



TU Clausthal



Formatting guidelines for academic papers

Research papers and theses

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1 Introduction

By writing academic papers, students learn and improve their ability to work and document independently and scientifically. Academic papers are an integral part of all degree programs at Clausthal University of Technology and can be of an experimental or theoretical nature. The following pages provide assistance regarding the formatting of student project papers and theses, which are supervised by the Department of Structural Durability and System Behaviour at the IMAB.

2 Formatting guidelines

The academic work must satisfy a certain external form. The requirements for the external form are not generally defined and can vary from institute to institute. The following explanations are defined for the Department of Structural Durability and System Behaviour of the IMAB.

2.1 Design of the front page

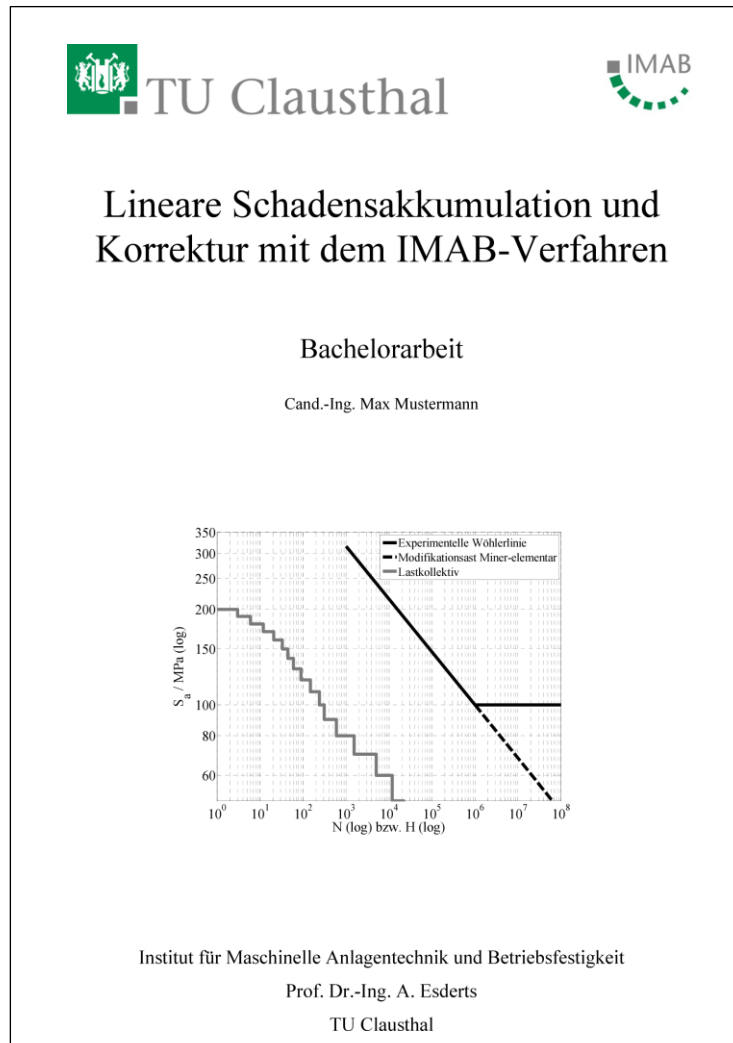


Figure 1: Example bachelor thesis frontpage

Every academic paper must have a front page. Following information have to be clearly stated on the front page:

- Topic of the thesis
- Type of thesis (e.g. bachelor thesis, research paper)
- Author

The University and institute logos should be used. It is often a good idea to use an illustration typical of the work on the title page. **Figure 1** shows a sample title page.

2.2 Font, font size and spacing

The prescribed font for scientific papers is Times New Roman or Computer Modern Roman (standard in LaTeX) in the size 12 pt in justified print. The line spacing is 1.5 spacing. Headings are to be created in Times New Roman, font size 12 pt, bold. They are never indented, regardless of the level. A 10 pt space must be left before a heading, followed by a 6 pt space. Headings are numbered in the form 1; 1.1; 1.1.1 etc.

2.3 Page numbering, headers and footers

The page numbers are inserted in the header or footer using arabic numerals. The other design of the headers and footers is free but should be based on this template. Page numbers inserted before the first chapter should be roman numerals.

2.4 Table of contents

Every academic paper must have a table of contents. The table of contents contains all levels that are also used in the paper. The first level is left-aligned, all subsequent levels are indented to the level above (e.g. 0,5 cm). The page numbers in the table of contents are always right aligned. Dots are used as fill characters between the chapter headings and page numbers. The page numbering within the table of contents is in Roman numerals.

2.5 List of symbols and abbreviations

If many formula symbols and abbreviations are used, a list of formula symbols and abbreviations must be created after the table of contents. The page numbering within the list of formula symbols and abbreviations is in Roman numerals and is consecutive from the table of contents.

2.6 Figures and tables

Images are inserted centered after a paragraph (10 pt spacing after the paragraph). The caption associated with each illustration is also centered and located below the image. The figure and number are to be written in bold, the rest without any markup.

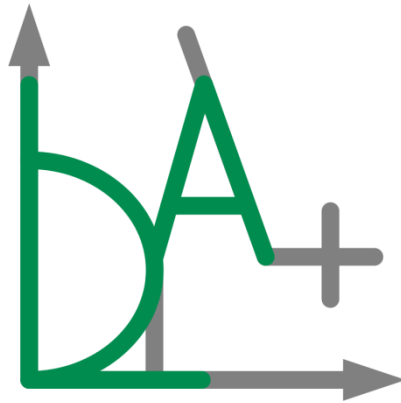


Figure 2: Logo of the calculation software LDA+

In principle, illustrations should only be used if they are actually needed. This means that they must be referred to in the text. This is done as follows: **Figure 2** shows the logo of the calculation software LDA+. Only the category and the number are used and not the entire labelling text. These are shown in bold. If there are text parts in figures, e.g. axis labels, make sure that the same font is used as in the text (Times New Roman).

The same applies to tables. The layout of tables is not prescribed.

2.7 Bibliography

References can be found in the bibliography at the end of the report. They are enclosed in square brackets and contain the first four letters of the first author, a protected space and the last two digits of the year. If there are several identical authors with the same year, then an a, b, c etc. can be placed after the year. The same applies to standards and guidelines. See the sample bibliography. All sources used are listed alphabetically in the bibliography. If the source contains many pages, the page numbers used should be included in the bibliography. Sources should be listed in the bibliography in accordance with DIN 1505-2, [DIN 1505-2].

The source can be referred to in the text as follows. In [FKM 12] methods for calculating fatigue life estimation are given. Or like this: Typical statistical dispersion for fatigue strength is between 0.01 and 0.06, [Haib 06].

If illustrations have been taken from books, this must be indicated by sources, in which the source is placed at the end of the illustration caption, separated by a comma.

2.8 Equations and units

Equations must be inserted flush left and numbered consecutively in round brackets flush right. The formula symbols used must always be explained when specifying the equation if this has

not already been done for another equation. For example, it would go like this: The power P of a gearbox results from the product of speed ω and torque T :

$$P = \omega \cdot T \quad (1)$$

If reference is to be made to an equation, this is done as follows: In **equation (1)** the relationship for calculating the power is given.

Units are written after the numerical value with a protected space. E.g. like this: $P = 100 \text{ kW}$. Units must also be specified in diagrams. This is done by writing: “ P / kW ” or “ P in kW ” or just P and then the unit after each number. Under no circumstances is $P [\text{kW}]$ written.

2.9 Basic structure of academic papers

Every academic paper has the following main structure points:

1. Title page
2. Assignment
3. Statutory declaration
4. List of symbols and abbreviations
5. Introduction
6. Abstract
7. State of the art
8. Results of own work/findings
9. Discussion
10. Bibliography
11. Appendix

The structure points can be named differently in the respective work, subchapters are to be inserted. The list of formula symbols and abbreviations should only be created if necessary.

2.10 Submission of the academic paper and presentation

The academic paper must be submitted to the supervisor in printed form and as a PDF. The printed version must be bound with glue or staples (no paperclip). A spiral binding or even a loose-leaf collection is not permitted. The number of printed copies to be submitted will be agreed with the supervisor.

A short presentation must be prepared and given for each academic paper, regardless of whether this is prescribed in the examination regulations. The presentation should not exceed 25 minutes.

3 Bibliography examples

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