

# Guide to Thesis

13.11.2023 - v2023

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# 1 | Introduction

The bachelor thesis is a scientific text for the completion of a bachelor's degree program, written by students. The bachelor thesis analyzes existing findings or brings forth new ones. A comprehensive knowledge base on how to write a thesis can be found at <https://www.scribbr.com/knowledge-base/>

# 2 | Planning

The thesis is conducted in the spring semester for around 15 Weeks. See current planning in Figure 1.

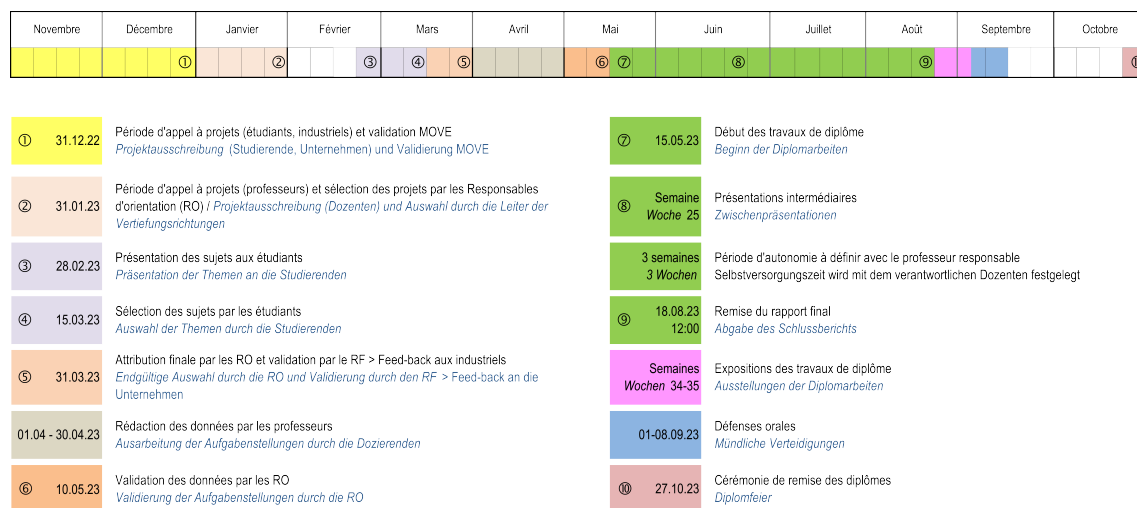


Figure 1: Thesis planning v2023

# 3 | Phases

The bachelor thesis consists of three main phases: **Preparation**, **writing phase** and **follow-up**.

## Planning

- ☑ Select topic
- ☑ View examples
- ☑ Create a schedule
- ☑ Conduct literature re-search
- ☑ Choose methodology

## Writing

- ☑ Finalize structure and outline
- ☑ Write introduction
- ☑ Determine theoretical framework
- ☑ Write methodology section

## Follow Up

- ☑ Create bibliography
- ☑ Sign declaration
- ☑ Have proofreading done
- ☑ Perform plagiarism check

- ☒ Write synopsis
- ☒ Present research results
- ☒ Write conclusion
- ☒ Printing Binding

## 4 | Sections

### 4.1 Abstract

The abstract is a summary of your complete work. It should not exceed one page and contain the following information:

- General background information
- Objective(s)
- Approach and method
- Conclusions

### 4.2 Acknowledgements

The acknowledgement is an optional part of your academic paper. You acknowledge and thank those who have supported you during your studies. These can be, but are not limited to, individuals, institutions, or organizations.

Although your acknowledgements are not used to evaluate your work, they are still an important section of your dissertation. This is because it can positively (or negatively) influence the reader's perception even before they reach the main body of your paper.

### 4.3 Introduction

Your introduction serves to introduce the topic of your Bachelor thesis and to arouse the reader's curiosity with an overview. Why it is important and how it is structured, we explain here.

You can consider an introduction as a teaser for your bachelor thesis. You arouse interest and give a foretaste by presenting your motivation, your method and the state of research in your introduction.

Convince your examiners already in the introduction that your Bachelor thesis will be exciting. If your professor starts reading your thesis with anticipation and interest, the chances of getting good grades are higher.

Pay particular attention to the following in your introduction:

- **Introduce the topic** - What characterizes the topic?
- **Introduce the goal** - What do you want to achieve with your thesis?
- **Make the reader curious** - What motivates the reader to read on?
- **Describe the relevance** - Why is this bachelor thesis scientifically relevant?

The introduction should have the following content:

- **Initial situation presentation of the topic** - You introduce the topic with an exciting 'bait'. You provide initial information on the topic and the object of research and explain the current state of research.
- **Relevance of the topic motivation** - You justify the relevance of your topic (scientifically) and place it in the context of your field. In addition, it is often required that you disclose your personal motivation.
- **Problem description and thematic delimitation** - By means of a specific research question (or hypothesis) you present your explicit research interest. If necessary, explain technical terms.
- **Objectives** - Your introduction should clearly state what the goal of your paper is and what outcome you hope to achieve upon completion of the bachelor thesis.
- **Method** - You explain the approach and justify the choice of method.
- **Structure of the Bachelor's thesis** - Finally, you give the reader a general overview of your Bachelor's thesis by explaining the structure, showing the red thread and how the research question is answered.

#### 4.4 Analysis

In the analysis part a so called "**State of the Art**" analysis is done. It describes the knowledge about the studied matter through the analysis of **similar or related published work**. It provides a comprehensive overview of what was done, what has been done in the field and what should be further investigated.

A State of the Art is done in multiple phases:

1. Problem formulation (Research questions)
2. Literature search
3. Literature evaluation
4. Analysis and interpretation
5. Presentation

Good sources for a literature search depend on your subject matter. For engineering hereafter a incomplete list:

- [IEEE Xplore](#)
- [Science Direct](#)
- [Springer Link](#)
- [Google Books](#)
- [ProQuest](#)
- [JSTOR](#)

#### 4.5 Design

In the design section a general overview about the to be implemented system is shown. All the hardware and software and other topics can be evaluated and selected.

## 4.6 Implementation

The implementations shows specifically how your research was conducted. All the implementation details and practical tests can be listed.

## 4.7 Validation

The results section of your bachelor's thesis presents the **results of your research in relation to your research question**.

Your readers must be able to understand at a glance which data set belongs to which research question or hypothesis.

- Describe your data objectively
- Use graphs and tables to illustrate your data.
- Refer to your research question with each result
- Rank your results in order of importance
- Confirm or reject your hypotheses

## 4.8 Conclusion

A conclusion succinctly summarizes the most important results and thus represents the highlight of your Bachelor thesis.

In the conclusion, you only mention information and conclusions that you have already mentioned in the course of your body text. New information is not mentioned here.

The conclusion should have the following content:

- Project summary
- Comparison with the initial objectives
- Encountered difficulties
- Future perspectives

A subsection of the validation is the discussion. In the discussion, you deal with the results of your investigation in a more interpretative way.

While you keep the conclusion of your bachelor thesis short and to the point, you deal with your results in more detail in the discussion.

# 5 | Last Words

As you embark on this significant journey of writing your bachelor thesis, take a moment to commend you for reaching this milestone in your academic pursuits. This is a culmination of your years of hard work, dedication, and commitment to your studies. The journey ahead may seem daunting, but have confidence in your abilities to rise to the challenge and succeed.

Your bachelor thesis is not merely an academic requirement; it is an opportunity for you to showcase your knowledge, skills, and passion. It is a chance to delve deep into a specific topic, to explore new ideas, and to make a meaningful contribution to the academic community. This

is your chance to leave a mark, to inspire others, and to ignite a spark of curiosity in those who will follow in your footsteps.

I encourage you to approach this undertaking with a sense of enthusiasm and curiosity. Embrace the process of research, analysis, and critical thinking. Allow yourself to be open to new perspectives and to challenge conventional wisdom. This is your chance to demonstrate your ability to think independently, to formulate hypotheses, and to present evidence-based arguments.

Remember that your thesis is not just an end in itself but a stepping stone towards future endeavors. It is a testament to your intellectual growth and your capacity to tackle complex problems. It will serve as evidence of your dedication, discipline, and perseverance, qualities that will undoubtedly contribute to your future success.

Throughout this journey, know that you are not alone. Seek guidance from your professors, engage in discussions with your peers, and draw inspiration from the wealth of knowledge that surrounds you. Embrace the feedback you receive and use it as an opportunity to refine your work and push the boundaries of your own understanding.

I wish you all the best as you embark on this exciting journey of writing your bachelor thesis. May it be a transformative experience that propels you towards a future filled with endless possibilities.

*Silvan Zahno*