the end of the ADP?

The format in which the written paper and the oral examination are submitted must be agreed with the supervising institute.

The → "**Declaration of Independent Work**" must be included in the written paper for each student. In addition, each student sends the signed declaration as a PDF file to ✉ **pruefungsmanagement@mechcenter.tu-darmstadt.de**

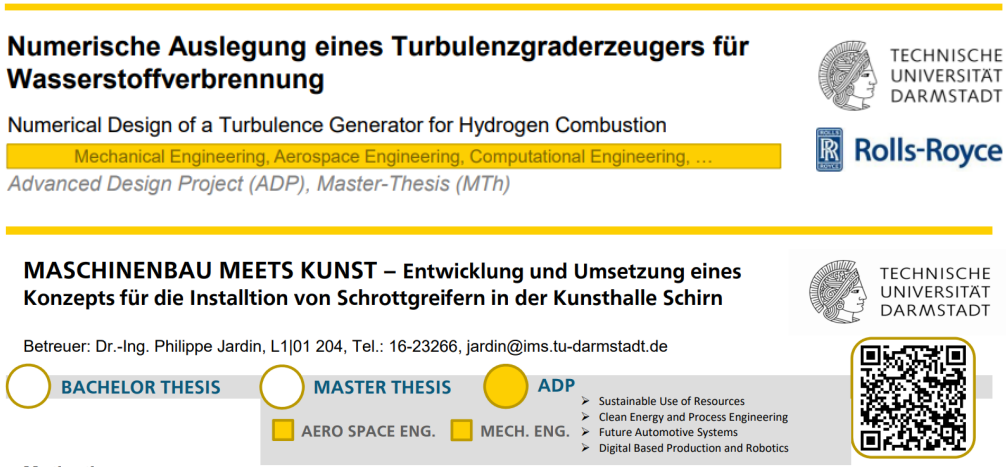
6 What do I have to consider if I am not studying for a Master's degree in Mechanical Engineering?

6.1 Aerospace Engineering

In the Master's program in Aerospace Engineering, at least one ADP must be taken with an Aerospace Engineering reference.

Whether there is a corresponding reference should be marked in the task. Departments implement this differently:

- Under the title of the ADP there is a written note, e.g.:
  - "Also approved for aerospace engineering"
  - "This ADP is in the field of aerospace engineering"
  - "This ADP is also eligible for recognition as an Aerospace Engineering ADP"
- Under the title there is a graphical representation of whether the topic is a thesis or an ADP, and/or whether there is an AE reference:

- 

- If you have the impression that the topic is related to Aerospace Engineering, but this is not clear from the assignment, please contact the specified supervisor who can discuss this question with the professor.

6.2 Other Departments

If you would like to take an ADP and are unsure whether the project can be recognised in your degree program, please clarify this with your home study office.

The registration process for the ADP is usually also carried out for you via the MechCenter in accordance with the procedure described in section 3. Your Office of Student Affairs may request a supplementary signed exam registration from you in addition.