Guide to Thesis

14.01.2025 - v2025

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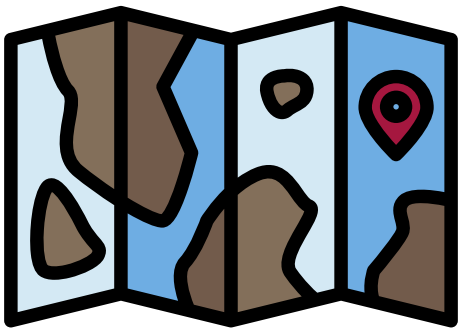
Contents



1 Introduction

The bachelor thesis represents a crucial milestone in your academic journey, serving as a testament to your scholarly abilities. It offers you the opportunity to delve into existing knowledge or pioneer new discoveries within your chosen field. For a comprehensive guide on thesis writing, refer to https://www.scribbr.com/knowledge-base/

2 Planning

Your thesis journey spans approximately 14 weeks during the spring semester. Refer to Figure 2 for the current planning details.

Semaine / Woche	du / vom	au / bis	SYND Pr4	SYND TB	Projet 4 (Pr4) & Travail de Bachelor (TB) / Projekt 4 (Pr4) und Bachelorarbeit (TB)	
38	16.09.2024	20.09.2024				
39	23.09.2024	27.09.2024			Séance d'information Informationssitzung	Lundi 23 septembre 2024, 16:20 Montag, 23. September 2024, 16.20 Uhr
40	30.09.2024	04.10.2024			Période d'appel à projets (professeurs, étudiants, industriels et mobilité) Projektausschreibung (Dozenten, Studierende, Unternehmen und Mobilität)	
41	07.10.2024	11.10.2024				
42	14.10.2024	18.10.2024				
43	21.10.2024	25.10.2024				
44	28.10.2024	01.11.2024				
45	04.11.2024	08.11.2024				
46	11.11.2024	15.11.2024				
47	18.11.2024	22.11.2024			Validation des projets par les Responsables d'orientation (RO) Validierung der Projekte durch die Leiter der Vertiefung	
48	25.11.2024	29.11.2024				
49	02.12.2024	06.12.2024			Sélection des sujets par les étudiants Auswahl der Themen durch die Studierenden	
50	09.12.2024	13.12.2024				
51	16.12.2024	20.12.2024				
52	23.12.2024	27.12.2024			*Vacances de Noël | Weihnachtsferien*	
1	30.12.2024	03.01.2025				
2	06.01.2025	10.01.2025			Attribution finale par les RO et validation par le RF Endgültige Auswahl durch die RO und Validierung durch den RF	
3	13.01.2025	17.01.2025			Rédaction des données par les professeurs Ausarbeitung der Aufgabenstellungen durch die Dozierenden	
4	20.01.2025	24.01.2025				
5	27.01.2025	31.01.2025				
6	03.02.2025	07.02.2025			Validation des données par les RO Validierung der Aufgabenstellungen durch die RO	
7	10.02.2025	14.02.2025			*Semaine d'interruption | Vorlesungsfrei*	
8	17.02.2025	21.02.2025	1		Projets individuels (Pr4) - 1/2 journée par semaine Individuellen Projekte (Pr4) - 1/2 Tag pro Woche	
9	24.02.2025	28.02.2025	2			
10	03.03.2025	07.03.2025	3			
11	10.03.2025	14.03.2025	4			
12	17.03.2025	21.03.2025	5			
13	24.03.2025	28.03.2025	6			
14	31.03.2025	04.04.2025	7			
15	07.04.2025	11.04.2025	8			
16	14.04.2025	18.04.2025	9			
17	21.04.2025	25.04.2025			*Vacances de Pâques | Osterferien*	
18	28.04.2025	02.05.2025	10		Présentations des projets individuels (Pr4) Präsentationen der individuellen Projekte (Pr4)	
19	05.05.2025	09.05.2025			Examens de modules | Modulprüfungen	
20	12.05.2025	16.05.2025			*Semaine d'interruption | Vorlesungsfrei*	
21	19.05.2025	23.05.2025		1	Travaux de bachelor à plein temps Vollzeit-Bachelorarbeit	
22	26.05.2025	30.05.2025		2		
23	02.06.2025	06.06.2025		3		
24	09.06.2025	13.06.2025		4		
25	16.06.2025	20.06.2025		5		
26	23.06.2025	27.06.2025		6		
27	30.06.2025	04.07.2025		7		
28	07.07.2025	11.07.2025		8		
29	14.07.2025	18.07.2025		9		
30	21.07.2025	25.07.2025		10		
31	28.07.2025	01.08.2025		11		
32	04.08.2025	08.08.2025		12		
33	11.08.2025	15.08.2025		13	Remise du rapport final Abgabe des Schlussberichts	Jeudi 14 août 2025, 12:00 Donnerstag, 14. August 2025 12.00 Uhr
34	18.08.2025	22.08.2025			Exposition et Pitch des travaux de bachelor à la HEI Ausstellung und Pitch der Bachelorarbeiten an der HEI	Vendredi 22 août 2025, 13:00 - 19:00 Freitag, 22. August 2025, 13.00 - 19.00 Uhr
35	25.08.2025	29.08.2025			Exposition et Pitch des travaux de bachelor à Monthey Ausstellung und Pitch der Bachelorarbeiten in Monthey	Lundi 25 août 2025 Montag, 25. August 2025
					Exposition et Pitch des travaux de bachelor à Viège Ausstellung und Pitch der Bachelorarbeiten in Visp	Jeudi 28 août 2025 Donnerstag, 28. August 2025
36	01.09.2025	05.09.2025			Défenses orales des travaux de bachelor Mündliche Verteidigung der Bachelorarbeiten	
37	08.09.2025	12.09.2025				

Libre / frei
En formation / Vorlesungen

Approuvé le 23.09.2024 par le RF et les RO
Genehmigt am 23.09.2024, RF und RO

Toute modification ultérieure demeure réservée | Änderungen bleiben vorbehalten

Figure 2 - Thesis planning v2025

3 Phases

The bachelor thesis unfolds in three distinct phases: **Preparation**, **Writing**, and **Follow-up**.

Planning

- [ ] Select topic
- [ ] View examples
- [ ] Create a schedule
- [ ] Conduct literature research
- [ ] Choose methodology
- [ ] Write synopsis

Writing

- [ ] Finalize structure and outline
- [ ] Write introduction
- [ ] Determine theoretical framework
- [ ] Write methodology section
- [ ] Present research results
- [ ] Write conclusion

Follow Up

- [ ] Create bibliography
- [ ] Sign declaration
- [ ] Have proofreading done
- [ ] Perform plagiarism check
- [ ] Printing Binding

4 Sections

4.1 Abstract

The abstract serves as a concise summary of your entire thesis, encapsulating key elements on a single page such as:

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

4.2 Acknowledgements

While optional, acknowledgements provide an opportunity to express gratitude to individuals, institutions, or organizations that have supported you throughout your academic journey.

Despite not impacting the evaluation, acknowledgements contribute to the overall tone and appreciation within your thesis.

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**" research 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
- Google Scholar
- Springer Link
- ProQuest
- JSTOR
- Google Books

4.5 Design

In the design section of your bachelor thesis, you have the opportunity to provide a detailed blueprint of the system you intend to develop or analyze. This section serves as the foundation upon which your implementation will be built. Here's how you can enrich and expand upon this section:

- **System Overview**: Begin by providing a comprehensive overview of the system under consideration.
- **Requirements Specification**: Outline the specific requirements that your system must fulfill.
- **Architecture and Design Principles**: Delve into the architectural design of your system, elucidating the underlying principles and design decisions that govern its structure.
- **Technology Stack**: Detail the technologies and tools that will be employed in the development of your system.
- **Data Management and Storage**: If your system involves the management or manipulation of data, provide insights into how data will be structured, stored, and accessed.
- **User Interface (UI) Design**: If applicable, describe the user interface of your system, focusing on usability, accessibility, and user experience (UX) design principles.
- **Integration and Interoperability**: Address how your system will integrate with existing systems or external services, if relevant.

4.6 Implementation

In the implementation phase of your bachelor thesis, you translate the design specifications into tangible, functional artifacts. This section offers insights into the practical execution of your research, detailing the steps taken to realize the proposed system. Here are some ways to enhance and elaborate on this section:

- **Development Methodology**: Describe the methodology or approach employed in the development process.
- **Prototyping and Iterative Development**: If applicable, discuss any prototyping or iterative development techniques utilized during the implementation phase.
- **Coding Practices and Standards**: Provide insights into the coding practices, standards, and conventions adhered to during development.
- **Testing and Quality Assurance**: Detail the testing strategies and quality assurance measures employed to validate the correctness and robustness of the implemented system.
- **Performance Optimization**: Address any performance considerations or optimizations made during the implementation phase.
- **Deployment and Configuration**: Describe the deployment process and configuration management practices involved in deploying the system to production or testing environments.
- **Documentation and Knowledge Transfer**: Highlight the importance of documentation in facilitating knowledge transfer and ensuring the sustainability of the implemented system.

4.7 Validation

In addition to presenting the **results of your research in relation to your research question**, it is imperative that the validation section of your bachelor's thesis adheres to certain principles

to ensure clarity, coherence, and rigor. Here are some additional considerations to enhance the validation process:

- **Objective Description of Data**: Provide an objective and detailed description of the data used in your analysis.
- **Utilize Graphs and Tables**: Visual aids such as graphs, charts, and tables can greatly enhance the clarity and impact of your results presentation.
- **Link Results to Research Questions**: For each result presented, explicitly link it back to the corresponding research question or hypothesis.
- **Ranking Results by Importance**: Prioritize your results by ranking them in order of importance or relevance to your research objectives.
- **Confirmation or Rejection of Hypotheses**: Evaluate each result in light of the hypotheses formulated in your thesis.

4.8 Conclusion

In the concluding section of your bachelor's thesis, you consolidate the essence of your research journey, encapsulating the most pivotal insights garnered throughout your study. Here's how to enhance and structure your conclusion:

- **Project Summary**: Offer a succinct recapitulation of the core elements of your project, including its objectives, methodologies employed, and the main findings obtained.
- **Comparison with Initial Objectives**: Reflect upon how your research outcomes align with the initial objectives set forth at the outset of your thesis.
- **Encountered Difficulties**: Acknowledge and address any challenges or obstacles encountered during the course of your research.
- **Future Perspectives**: Offer insights into potential avenues for future research or practical applications stemming from your findings.

While you keep the conclusion of your bachelor thesis short and to the point, you deal with your results in more details in the discussion. There is no new informations in the conclusion.

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.

2025 / HEI-Vs / Silvan Zahno