## 1 Introduction

The following are guidelines for writing a seminar report, project study report, Bachelor's thesis, Master's thesis and Diploma thesis. These are meant to be guidelines that can help students in setting up and structuring their thesis. The most important advice is to have consistency throughout the whole thesis, e.g. in the layout or the way literature is referenced. For further questions, do not hesitate to consult your personal advisor.

## 2 Contents

A typical Project study/Bachelor's thesis has around 30 to 50 pages and a Master's/Diploma thesis has around 50 to 80 pages, counted from introduction to conclusion (without appendix). The length of a seminar report is communicated by the lecturer (because they vary among the chairs). Please note that the exact length of the thesis depends on the topic and applied research methods (please discuss with your advisor). We encourage you to write your paper in English unless it is otherwise requested by your advisor.

Following is a suggestion for the contents of the report/thesis. The detailed arrangement may vary from one project to another. The list of figures, tables, abbreviations and symbols are only necessary when corresponding items are used in the report/thesis.

- Preliminaries
    - Cover sheet
    - Signature page
    - Abstract (maximum 150 words)
    - Table of contents
    - List of figures
    - List of tables
    - List of abbreviations
    - List of symbols
- Main body of thesis (example)
    - Introduction (problem setting, outline of thesis)
    - Review of literature and research
    - Methodology
    - Results
    - Conclusion
- Bibliography/Reference List
- Appendices
- Declaration of Authorship

## 3 Format

### Margins

The margins should be set as follows:
- Left margin: 2.5 cm
- Right margin: 2.5 cm
- Top margin: 2.5 cm
- Bottom margin: 2.5 cm

### Font

A single font style should be used throughout the thesis; the only exceptions are figures, tables and appendices. The font size should be 12 points and the font theme should be Times New Roman.
Start headlines with capital letters. Use chapter headings (new page, 20 points, bold), section headings (14 points, bold), subsection headings (12 points, bold) and subsubsection headings (12pt, italicized). Abstracts should be italicized.
Line spacing
The line spacing should be 1.5. The paragraph alignment should be justified.

**Page numbers**

Page numbers should appear on every sheet except the cover sheet.
All preliminary pages preceding the main body of the thesis should be numbered in lowercase Roman numerals; e.g. i, ii, iii, iv, v, etc. The first page of the main body of thesis begins with the arabic numeral 1.

**Chapter numbers**

Chapters and sub-chapters should be numbered, for example 1, 1.1, 1.2, 2, etc. (note that there should be no full stop at the end). Appendices can be numbered with letters, for example Appendix A, B, etc.

**Chapter names**

The names of the chapters should match exactly the names given in the table of contents. All chapter names should be bolded.

**Figures and tables**

All figures and tables should be referenced in the text, as well as numbered. There should be no recurrence of numbers, i.e. no two figures should have the same number. Figures should be numbered sequentially throughout the thesis (e.g. Figure 1, Figure 2 etc.). Captions should be placed on the same page as the respective figure or table; they should be placed above tables but under figures. Figures should be clear and easily readable.

**Formulas**

Important formulas should be placed into a separate line and numbered. Mathematical symbols should be described when they first appear in text, later on, the symbols can be used directly.

**Templates**

Templates (Word/Latex) are provided on the homepage of your supervising chair.

## 4 Academic Writing in English

Just like German or any other language, the English language is not just a composition of grammar and vocabulary, and writing in English calls for a different style than writing in German. As an introduction to academic writing in English, take a look at the following website of the Finnish Virtual University, which provides an excellent overview of the general principles and rules: http://sana.tkk.fi/awe/index.html

## 5 References

### 5.1 Citations

A citation can either be appended to the sentence containing the cited thought or integrated into the text. In the first case, the authors, the year of publication and - for texts longer than 100 pages - the relevant page numbers must be given in brackets at the end of the sentence: "Large linear programming problems can be solved efficiently through decomposition (Dantzig and Wolfe, 1960)." Alternatively, the authors' names can be included in the text, followed by the year of publication and - if necessary - the page numbers in brackets.

"Dantzig and Wolfe (1960) propose a decomposition approach for the efficient solution of large linear programming problems."

If a source with more than two authors is cited, only the first author's name is mentioned, followed by "et al.". Example: Banker et al. (1984) ….

When stating a page number, you should use the abbreviation "p.", when referring to several pages "pp." should be used. The abbreviation "f." indicates that both the page explicitly given and the following page are quoted, i.e. "pp. 23f." is equivalent to "pp. 23-24.

When citing multiple sources, citations must be given in alphabetical order. Multiple sources by the same author and from the same year are differentiated by appending a lowercase letter to the year of publication.

### 5.2 Referencing Figures/Tables

The source of figures/tables should be given in parenthesis at the end of the figure/table caption. If a figure/table is adapted from another source, this should also be noted. Titles are not to be capitalized.

### 5.3 Reference List

The bibliography should be formatted according to the requirements of the journal Management Science by the Institute of Operations Research and the Management Sciences (INFORMS) (http://www.informs.org/Find-Research-Publications/Journals/Author-Portal/Latex-Style-Files). The format of entries in the list of references differs with the type of source. Examples for the most common types of sources are given in the following paragraphs.

**Articles in journals and magazines**
Banker, R. D., A. Charnes, W. W. Cooper. 1984. Models for the estimation of technical and scale inefficiencies in data envelopment analysis. Management Science 30(9) 1078-1092.

Dantzig, G. B., P. Wolfe. 1960. Decomposition principle for linear programs. Operations Research 8(1) 101-111.

Tversky, A., D. Kahneman. 1974. Judgment under uncertainty: Heuristics and biases. Science 185 1124-1131.

**Monographies and other independent publications**
Demeulemeester, E. L., W. S. Herroelen. 2002. Project scheduling: A research handbook. Kluwer Academic Publishers, Boston.

Stork, F. 2001. Stochastic Resource Constrained Project Scheduling. Dissertation, Technische Universität Berlin.

Zimmermann, J., C. Stark, J. Rieck. 2010. Projektplanung: Modelle, Methoden, Management, 2nd ed. Springer, Berlin.

**Articles in volumes and conference proceedings**
When including articles from edited volumes or conference proceedings, the title of the volume or conference as well as the names of the editors (eds.) must be stated.

Dy, J. G., C. E. Brodley. 2000. Visualization and interactive feature selection for unsupervised data. Proceedings of the 6th International Conference on Knowledge Discovery and Data Mining, ACM, New York, 360-364.

Ishibuchi, H., T. Nakashima. 2000. Multi-objective pattern and feature selection by a genetic algorithm. D. Whitley, D. Goldberg, E. Cant-Paz, L. Spector, I. Parmee, H.-G. Beyer, eds. Proceedings of the Genetic Evolutionary Computation Conference, Morgan Kaufmann, San Francisco, CA, 1069-1076.

Möhring, R., F. J. Radermacher. 1989. The oder-theoretic approach to scheduling: the stochastic case. R. Slowinski, J. Weglarz, eds. Advances in project scheduling. Elsevier, Amsterdam, 497-531.

**Working papers and reports**
When dealing with so called "grey literature", i.e. working papers and reports, available bibliographic information is not always precise and often subject to change. In this case, all available information about the source should be stated. When including papers downloaded from the internet, the internet address is to be stated as the place of origin.

Schwindt, C. 1998. Generation of Resource Constrained Project Scheduling Problems Subject to Temporal Constraints: Report WIOR-543, Institut für Wirtschaftstheorie und Operations Research, Universität Karlsruhe.

Vilkkumaa, E., J. Liesiö, A. Salo. 2012. Bayesian Evaluation and Selection Strategies in Portfolio Decision Analysis, Department of Mathematics and Systems Analysis, School of Science, Aalto University, Aalto.

Whitt, W. 2004. Engineering solution of a basic call-center model: Supplementary material. http://mansci.pubs.informs.org/ecompanion.html.

**Websites**
Deutsche Börse AG (07.01.2002): Deutsche Börse - Die verschiedenen Indizes, http://www.exchange.de/fwb.indices.html.

## 6 Appendices
Appendices can be used to include the following content:

- Tables with additional data, e.g. extensive data from your own empirical studies;
- Additional graphics;
- Mathematical proofs that would otherwise compromise readability of the text;
- Extracts from new regulations and guidelines not easily available to the reader;
- Extended examples.

Every element in the appendix must be referenced within the main text. Formal requirements concerning the main text are also valid for the appendix.

## 7 Declarations of Academic Integrity and Responsible Use of AI

The following texts should appear on the last pages of the thesis. This pages need to be signed.

**Declaration of Academic Integrity**

Hereby, I declare that I have composed the presented paper independently on my own and without any other resources than the ones indicated. All thoughts taken directly or indirectly from external sources are properly denoted as such. This paper has neither been previously submitted to another authority nor has it been published yet.

Place, Date

Signature

**Declaration of Responsible Use of AI**

The author declares that the preparation of this thesis involved the responsible use of Artificial Intelligence (AI) tools. All AI-assisted or AI-generated content is transparently reported to en-sure clarity around the scope and nature of such contributions. Full details of each AI tool, its version, and its purpose are provided in the table below. The intellectual contribution of the au-thor remains paramount, and AI tools have been utilized exclusively in supportive roles as out-lined.

| **Tool** | **Version** | **Purpose of Use** |
|---|---|---|
| Example Tool | 4.0 | Language Editing |

The author attests that all AI-generated content has been independently reviewed, validated against authoritative academic sources, and complies with the ethical and scholarly standards required for academic research. The author assumes full responsibility for the integrity, coher-ence, and originality of the thesis, and confirms that AI tools have not been credited as authors nor used as a substitute for personal analysis, argumentation, or critical scholarly engagement.

_____ _____

Place, Date Signature