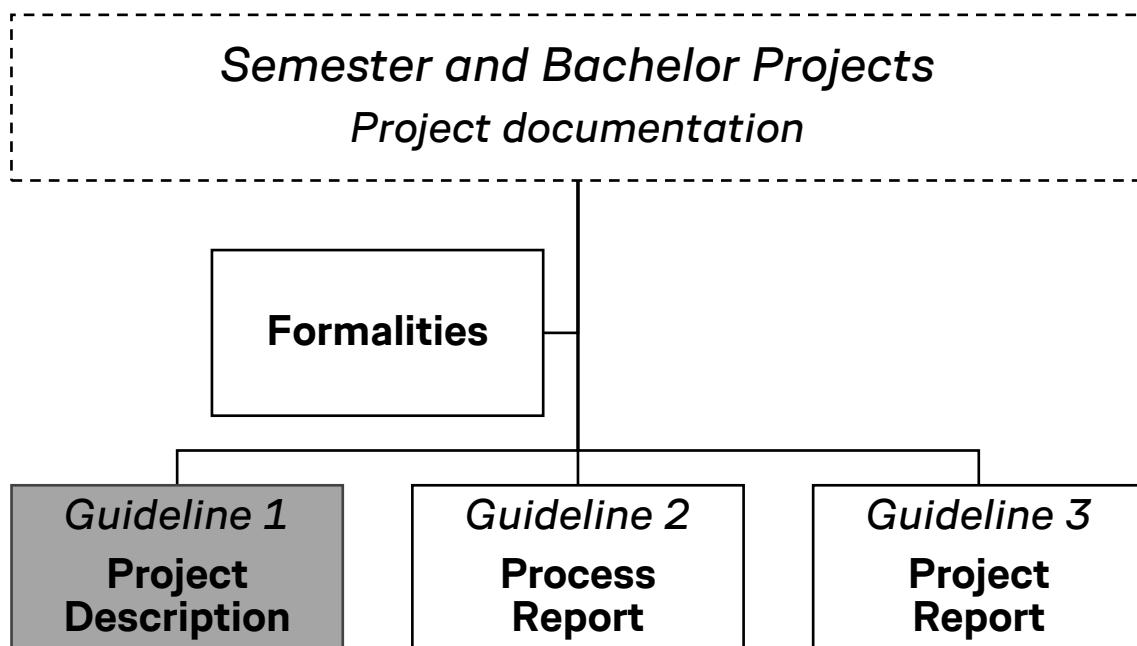


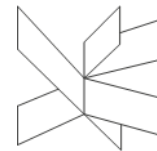
Project Description

VIA ENGINEERING



Version: 2024

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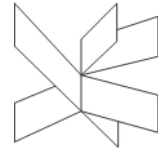
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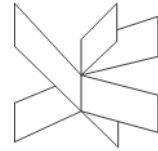


About this document

This document is a part of a set of guidelines for project work in VIA Engineering. You can find more information about the guidelines in the document “**Problem-based Learning, VIA Engineering**”. Applying these guidelines is mandatory in documentation of project work at VIA Engineering.

In these guidelines you will find information about how to write a Project Description

A Microsoft Word template is available for use.



Project Description: Content and purpose

The Project Description is an essential document, created at the beginning of the project. A project description is always written when undertaking projects at VIA Engineering. It serves a dual purpose – it describes the background and relevance of the project, and it documents a proposed plan for how to work with the project.

As such, the Project Description is used by your supervisor(s) to evaluate if a proposed project is feasible, i.e. has sufficient academic depth.

Students will submit their Project Description to their supervisor, who will provide feedback on what areas to improve, and what factors they might have been overlooked for the specific project. The Project Description (and thus the overall project idea) might be approved at this point, but more commonly it will be rejected, and the students will make changes based on the feedback they have received. Once approved, the final version of the Project Description will be submitted as an appendix when handing in the final project, and parts of it will be inserted into the Project Report.

The process of getting a project idea approved can be illustrated as such:

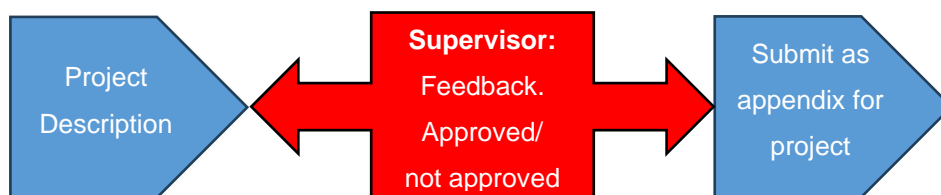
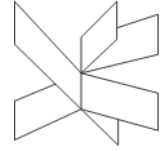


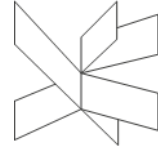
Figure 1 Developing a project description with feedback from the supervisor.

Once the Project Description has been approved, it is not revised. Any changes to the project at that point must be documented in the relevant report(s). Normally, the length of the Project Description is 8-10 pages, excluding any potential appendices.

When writing the Project Description, assume that the target audience is a professional within your discipline.



The following sections detail the specific chapters of the Project Description and their content. At the end of each chapter, a checklist is presented. Use this checklist to ensure that all areas are covered in sufficient detail when writing a Project Description.



1. Problem domain

The problem domain is an exhaustive description of all relevant elements, perspectives, users, stakeholders, preceding investigations, existing solutions and the current situation.

The chapter must contain an explanation of how the problem has arisen, and it should be clear how the topic in question is relevant but without pointing to a solution. The description is based in the problem domain before you start on the project, so describing your potential solution(s) here can lead to tunnel vision, obscuring your understanding of the underlying problem leading to a suboptimal solution.

If relevant, present information about current solutions that exist, why they are insufficient, and why a novel solution is necessary.

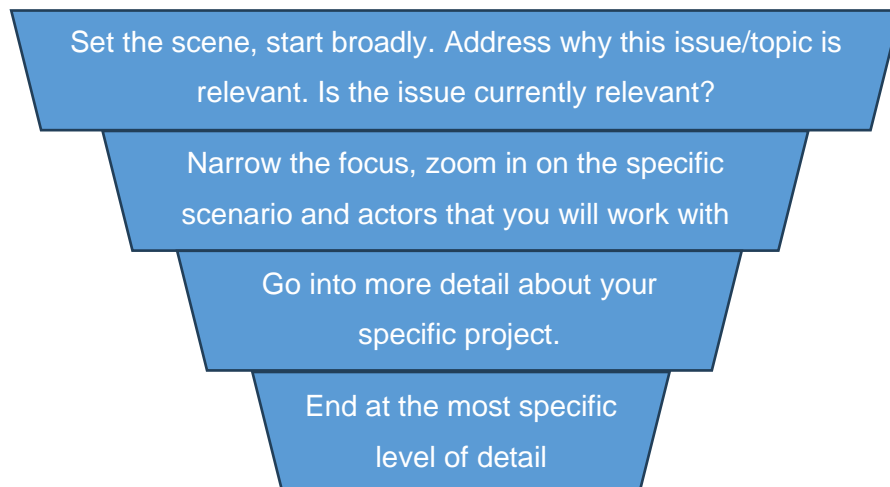
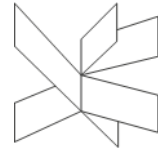


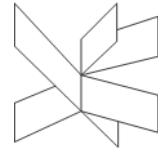
Figure 2 The process from problem domain to the problem to be solved by the project.

Support your statements with in-text references. Sources must be relevant and reliable and use APA style.



Checklist

- ☐ Does the problem domain describe the relevant aspects of the context?
- ☐ Have you clearly explained why this topic is relevant?
- ☐ Has the problem domain been thoroughly described?
- ☐ Have you ensured that all claims are supported, and references included?
- ☐ Have you ensured that formal language is used?
- ☐ Have you ensured that you do not propose a solution?



2. Problem statement

The problem statement contains the problem that the project aims to answer. It is presented as one main question followed by sub-questions. All questions stated must be rooted in the background description.

If it is not possible to phrase your problem as a question, it might be difficult to identify the intention of the project, choosing the right methods and use the problem statement as the compass throughout the project.

Working with the problem statement is an ongoing process throughout the whole project. As knowledge of the problem increases, it often results in changes to the problem statement. The problem statement becomes the first milestone of the project but is also revisited at the end of the project to reflect on whether you have completed the project successfully.

Main problem:

The main problem sets the stage for and guides the project.

It must be brief, focused, and solvable within the given timeframe.

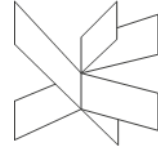
Sub-questions:

Once the main question has been established, sub-questions can be used to break down what needs to be understood to solve the main question.

Sub-questions should be presented in a bulleted list.

Checklist

- ☐ Is your problem statement a natural continuation of the problem domain?
- ☐ Is your problem well defined and possible to pursue?
- ☐ Is the main problem stated as an overall, open-ended question?
- ☐ Are your sub-questions stated as questions that will help you answer the main question?
- ☐ Have you ensured that all questions are rooted in your problem domain?
- ☐ Have you ensured that you are not listing questions that you can already answer?
- ☐ Have you ensured that the questions cannot be answered with yes, or no?
- ☐ Have you ensured that all questions are focused, relevant, and do not propose a solution?



3. Delimitation

The delimitation is a further constriction of the problem statement that specifies the boundaries of the project.

Depending on your problem domain, the subject may be very broad, and delimitations can be used to narrow the focus of the project. From the delimitation, the focus and expected content of the project should be clear - it specifies what the project addresses and which related problems will not be included.

Only what has already been introduced in the problem domain can be delimited.

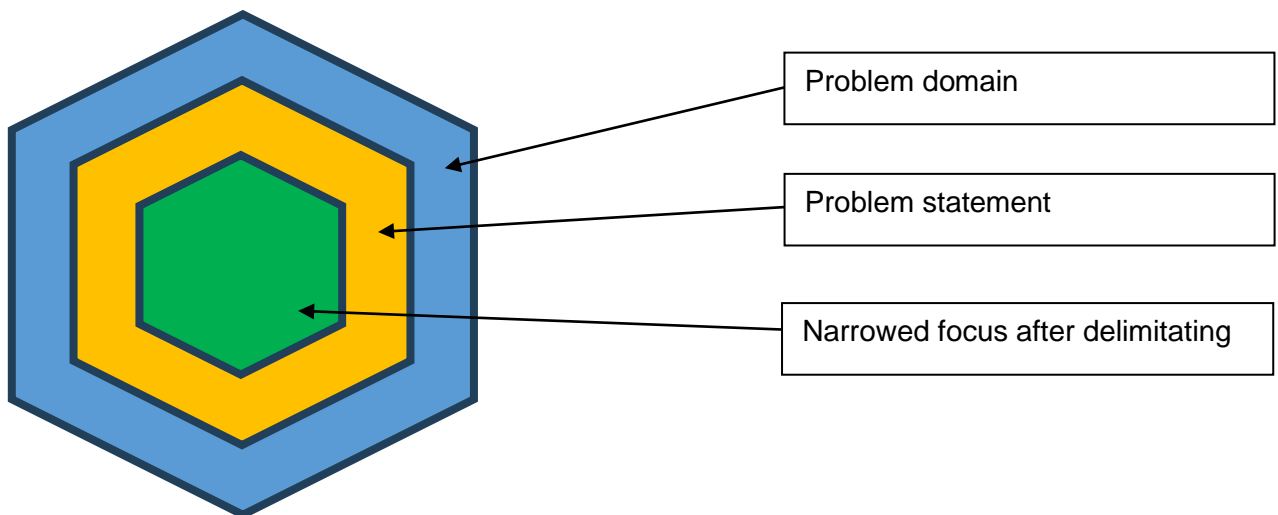
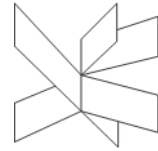


Figure 3 The delimited problem represents a small part of the original problem area.

Checklist

- ☐ Are your delimitations based only on elements from the problem domain?
- ☐ Are your delimitations relevant, and is there a well-supported reason to include them?
- ☐ Do your delimitations make it clear, what will/will not be included in the project?



4. Choice of methods

The choice of method section describes the methods that you are planning to use when doing the project. Ensure that the methods are relevant to this specific project.

The methods must be relevant to the project, and they must describe how the different parts of the project are addressed.

There can be methods for, for example:

- Knowledge and data collection.
- Analysis and calculation.
- Design/construction and testing.
- Planning and management.

Methods may include experiments, modelling, simulation, and the use of specific technologies and tools. It is relevant to mention software that supports the methods, although software itself is usually not a method.

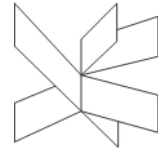
Specify how and to what extent each method will be used, preferably with reference to the problem statement. If a method is expected to be unfamiliar to the reader, a reference to a reliable source should be provided

If a method is introduced that cannot reasonably be expected to be known by the reader, it should not be described in detail. Instead, supply a reference to a reliable and relevant source of information that the reader can access.

Some programmes might have compulsory support documents that must be used in this chapter – check with your supervisor.

Checklist

- ☐ Have you ensured that each method is described briefly and that it is described how you plan to use each method?
- ☐ Do the listed methods cover all questions in the Problem Statement?
- ☐ Are the chosen methods relevant to this specific project?



5. Time schedule

The time schedule specifies the overall timeframe of the project period and the duration for each part of the project. The time schedule must be visualized with activities, milestones, and deadlines.

Start with the final deadline in your time schedule. Next, define milestones for each part of the project to help you assess if you are on track. Ensure that interdependent milestones can be completed as required.

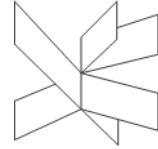
Calculate and state how many hours you expect to spend on the project in total. The expected workload of a project group is 27.5 hours per ECTS pr student.

It is important that the time schedule is regarded as a dynamic planning tool. The time schedule included in the Project Description is not the final version but the best version possible at the time.

Regardless of how you choose to visualize the time schedule, ensure that it is readable. You may have to include the visualization as an appendix, or insert a page in landscape mode.

Checklist

- ☐ Does your timeline include the final deadline?
- ☐ Have you defined milestones?
- ☐ Have you stated total hours?



6. Risk assessment

When doing projects, there are factors that can potentially disrupt your work. To minimize the impact of such disruptions, a risk assessment can be done before starting the project. In the risk assessment, you attempt to list all the factors that could have an impact on your project. These factors can be internal (within the group) or external.

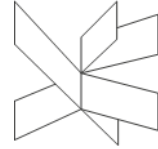
Examples of possible and relevant risks could be:

- Limited access to needed data.
- Wrong estimation of workload.
- Contamination of laboratory tests.

Factors that could influence the quality of your product are not relevant – only factors that will impede your ability to complete the project are.

Your risks must be relevant for this specific project, i.e. do not include factors that could be considered risks for any given project.

The assessment can be formed as a matrix where the most possible and relevant risks in the project are defined, calculated, and paired with possible preventive actions.



A risk assessment matrix can look like this:

Risks	Likelihood Scale: 1-5 5 = high risk	Severity Scale: 1-5 5 = high risk	Product of likelihood and severity	Risk mitigation e.g. Preventive- & Responsive actions	Identifiers	Responsible (one person)
Cannot get access to necessary data	3	5	15	Response: Migrate to dummy data	No response from company	Anders
Incorrect estimation of workload	4	3	12	Response: Redistribute tasks, re-scope project	Falling behind schedule	Brian
Contamination of laboratory tests	1	5	5	Preventative: Restrict access to laboratory	Incorrect results in tests	Charlotte

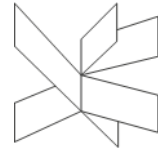
Table 1 Risk assessment matrix example.

Explanation for the matrix:

- The “likelihood” identifies how likely a risk is to happen.
- The “severity” estimates the impact it will have on the project if it happens. The “product of likelihood and severity” is the two former multiplied, giving a number that can be used to identify the most significant risks.
- If any preventative measures can be taken, list them in the “risk mitigation” column.
- To know what to look out for, list any identifiers of the risks in the “identifiers” column.
- Assign a group member to each risk to ensure that all risks are handled by someone.

Checklist

- ☐ Have all possible risks for this specific project been identified and listed?
- ☐ Have you included preventative measures and identifiers where possible?



7. References

In this chapter you must list all the sources that you have used for the Project Description. When listing your sources, use the APA standard.

Sources may have been used to provide background knowledge or indicated as in-text references in the different chapters.

Checklist

- ☐ Have you ensured that the APA standard is used?
- ☐ Have you listed the full source for your in-text references?