

Guidelines for the Preparation of Bachelor's and Master's Theses

1. Purpose of the Thesis

The thesis is intended to demonstrate that the student is capable of independently addressing a scientific research question in a methodologically sound and comprehensible manner.

The thesis must constitute an independent academic contribution. Academic originality should be evident in particular through the analysis, evaluation, interpretation, and critical discussion of existing knowledge as well as through independently conducted investigations.

The thesis must not be purely descriptive in nature. The primary focus should be on independent scientific analysis and evaluation.

2. Research Question

Every thesis must be based on a clearly formulated research question.

The research question constitutes the central point of departure of the thesis and serves as the common thread running throughout all chapters.

The following requirements apply:

- The research question must be precise, unambiguous, and scientifically researchable.
- The research question must be explicitly stated in the introduction.
- All theoretical discussions must make a recognizable contribution to answering the research question.
- The selection of literature, data, methods, and analyses must be logically derived from the research question.
- The research question must be explicitly answered in the conclusion.
- Content without a recognizable connection to the research question should be avoided.

A thesis is not assessed based on the volume of literature or data presented, but rather on the extent to which the research question is answered in a scientifically sound manner.

3. Hypotheses and Research Model

If the thesis contains empirical, quantitative, qualitative, or analytical investigations, appropriate hypotheses or research assumptions must be derived from the research question.

The following requirements apply:

- Hypotheses must be logically derived from theory and literature.
- The theoretical derivation must precede the empirical examination.
- Each hypothesis must be formulated clearly and unambiguously.
- Empirical analyses must be directly aligned with testing the formulated hypotheses.
- The results of the analyses must be clearly attributable to the respective hypotheses.
- The conclusion must assess whether each hypothesis is supported or not supported.

4. Structure and Organization of the Thesis

As a general guideline, the thesis should follow the structure below:

1. Abstract
2. Introduction
3. Theoretical Foundations and Literature Review
4. Methodology
5. Analytical or Empirical Section
6. Discussion and Critical Evaluation of the Results
7. Conclusions and Recommendations

The following requirements apply:

Abstract

An abstract must be included before the table of contents.

The abstract should briefly summarize the research problem, research question, methodology, key findings, and principal conclusions of the thesis.

As a general guideline, the abstract should not exceed one page.

Introduction

The introduction should contain, in particular:

- Research problem
- Objectives of the thesis

- Research question
- Scientific relevance
- Structure of the thesis

Theoretical Section

The theoretical section should not merely present existing literature. Rather, it should establish the theoretical foundations required for the subsequent analysis.

All concepts, models, theories, and regulatory frameworks discussed must demonstrate a clear and comprehensible connection to the research question and the subsequent analyses.

Methodology

The methodology section describes how the research question is addressed scientifically. It establishes the link between the theoretical foundations and the analyses conducted.

The selected methodology must be clearly justified and suitable for answering the research question and, where applicable, testing the formulated hypotheses.

The purpose of the methodology chapter is to provide a scientific justification for the research design. The reader must be able to understand why the selected methodology is appropriate for answering the research question and for generating reliable conclusions.

The following requirements apply:

- The chosen research method must be clearly described and academically justified.
- The selection of the methodology must be logically derived from the research question and the theoretical foundations.
- The thesis must explain why the chosen approach is suitable for answering the research question.
- Data sources, objects of investigation, case studies, samples, or datasets used must be fully described.
- The selection of the data or objects of investigation must be justified.
- Applied models, procedures, statistical methods, or analytical techniques must be presented in a comprehensible manner.
- Individual research steps must be documented in such a way that the procedure can be understood by third parties.
- Limitations, assumptions, and potential weaknesses of the selected methodology must be openly presented and critically discussed.
- The methodology must be appropriate with regard to the research question, the scope of the thesis, and the intended degree level.

The scientific quality of a thesis is not determined by the complexity of a method, but by the appropriate selection, correct application, and comprehensible justification of the chosen approach.

Analytical Section

The analytical section must provide a recognizable scientific contribution beyond the mere presentation of existing literature.

Academic originality should be evident in particular through analysis, evaluation, interpretation, critical discussion, or methodological application.

The analytical section constitutes the core of the thesis's scientific contribution.

In this section, data, literature, models, case studies, or other objects of investigation should be independently analyzed and evaluated.

The mere description of data, company information, or literature does not satisfy this requirement.

All data sources used must be fully documented. Their origin, observation period, selection criteria, data cleaning procedures, and potential limitations in data quality must be presented transparently and comprehensibly.

Discussion

The results must be critically reflected upon.

In particular, the following aspects should be considered:

- Significance and explanatory power of the results
- Limitations of the study
- Methodological limitations
- Alternative interpretations
- Comparison with existing research findings

Conclusion

The research question must be answered explicitly and directly in the conclusion.

The answer must be logically derived from the analyses and results presented.

The conclusion should contain, in particular:

- Answer to the research question
- Summary of the main findings
- Recommendations for action (where appropriate)

- Suggestions for future research

No new analyses or substantial new content may be introduced in the conclusion.

The thesis must be written in an objective, precise, and academic style. Colloquial language, unsupported value judgments, and unsubstantiated claims should be avoided.

Appendix

Content included in the appendix does not replace explanations in the main body of the thesis.

As a general rule, only content that is presented, referenced, and explained in the main text will be considered for assessment.

Declarations

Where required by examination regulations or faculty requirements, the prescribed declaration of independent work and/or affidavit must be included.

The declaration must confirm in particular that the thesis was completed independently, that all sources and tools used have been disclosed, and that the requirements regarding the use of AI systems have been observed.

A gender equality statement may be included.

If the thesis contains confidential company information, a confidentiality notice may be included following consultation with the supervising company and the examiners. The provisions of the applicable examination regulations remain unaffected.

Recommended Formatting

The following formatting guidelines may be used for the thesis. Their use is recommended but not mandatory unless otherwise required by examination regulations, faculty requirements, or an official thesis template:

- Font: HAD DIN Office, Times New Roman, or Arial
- Font size: 12 pt (main text)
- Line spacing: 1.5
- Margins: 2.5 cm on all sides
- Text alignment: justified

Regardless of the formatting selected, the thesis should maintain a consistent, clear, and professional appearance throughout.

All pages of the main text, including lists, bibliography, and appendix, must be numbered consecutively.

5. Scope of the Thesis

There is no mandatory minimum or maximum page limit. However, the thesis must be sufficiently comprehensive and detailed to adequately and comprehensibly fulfill all assessment criteria as well as all requirements defined in these guidelines.

The page numbers provided below are intended as guidelines and should not be interpreted as strict upper limits.

Exceeding these guidelines is generally permissible if academically justified and if the overall coherence and common thread of the thesis are maintained.

Additional pages should provide scientific value and should not consist of unnecessary repetition or purely descriptive content.

Bachelor's Thesis:

approximately 50 pages (main body)

Master's Thesis:

approximately 60 pages (main body)

6. Academic Writing and Use of Literature

The thesis must constitute an independent academic contribution. Academic originality should be evident in particular through the analysis, evaluation, interpretation, and critical discussion of the literature used as well as the results obtained.

The following mandatory requirements apply:

- The thesis must not consist merely of a summary of existing literature.
- Literature sources must be critically compared, classified, and evaluated with regard to the research question.
- The thesis must demonstrate a coherent line of argumentation (“common thread”).
- Academic statements must be supported by appropriate scholarly literature, professional publications, legal texts, annual reports, databases, or comparable sources.
- Direct quotations should be limited to the minimum necessary. The thesis should predominantly be written in the student's own words.
- Extensive quotation blocks, strings of quotations, or the mere reproduction of literature without independent analysis will not be regarded as an academic contribution.

- The relevance of every source used to the research question must be evident.
- Contradictory findings or differing positions in the literature must be presented and critically discussed.
- Independent conclusions must be logically derived from the literature, the data, and the analyses conducted.
- The thesis must clearly distinguish between findings derived from the literature and conclusions developed independently by the author.

The citation and referencing requirements defined below are mandatory, even if different citation conventions are used in other courses or contexts.

Every statement that is not based on the student's own analysis, calculations, or conclusions must be directly supported by a source. The source must be clearly attributable to the respective statement.

The following requirements apply:

- Collective citations at the end of a paragraph or section are not permitted.
- The source must be provided directly with the respective statement.
- Every citation must contain a specific page number.
- The cited source passage may not exceed two consecutive pages.
- For internet sources, the full URL must also be provided.
- Readers must always be able to clearly identify which statement is supported by which source.

Only citation formats that include page numbers are permitted.

Examples:

Option A: Footnotes

"The company generates the majority of its revenue from cloud services."¹

¹ Microsoft Annual Report 2025, p. 45.

Internet source example:

"The global market for digital assets continues to grow dynamically."²

² European Central Bank (2025), *Digital Finance Report*, p. 12, <https://www.ecb.europa.eu/...>

Option B: In-text citation

"The company generates the majority of its revenue from cloud services (Microsoft Annual Report 2025, p. 45)."

Internet source example:

“The global market for digital assets continues to grow dynamically (European Central Bank 2025, p. 12, <https://www.ecb.europa.eu/...>).”

In addition, a complete bibliography must be provided. The bibliography must contain full bibliographic information for all sources used and must be formatted consistently.

The mere listing of sources in the bibliography does not replace citations within the text.

The bibliography must be placed at the end of the thesis.

7. Presentation and Interpretation of Results

All results must be presented, explained, and interpreted correctly, comprehensibly, and independently within the main body of the thesis.

The following mandatory requirements apply:

- Every table and figure must have consecutive numbering (e.g., “Figure 3” or “Table 2”) and a meaningful title.
- Every table and figure must be referenced in the text using its respective number.
- Each table or figure must be placed immediately before or after the corresponding interpretation in the main body of the thesis.
- All graphics must contain meaningful axis labels, units of measurement, and a source reference.
- The interpretation of the results must demonstrate a clear connection to the research question and, where applicable, to the formulated hypotheses.
- Results must not merely be described but must also be interpreted, critically evaluated, and discussed in the context of the theoretical foundations and the existing literature.
- Independent conclusions must be logically derived from the presented results.

8. Additional Requirements for Statistical Analyses

All results of statistical analyses must be presented and interpreted correctly and comprehensibly in the main body of the thesis.

The statistical original output must be professionally interpreted within the running text.

The following requirements are mandatory:

- Every figure or table containing statistical output must:
 - have consecutive numbering (e.g., “Figure 3”), and

- have a meaningful title.
- Every figure and table must be referenced in the text by its respective number,
- The figure or table must be placed immediately before or after the corresponding interpretation in the main body of the thesis.

Results derived from statistical original outputs will only be considered in the assessment if the corresponding statements in the text can be clearly linked to the relevant elements of the output.

General references to a statistical output without specifically identifying the relevant results are insufficient.

The mere reproduction of statistics, coefficients, p-values, or test statistics without professional interpretation and without reference to a numbered statistical output will not be considered in the assessment.

9. Use of Artificial Intelligence (AI)

The provisions of this section are based on the requirements regarding the use of artificial intelligence established by the Faculty of Electrical Engineering and Information Technology (EIT).

The use of AI tools (e.g., ChatGPT, Claude, Gemini, Copilot, DeepL, or comparable systems) is generally permitted within the scope of this assessment, provided that the following requirements are met.

Students remain fully responsible for all content contained in their thesis.

All content created with AI assistance must be reviewed for factual accuracy, completeness, and academic appropriateness.

If AI tools are used for the creation, revision, or structuring of text, for translation, for generating figures, for data analysis, for code generation, or for any other content incorporated into the thesis, such use must be disclosed.

The thesis must contain a list of tools and resources (“Hilfsmittelverzeichnis”) in which at least the following information is documented for each use of AI:

- AI tool used
- Purpose of use
- Sections of the thesis affected
- Nature and extent of the student’s own contribution

Documentation of all prompts used must be included in the appendix.

AI-generated content does not constitute a scientific source and cannot replace scientific literature.

All academic statements must be supported by appropriate scholarly literature, professional publications, legal texts, annual reports, databases, or comparable sources.

Lecture materials may be used as supplementary sources but do not replace scientific sources.

Literature references suggested by AI systems may only be used if the original source has actually been consulted and verified.

Interpretation must be carried out independently. Responsibility for the academic interpretation of results rests exclusively with the student.

Failure to disclose the use of AI tools may be considered an attempt to deceive.

10. Lists and Directories

Immediately following the table of contents, the following lists must be included:

- List of Tables
- List of Figures
- List of Abbreviations
- List of Tools and Resources

All lists must contain all tables, figures, and tools used in the main body of the thesis, including their consecutive numbering and corresponding titles.

The list of tools and resources must fully document all tools used in the preparation of the thesis. This includes, in particular, software, programming languages, statistical packages, databases, AI systems, and other digital tools.

The traceability and reproducibility of the results must be ensured based on the submitted materials.

All analyses must be documented in such a way that a knowledgeable third party can understand and reproduce the results using the submitted materials.

Appendix

Where applicable, the appendix must contain the following components:

- All prompts used during the preparation of the thesis in their complete and unaltered form
- The complete, commented R code used for the analyses, where applicable
- Any additional materials required to ensure the traceability and reproducibility of the results

11. Traceability of Results

All results presented in the thesis must be comprehensible and traceable for the examiners. Results that cannot be traced or verified may be disregarded during the assessment.

12. Assessment of the Thesis

The thesis will be assessed on the basis of the following criteria:

1. Specification and planning of the thesis
2. Quality, scope, and depth of the work performed
3. Creativity and originality
4. Independence, motivation, and systematic approach
5. Business and economic thinking
6. Ability to realize and implement solutions in practice
7. Structure and organization of the thesis
8. Literature review and background knowledge
9. Analysis of results and academic contribution
10. Conclusions and recommendations

In addition, the quality of academic work will be taken into account in the assessment. This includes, in particular:

- Academic argumentation and critical evaluation of the literature
- Correct presentation, referencing, and interpretation of tables, figures, and results
- Complete documentation of all tools used, including AI systems
- Compliance with formal requirements regarding structure, lists, and bibliography
- Traceability of all data, methods, analyses, and results used
- Consistent alignment of all major stages of the work with the research question

Assessment is conducted holistically.

The aspects of academic work listed above are not assessed as separate evaluation criteria but are incorporated into the assessment of the individual criteria.

Serious violations of academic standards, including but not limited to missing citations, plagiarism, undisclosed use of tools, or a lack of traceability of essential results, may lead to substantial deductions or failure of the thesis regardless of its substantive quality.

13. Changes to the Structure During the Thesis Process

Adjustments to the structure of the thesis during the writing process are generally permissible and are often a natural part of academic work.

Such changes are acceptable provided that the research question continues to be pursued clearly and that the modifications contribute to a better academic structure of the thesis.

Significant changes to the research question or the research design should be discussed with the supervisor in advance.