

# Guidelines to Prepare a Master Thesis

## Master of Science program “Physical Geography: Environmental History” Institute of Geography, Faculty 8, University of Bremen

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These guidelines summarize the procedures to be followed by students planning to write a thesis for their master degree. They discuss prerequisites, administrative and organizational issues as well as time constraints. Moreover, students find guidance about structure and elements generally contained in a Master Thesis.

### Basic Information

Application: The Master Thesis can be registered at any time during the 2<sup>nd</sup> year of the master program or later. However, for being eligible to register for a Master Thesis, a minimum of 60 credit points (CP) has to be obtained in the course of the master program. To be able to complete the master degree within the prescribed period of study (four semesters, i.e. two years) and assuming that the individual study program was started with the winter term, it is mandatory to register the Master Thesis in the course of the third semester.

The official form to apply for the admission of the Master Thesis can be downloaded only in German as “[Antrag auf Zulassung zur Masterarbeit](#)”. A translation is available as appendix 1 to these guidelines. One remark: Please be encouraged to agree with the first bullet point: *I agree that my thesis may be viewed by third parties in the University Archives for scholarly purposes* in the Declaration on the Publication of the Master Thesis (page 4 of the form). Please be aware that the submitted thesis can be examined with the software „Plagscan“ for the detection of plagiarism (page 3 of the form).

Time available for writing: The Master Thesis needs to be submitted 18 weeks after the admission was approved. One extension of six weeks can be applied for and will be approved only for well justified cases.

Length: There are no word or page limits defined in the examination regulations. However, a guiding value of 50 pages should be considered. This is a recommendation and excludes the table of contents, the list of figures, the list of tables and the reference list as well as title page, acknowledgements and any appendices. This corresponds to ca. 14,000 words. However, always keep in mind to write as much as necessary and as little as possible.

Layout: Examination regulations are not providing any defaults for the layout of the Master Thesis. However, it is advisable to use an 11-point font size and a legible standard font. The general layout should use 1.5-line spacing, 2.5 cm margins left and right as well as top and bottom, justified alignment and page numbers at the bottom right.

Evaluation: For evaluation of the Master Thesis two examiners are required. The first examiner needs to come from the group of scientists teaching in this M.Sc. program. Any external scientist can be chosen as second examiner provided that necessary scientific qualification is documented in a formal

application for admittance of an external examiner. Note, however, that the second examiner needs to be present during the oral master colloquium. Should that be impossible due to time constraints or financial restrictions, another examiner needs to be selected. Both examiners evaluate the Master Thesis within six weeks. The grading follows a certain grading scheme provided in appendix 2.

Master colloquium: After the Master Thesis has been submitted, the colloquium completes the master program and has to be scheduled at latest four weeks after reports of the examiners were handed in. The colloquium consists of a 20 minutes oral presentation of the Master Thesis (pick the highlights!) and a subsequent discussion of 20 minutes duration. The colloquium makes up 20 % and the written thesis 80 % of the final grade for the module “Master Thesis” with 30 CP.

### **What is Expected from a Master Thesis?**

Research is an essential component of graduate education and the thesis is the final product of graduate studies. Significant professional experience and scientific value of the thesis is best achieved by a high degree of interaction between the master student and the advisor. Therefore, communication is one of the most important aspects while working on the thesis. Be aware that personalities vary, which sometimes may present challenges in communication. While advisors will do their best to support the thesis work, it is the student’s responsibility to manage the progress towards the completion of his or her Master Thesis and to ensure a high quality of the work.

A Master Thesis results from independently conducted studies representing original research and critical analysis. It should demonstrate the following aspects:

- Awareness and understanding of current studies in the relevant field of science;
- Ability to plan a research activity;
- Knowledge and motivation to carry out the planned research activity;
- Ability to create own data by applying state-of-the-art techniques;
- Ability to analyse the results of the research;
- Ability to draw reasonable conclusions from the research;
- Ability to critically discuss own results in relation to the published literature;
- Ability to complete a written description of the work in the form of a properly organized Master Thesis.

Identifying a research gap and development of attractive research questions are critical for a successful thesis project. Attention should be paid to a thorough scientific literature review (e.g., [Maier, 2013](#)). This leads to the identification of research needs and knowledge gaps and allows setting up clear statements with regard to research objectives, which in the next step need to be connected with scientific concepts and methods.

The purpose of a Master Thesis is to document the student’s scholarly activities in a formal structure. A logical structure is just as important as coherent lines of evidence, clarity of the text, correct grammar and spelling as well as a consistent citation method.

### **Structure of the Master Thesis**

Mandatory items:

- Title Page (see suggestion provided with appendix 3)
- Summary (abstract)

- Table of contents (see example of appendix 4)
- Main body of text
- List of references
- Copyright statement (page 3 of appendix 1)

Items that can be added if appropriate:

- List of figures (inserted after the table of contents);
- List of tables (inserted after the list of figures);
- List of abbreviations (inserted after the list of tables);
- Acknowledgements (inserted before the list of references);
- Appendix (inserted between the list of references and the copyright statement).

The title page contains the title of the Master Thesis, the name of the student with his or her matriculation number, the study program, the names of first and second examiners as well as the submission date of the thesis. A suggested layout of the title page is made available as appendix 3.

An abstract is regarded as the entire thesis summarized in a nutshell and as such is one of the most if not the most important chapter. It is placed between title page and table of contents. The abstract should give the scientific background, summarize the central aim(s) and research question(s), identify the applied methods and document the main results in a concise manner (maximum length: 1 page). At the end, two sentences should be devoted to scientific gain and outlook. An abstract neither replaces the introduction nor the conclusion chapters. Examples of a well and a poorly written abstracts are available [here](#).

The main body of text should be structured and numbered in chapters and (sub-)sections as listed in the table of contents. The example of appendix 4 follows a typical thesis layout with background in physical geography, i.e. after a general "Introduction" the chapter "Site Description" describes the region where the fieldwork was carried out to collect samples or other data, followed by the chapter "Methods" about any (e.g., laboratory or numerical) analyses applied. In the chapter "Results" the findings of analytical work are presented. The chapter "Interpretation and Discussion" interprets own findings in the light of current knowledge and relates them to published results. Finally, the "Conclusions" provide a synthesis of the Master Thesis, giving answers to the research questions from the introduction and ideally conclude with recommendations for future research.

## 1. Introduction

This chapter should introduce the purpose of the study followed by hypotheses and research questions. This is also the place to point out the larger context of the research. As an essential part of the introduction, there should be a justification for conducting this project. The introduction should demonstrate a clear understanding of what makes this thesis significant and why it should be conducted. The author should provide a breakdown of topics influencing the research project with a thorough review of the current literature relevant to the specific topic of the Master Thesis. In summary, the following questions should be answered by the introduction: What is the current state-of-the-art? What is the knowledge gap and where are research needs? How does this Master Thesis contribute to the research question? Altogether, the literature review should collectively support the process and purpose of the study and provide a theoretical framework. Thus, this chapter needs many references. Finally, the structure of the Master Thesis is introduced providing a guiding red thread.

## 2. Site Description

This chapter allows the author to describe the regional peculiarities of the area of research. Whether and in which form this part is necessary depends on the topic of the Master Thesis. Often a map is

one of the figures shown in this chapter with sampling sites clearly identified and marked. Additionally, all sample material or data sets need to be described in detail in terms of where, when and how these were selected and collected.

### 3. Methods

The methods section should present all tools and methods that were used for data collection and analysis. Every attempt should be made to leave no question open about the procedures used to complete the study. Also a description of statistical processes and tests used for data analysis should be provided and linked to research hypotheses and questions.

### 4. Results

Results are offered as precisely as possible. Long text sections should be replaced with self-explanatory figures (with figure captions) and tables (with table headings). Results of statistical tests should be given as well. Provide only results and avoid to offer interpretations of the results at this point. This chapter is home of most figures and tables, which should be as self-explaining as possible and not be described with text in great detail. Only their main messages need to be summarized.

### 5. Interpretation and Discussion

The findings are summarized in this central part of the Master Thesis. Specific insight to what own findings reveal should be offered as well as implications they provide. This section should synthesize the findings with current knowledge in the field of study and answer the research questions from the introduction. It should critically assess the own results with respect to the literature.

### 6. Conclusions

The Master Thesis ends with a synthesis summarizing the major findings and their relation to the research questions and hypotheses. It concludes with recommendations for further research or how parts of the study could be improved to answer those questions that still remain open.

For the list of references, the Harvard style needs to be applied consistently. Also in the body of text, the Harvard Style is applied with *author(s)*, *year* in brackets. For example: (Smith, 2019) for one author, (Smith & Miller, 2019) for two authors and (Smith et al., 2019) for more than two authors. The list of references, which always follows the main body of text, is provided in alphabetic order of the last (family) name. Please make use of this "[Guide to referencing using the Harvard style](#)" and of reference management software, such as Zotero and Mendeley (both are freeware) or Citavi and Refworks (both can be accessed without any cost via the university library).

The appendices should contain documents that are referred to in the main body of text or which are important for any further processing of data obtained. For example, this includes data files or data tables, which are too extensive to be placed in the main body of text of the Master Thesis. To document very large data sets, electronic data files should be used (on CD or DVD).

## Good Conduct of Research

As a graduate student, attention to academic honesty is imperative. This requires that the Master Thesis avoids data fabrication or manipulation, plagiarism, or any other practices that deviate from accepted scientific practice. It is compulsory to

- Provide a full and complete representation of any scholarly findings,
- Credit the contributions of colleagues and co-workers,
- Respect diversity of opinion,
- Defend the academic freedom.

Plagiarism involves the intentional appropriation of other people's work, including ideas or phrasing of words (this includes translation from another language), without crediting the source. In view of increasing incidences of academic misdemeanour, the German Research Foundation (DFG) has developed a catalogue of proposals for "[Safeguarding good academic practice](#)" (in German and English), adopted by the University of Bremen as "[Ordnung zur Sicherung guter wissenschaftlicher Praxis](#)" (in German).

### **Additional Check List**

- The title of the Master Thesis complies with the topic agreed upon with the supervisor;
- The table of contents provides identical headings, chapters and page numbers like the body of text;
- The text of each section covers exactly those aspects mentioned in the heading;
- The list of references contains all references mentioned in the text. In the same way, all references mentioned in the text are included in the list of references;
- The text is free of typos, punctuation and grammatical errors. In this context: The text should be proofread by at least one additional person. It is very hard to spot typos yourself during the final steps of completing the Master Thesis!
- The text is free of text sections taken from references, which have been modified only marginally (no matter whether this was done deliberately or not). Rephrase such sections with your own words and provide all related references.
- Every figure and table provided is mentioned in the body of text and, if available, also in the list of figures and the list of tables.

### **Appendices to the Guidelines**

1. Application for admission to the Master Thesis (Antrag auf Zulassung zur Masterarbeit) (also available as a separate docx file)
2. Grading scheme
3. Layout of the title page (also available as a separate docx file)
4. Example for a table of contents (also available as a separate docx file)