Guidelines for Seminar Works and Bachelor/Master Theses at the Chair of Information Systems II
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These guidelines give a general overview on requirements of a seminar work or Bachelor/Master thesis at the Chair of Information Systems II. This introduction does not claim to be exhaustive. It does not relieve you from your responsibility to inform yourself about requirements of a scientific work and requirements regarding your exam regulations (“Prüfungsordnung”). In case of questions or ambiguities, your supervisor is always your first contact person. The objective of a seminar work or Bachelor/Master thesis is to elaborate a written report on a predefined topic and give at least one presentation on your findings.

1. Course

This section explains the process of a seminar work or a Bachelor/Master thesis, respectively, starting with the preliminary discussion to the final presentation. The section contains:

1. General remarks (valid for all kinds of scientific work)
2. Seminar procedure (Bachelor and Master)
3. Thesis procedure (except Bachelor BWL)
4. Bachelor BWL thesis procedure

1.1. General Remarks

The following remarks regarding thesis supervision and the written report are valid for all types of scientific work.

1.1.1. The Supervisor

Together with your topic, you are assigned a supervisor. The supervisor can help you in case of questions regarding your topic or the formal regulations. Furthermore, the supervisor encourages you to work independently. It is not the responsibility of the supervisor to check all partial results and to confirm every progress. You are responsible for arranging meetings with your supervisor. Your supervisor is not in charge of informing you or making meeting arrangements with you. If you have any need for support, please arrange a meeting with your supervisor in advance and inform him/her about what you want to talk about (best is to send questions in advance). If you are unsure about processes, formatting, or content, your supervisor is always your first contact person.
1.1.2. Document Submission

You have to hand in a printed version and a digital copy of your work at the chair (secretary’s office or at your supervisor’s office) until noon of the submission date. For Bachelor BWL, the exact date for submission is written on the slides of the introductory session.

The printed version must be printed unilaterally and be bound in spiral binding or adhesive binding. The binding should not allow replacing pages. Hence, simple plastic bindings are not accepted. Please contact your supervisor prior to submitting in order to ask for personal preferences for the binding. Bachelor BWL students have to hand in one copy only. Bachelor Business Informatics and Master students have to hand in two copies. The seminar paper is to be submitted via email only.

Beside of the printed thesis, you have to hand in a CD with the digital submission. The Chair of Information Systems II offers students to use the PCs in the computing lab for burning the CD. Blank CDs are provided as well. The digital submission must contain a digital copy of the work as .docx/.tex and .pdf file, digital copies of the sources (especially of web pages) as PDF files, source code of the implementation (if applicable), and raw evaluation results (if applicable). Online resources may be unavailable after the access date. Thus, you must download online resources and make them available to your supervisor with your digital submission. Name the files according to the respective reference. Any source code should contain a manual on how to configure and run the implementation.

1.2. Seminar Procedure

This section summarizes the procedure of writing a seminar paper at the Chair of Information Systems II.

1.2.1. Registration and Introductory Session

Students have to register for the seminar in advance via the chair’s website. Please inform yourself before the semester start. A mandatory introductory session provides organizational information and an introduction into scientific working.

1.2.2. Final Presentation

You have to present your work at the seminar day. The formal requirements for the presentation are specified in the introductory session of the seminar. You should be prepared to answer questions not only on the content of the presentation, but also on your seminar paper in general.
1.3. **Thesis Procedure (except Bachelor BWL)**

This section describes the procedure of writing a thesis (except Bachelor BWL) at the Chair of Information Systems II.

1.3.1. **Topic**

If you are interested in writing your thesis at our chair, you should first get familiar with our current research topics. You can find an overview on our webpage. Then, contact the respective staff member who is responsible for the project you are interested in and arrange an appointment to discuss possible thesis topics. Please refer to our webpage for up-to-date information on topics and processes.

1.3.2. **Preliminary Outline**

Before you start working on your thesis, you may be required to write a short outline that specifies the topic and shows a preliminary structure of the thesis. This document clarifies the expectations of both you and your supervisor towards the deliverables of the thesis – comparable to a contract. The supervisor decides whether it is necessary for you to provide this outline.

1.3.3. **Registration**

Once you have agreed on a topic, the chair will officially register you for the thesis with the university administration.

1.3.4. **Timeline and Abstract**

It is recommended to provide a short abstract (1 page) and a timeline of your thesis during the first week. These documents should depict the various work packages you have identified. You should especially consider the time you will need to work yourself into the topic, for your literature research, as well as for writing the actual thesis. In the abstract, specify the research question you want to answer. Discussing these documents with your supervisor as soon as possible is a good way to avoid misunderstandings or an underestimation of the complexity of certain work packages.

1.3.5. **Presentation**

After completing your thesis, you have to present your findings to the chair, our current thesis students, as well as possibly other interested parties. The colloquium consists of a presentation and a subsequent discussion of your work (Bachelor: 20+10 minutes, Master: 30+15 minutes). You should discuss the details of the presentation such as content or focus with your supervisor. The language of the presentation has to be identical to the language of the thesis.

Additionally, you have the possibility to give an intermediate presentation, usually at the halfway point. This voluntary presentation allows you to summarize the current state of your work in order
to discuss and/or avoid possible problems. You will also get feedback and inspiration from fellow students and the chair’s researchers. The intermediate presentation is informal and not graded.

Since the exchange of ideas is an important part of scientific working, attendance at presentations of other students is mandatory. You have to inform your supervisor if you cannot attend due to study or work.

1.4. Bachelor BWL Thesis Procedure

The Business School centrally coordinates the process for Bachelor BWL theses. Each student applies for a thesis at the Business School (optionally specifying a list of chairs/areas), and is subsequently assigned to one. The topics are presented in an introductory session. Topic choice and allocation happens afterwards. There is no final presentation.

The Chair of Information Systems II proceeds according to the rules set by the Business School.

2. Format of the Written Report

Extent: *(exclusive all indexes, exclusive appendix)*

Seminar: presented in the introductory session  
Bachelor thesis BWL: 20 pages  
Bachelor thesis Business Informatics: 30-40 pages  
Master thesis MMM: 40-60 pages  
Master thesis Business Informatics: 60-80 pages

*Please discuss any deviations with your supervisor.*

Font: 

Font with serifs (in all parts of the report: headings, text, figures etc.)

Font size: 

12pt in text  
14pt bold in 1st order headings  
12pt bold in 2nd and 3rd order headings  
10pt in figures and tables

Format: 

Justification, 1.5 line space  
Margin left, top and right 3cm; margin bottom, 4 cm  
Paragraphs are divided by a small margin (in Word: 6 pt. distance)  
At maximum one level of bullet points  
Page break before each new chapter

Numbering: 

Text pages: Continuous numbering with Arabic numbers  
Indexes: Roman numbers  
Appendix: Capital letters
You can find templates for Word and LaTeX on the chair’s webpage. These templates meet the requirements regarding formatting. Please discuss derivations from the templates with your supervisor.

3. Structure of a Scientific Paper

This chapter describes the requirements regarding the structure of a scientific work. The LaTeX thesis template provided by the chair meets these requirements. For seminar papers, our webpage offers a separate template.

3.1. Title Page

The title page should include the following information:

- Name of the University
- Chair
- Full name and title of the examiner and the supervisor
- Type of the paper (seminar paper, bachelor thesis, master thesis)
- Topic (Title, Subtitle)
- First name and surname of the author
- Matriculation number and course of study
- Submission date

3.2. List of Contents

The list of contents represents the logical structure of a scientific paper. The depth of the structure should be in relation to the requirements and the scope of the text. The chapters must be enumerated continuously and the page number for each chapter must be declared. The hierarchical structure of the list of contents must be clearly visible by indenting the chapters. Each section should have none or at least two subsections.

3.3. List of Figures

This list contains the number, the caption, and the page number of each figure.

3.4. List of Tables

This list contains the number, the caption, and the page number of each table.
3.5. **List of Abbreviations**

This list contains all acronyms in alphabetical order and their explanation (e.g., DFS: Depth-First Search).

*List of figures, list of tables and list of abbreviations are not necessarily required for a bachelor thesis. These lists should only be included if they are actually needed.*

3.6. **Text**

Besides the scientific demands, the linguistic presentation and the comprehensibility are very important. These aspects are also grading criteria. The text should be objective and neutral. Avoid writing in first person. Expressions like: “we have ... made”, “I think...” should not be used. Nested sentences/footnotes should be avoided. Short and concise sentences make the paper easier to understand and more comprehensible. Spelling and punctuation errors can negatively affect the grading. Spell checking and proofreading by a third person is therefore recommended. The level of abstraction and the level of detail must be appropriate for the topic and the scope of the paper/thesis. An objective presentation and a critical reflection of the work, including advantages and disadvantages, are crucial. Explain technical terms at their first appearance and use them consistently.

3.7. **Appendix**

The appendix of a paper/thesis consists of figures, tables, etc. that are not required for the general comprehension, but provide a valuable contribution to your paper/thesis. The appendix is optional. Core parts of a thesis should not be moved to the appendix.

3.8. **Bibliography**

The bibliography must contain all references.

3.9. **Affidavit**

Each candidate has to make the affidavit stating that the paper/thesis is self-penned:

Ich bin ferner damit einverstanden, dass meine Arbeit zum Zwecke eines Plagiatsabgleichs in elektronischer Form anonymisiert versendet und gespeichert werden kann. Mir ist bekannt, dass von der Korrektur der Arbeit abgesehen werden kann, wenn diese Erklärung nicht erteilt wird."

English version (legally not binding):

“I hereby declare that the paper presented is my own work and that I have not called upon the help of a third party. In addition, I affirm that neither I nor anybody else has submitted this paper or parts of it to obtain credits elsewhere before. I have clearly marked and acknowledged all quotations or references that have been taken from the works of others. All secondary literature and other sources are marked and listed in the bibliography. The same applies to all charts, diagrams and illustrations as well as to all Internet resources. Moreover, I consent to my paper being electronically stored and sent anonymously in order to be checked for plagiarism. I am aware that if the declaration is not made, the paper may not be graded.”

4. References and Bibliography

This section provides information about how to find literature for a thesis or a seminar paper, how to cite correctly, and how to create a bibliography.

4.1. Information about Literature Research

Literature research is a substantial part of writing a thesis or a seminar paper. Thus, it is of highest importance to dedicate sufficient time to it and perform the literature research accurately. One of the major sources of information is the Internet. However, not all sources are reputable and can be cited in a scientific work. Although scientific papers are in general preferred over company publications, there are cases where citing so-called ‘white papers’ or product descriptions are useful to present the state-of-the-art.

4.2. How to Find Good Sources

Digital libraries such as ACM Digital Library (dl.acm.org), IEEE Xplore (ieeexplore.ieee.org), and Springer Link (link.springer.com) provide good sources in the area of computer science and business informatics. The University of Mannheim has the licenses to access major parts of these libraries. Publications can be accessed free of charge via the Intranet of the university (using the VPN client). Publications can be either found directly on the libraries’ websites or via a search engine such as Google Scholar (scholar.google.com). You can also find online sources on the website of the university library (bib.uni-mannheim.de).
4.3 Quotations

Quotations encompass, for example, other peoples’ thoughts, ideas, results, and opinions, recited word by word or referenced inside a text. Each quotation needs to be verifiable. Hence, it is indispensable to add the reference to each quotation. Parts of the text without references are considered as the original work of the author. Each proposition in a thesis or a paper needs to be proved by a reference to a public source or by the work of the author itself. Citations in the text comprise the author(s) and the year of publication. The bibliography contains the details of all sources that were used in the scientific work.

4.3.1. Literal/Direct Citations

When you use parts of existing literature word by word, you have to put the quotation into quotation marks. After the direct citation, you provide the reference including the page number. In this case, you have to use the exact wording of the source. The usage of literal quotations is rather uncommon. Use references to the context of a text whenever possible.

Example:
Tanenbaum et al. define a distributed system as ‘[…] a collection of independent computers that appears to its users as a single coherent system.’ [TS02, p.2]

4.3.2. Omissions in Literal Citations

The symbol [...] indicates the position in the text where a part of the original text is omitted.

Example:
Obviously, strong robustness means that the system will continue to satisfy the evaluation criteria […], whereas weakly robust systems might show an acceptable deviation from an ideal behavior [MSU11, p17].

4.3.3. Indirect Citations

Quotations of ideas require stating the original source as well. These quotations are used to integrate ideas from published texts into your own work. The page number is only required if the reference of the quotation is a long text such as an entire book.

Example:
BASE [BSGR03] is a middleware that was developed for the requirements of ubiquitous systems.

4.4. Bibliography

The bibliography contains the complete information about all sources referenced in the paper/thesis. There are many ways to organize a bibliography.
One author

Two authors

Three authors

Four authors

More than four authors

Multiple references of the same authors in the same year
In cases where the notation shown above is ambiguous, lower case letters help to distinguish both sources.


Online sources
In addition to other references, online resources require the URL and the date of access.

5. Tables and Figures

Tables and figures are consecutively numbered in the order in which they are referred to in the text. Tables as well as figures have their own numbering. Using a table or figure is only recommended if it is also described in the text. If a figure has been retrieved or adapted from another source, this has to be stated accordingly (see label of Figure 1).

6. References


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