



Guidelines for the Preparation of a Master Thesis

Supervision, formalities, submission

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Thesis Guidelines for writing a Master Thesis

Institute of Viticulture and Pomology, Department of Crop Sciences, BOKU Vienna

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To our Master students,

The Master Thesis is an essential part of your master study program. By successfully writing the thesis, you confirm your qualification to be able to carry out a scientific work independently in coordination with your supervisor. This guide is intended to assist you in the planning and execution of the Master Thesis.

Often, the Master Thesis is your first publication that might play an important role in your future career and for you personally. For this reason, it should be written with the utmost care, to the best of your ability and in a "good scientific practice".

We would like to support, challenge and encourage you in writing your Master Thesis and wish you success, pleasure in researching and documenting your scientific work, in the discussion and interpretation of your results and in your personal conclusion!

The Viticulture and Pomology Team

1. Topics for Master Thesis and Assignments

The Institute of Viticulture and Pomology advertises current Master Thesis topics online via the Abschlussarbeitenbörse¹ of BOKU and during Master lectures.

In principle, the master thesis can be written in German or in English. However, some topics are offered in English only.

You are interested in one of the topics we offer?

Interested students should contact the respective supervisor and a **first meeting** will be arranged with all people involved (supervisors, student) to concretize the research questions, the responsibilities, duties and a preliminary experimental timeframe. **Students and supervisors should decide together within one week if the topic is put into practice.**

2. Registration of the Master Thesis

Students need to register the Master Thesis according to BOKU rules at the beginning of the Master Thesis. See information provided by the Study Service Center (Studienservices)²

The form “Anmeldung der Masterarbeit” has to be prepared by the student including to obtain all signatures. The original has to be submitted to the Studienservices at BOKU.

A copy of the final document including the signature from the study dean has to be sent to the secretary of the Institute of Viticulture and Pomology email: weinobst@boku.ac.at, Mrs. Brigitte Hasenauer).

¹ <https://abschlussarbeiten.boku.ac.at>

² <https://boku.ac.at/studienservices/themen/infos-studienabschluss/studienabschluss-von-masterstudien>

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3. Master Thesis Project Plan - Start of the Master Thesis

The first meetings with the supervisor will set the preliminary framework conditions for the Master Thesis worked out together:

- problem definition, objective of the master thesis
- timeframe, dates
- workplace (office, laboratory) and lab book (provided by the institute)
- laboratory regulations and safety trainings & introduction
- confidentiality and handling of the data, copyrights for the obtained data
- project description (Research proposal)

The next and very important step to smoothly start your Master Thesis project **is to prepare a Master Thesis Project Plan** on the basis of the first meetings with your supervisor. A detail elaboration (which things have to be considered and how it should be structured) is taught in the lecture class 958334 Viticulture and Pomology Journal Club.

The Master Thesis Project Plan needs to be prepared within **the first 6 weeks after the agreement between student and supervisor** to support the corresponding topic. Furthermore, the project plan is one part of the immanent grading of the final Master Thesis.

The Master Thesis Project Plan should start from the first framework discussed with the supervisor but should further provide more details in description, elaboration and planning. Selected points should include:

- Definition of the research problem, description of the scientific background, identification of knowledge gaps and missing information in relation to the available literature on the topic
- Definition of the research questions to be addressed within the Master Thesis (which are the major, big questions, which are the smaller, site questions and how are these questions related to the current knowledge, where are the new aspects)
- On the basis of the literature and the research questions – define the working hypotheses
- Identify the material and methods: Location, resources, places, machines, measurements, analyses, statistics
- Describe the expected results and relate them to your research questions
- Definition of open questions, weaknesses and uncertainties and if possible a Plan B
- Provide a detailed time plan: Preparing, practical implementation, data analyses, presenting results, literature research, writing process, vacation time or busy with other student duties, coordination with supervisor

The supervisors give advice, evaluate the first version of the research proposal and provide further inputs. Students present their Master Thesis Project Plan (Research Proposal) and discuss it with colleagues in the IWOB Colloquium (section 5).

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4. Supervision, execution of work and data management

Supervisors and students meet regularly during the execution of the master thesis. Each supervisor and co-supervisor provides weekly office hours for student advising. Work steps are planned and executed in coordination. Once a month a progress report must be made to the professor in charge (Prof. Dr. Astrid Forneck).

Students have to adhere to the laboratory, greenhouse, and vineyards regulations. Every master student receives a safety introduction before starting any work experimental work. Students have to keep the documentation detailed and correct, seek the agreement with the supervisors and integrate themselves into the daily routine of the group. **Each student need to have a safety introduction before starting her/his experimental work.**

All data must be recorded directly in the lab-book, documented on the defined server or send to the supervisor in digital format. Data obtained during a Master Thesis project, which was planned, coordinated and conducted at the Institute of Viticulture and Pomology, belong to the Institute for Viticulture and Pomology (BOKU). Each master student of the Institute of Viticulture and Pomology signs a document at the beginning of the thesis arranging the data usage for publications from both sides.

5. Masters Seminar and IWOB-Colloquium

Students need to check their study curricula, if a compulsory Master's seminar (Masterseminar) has to be attended. If this is the case, students need to enroll and follow the rules for the Master's seminar of the Department of Crop Sciences (950300), offered in summer and winter semesters.

The Institute of Viticulture and Pomology offers additionally **internal regular meetings (IWOB-Colloquium)** which are **highly recommended for all Master students**. All master students registered in the IWOB-Colloquium via BOKU-learn; representing the principal student advisory platform. The IWOB-Colloquium is organized in seminar format during the entire year. Students are required to participate in the IWOB-colloquium and get informed about scheduled dates and links to participate online and self-organize to pro-actively take part at the different appointments. In the IWOB-Colloquium, Master students present their research questions and progress, put their topic on a professional discussion with scientists of the institute and other master students. Through the presentation of scientific ideas, questions and methodological aspects (including results presentation, statistical analyses, results interpretation, etc.) as well as the critical questioning by colleagues, a reflection on one's own work is possible. The tutorials also serve as network meetings for all Master students of the Institute of Viticulture and Pomology.

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Important note: the IWOB-Colloquium meetings represent the main advisory platform during your Master thesis. It is pivotal to actively participate on it!

6. Writing the Master Thesis

Students can start the writing process at any time during the practical work of the Master Thesis. The below sections provide a short guideline and general recommendations. The supervisor could give additional advice on the content structure of individual chapters.

a. Formal requirements for the master thesis

Font and font size: Times New Roman, 12

Headings size: 12-16 pt

Line spacing: 1.5

Main text: Justified text

It is recommended to follow the page margins for optimal printing and subsequent binding (top: 2.5 cm; below 2.0 cm, left 3.0 cm, right 2.0-2.5 cm).

Tables are provided with headings and illustrations with captions. Font should be the same as in the main text, font size 11 point, one line spacing and with consecutive numbering. There must be a reference to each figure and table in the text.

The pages are to be numbered consecutively, table of contents and other directories (table index, list of figures), which are in front of the main text, are paginated with Roman numerals, then begin Arabic numerals.

We suggest an average thesis length of 15.000 to 20.000 words, not including the bibliography, summary, appendix, or index.

b. Outline of the thesis

As a rule, a master thesis is divided into the following areas

- Title page
- Statutory declaration
- Acknowledgments (optional)
- Abstract
- List of figures
- List of tables
- Abbreviations
- Table of Contents
- Introduction
- Literature review
- Materials and Methods

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- Results
- Discussion
- Conclusion
- Summary
- Bibliography
- Appendix

Suggestions for **Statutory declaration** you will find on the page of Studienservices³.

A very important part of the work is the **Introduction**, which usually covers 1-3 pages. The introduction describes the problem that formulates questions and hypotheses. The chosen solution to answer the questions and the expected results are described. The introduction should motivate to read all the work.

The **Literature Review** covers the topics relevant to the subject in order to describe and delineate the question, the complex of topics and the understanding of the subsequent results. It is important to have an up-to-date and international overview of the subject area, whereby attention should be paid to a targeted presentation of the topics relevant for the experimental work. The coordination and discussion with the supervisors is necessary for the reflected scientific discourse.

The work done is described in the **Materials and Methods** section. The data collected is shown in the **Results** part. The presentation of the results should be precise, but also simple and understandable. All data must be calculated using the appropriate statistical methods in order to be able to make statements about effects and differences. The statistical calculations are to be carried out by the students in coordination with the supervisors. The results must also be described in the text and reference must be made to the figures or tables.

An important part of any master thesis is the **Discussion**. In this part, the own results are related to the current knowledge provided by international literature. Results can confirm already existing knowledge or not. It is important to network the results and to see the work done as a whole and not just discuss individual methods and their results.

³<https://boku.ac.at/studienservices/themen/infos-studienabschluss/abschlussarbeiten/vorschlaege-fuer-eidesstattliche-erklaerungen/>

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In the **Summary**, the most important aspects of the work are presented briefly and succinctly. The summary contains 1-2 pages and is longer than the **Abstract**, which is usually limited in the word count.

The **Bibliography** must be consistent and complete. A correct citation is essential; all work is checked with software for plagiarism.

Citation guidelines:

There is more for relevant literature on the design and preparation of a scientific paper on the subject. Some examples:

Huss, J. 1984: Leitfaden für die Anfertigung von Diplomarbeiten und Dissertationen in der Forstwissenschaft und verwandten Fachgebieten, Frankfurt (Main) : Sauerländer, VII, 117 S. ISBN 3-7939-0640-X

Krämer, W., 1995: Wie schreibe ich eine Seminar-, Examens- und Diplomarbeit: eine Anleitung zum wissenschaftlichen Arbeiten für Studierende aller Fächer an Universitäten, Fachhochschulen und Berufsakademien, 4., erw. und aktualisierte Aufl., Stuttgart [u.a.] : Fischer, 199 S. ISBN 3-437-40342-7

Standop, E. 1994: Die Form der wissenschaftlichen Arbeit, 14. Aufl., vollst. neu bearb. und erw. von Matthias L. G. Meyer, Heidelberg [u.a.] : Quelle & Meyer, 213 S. ISBN 3-494-02216-X

c. References

In your scientific work, you must use other works as demonstration, evidence, to justify or refute the hypotheses. References are to be defined as primary and secondary sources. Primary references are original records files, documents, handwritten records, contracts, etc.. Secondary references deal with primary ones, i.e. are interpretations, assessments of these. In principle, references may be published or unpublished⁴.

The following general criteria apply to citation:

- Uniformity
- Accuracy
- Directness
- Expediency

⁴<http://www.univie.ac.at/ksa/elearning/cp/schreiben/schreiben-37.html>

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Uniformity means that the citation style chosen is maintained for the entire work. **Accuracy** means that the citation should be complete for easy retrieval. With **directness** it is required that the source is given immediately after and not before taking over the opinion of others (only if one takes over an enumeration, the source is given before). **Expediency** is to express that the citation technique should be as simple as possible and at the same time clearly understandable.

One distinguishes between literal and analogous quotations. Literal citations are taken literally from the source, these quotations are marked in the text by quotation marks at the beginning and end. In the case of pertinent quotations, the thoughts of another author are presented in their own words.

The sources must be complete. In the text mostly the main author and the year of publication are cited:

Single author: xxxx (Musterman, 2018)

Two authors: xxx (Musterman and Musterwomen, 2018)

More than two authors: xxxx (Musterman et al. 2018)

The citation style is given and published by scientific journals and differs in part in details. The citation style must be chosen individually or agreed with the supervisor and the same style should be used for the thesis.

The bibliography contains all information of the source. Again, a uniform style needs to be chosen and followed continuously. The following information must be provided. It is advisable to use a citation program⁵.

Basic structure:

- Name of all authors
- Year of publication
- Title of work
- Literature source: Journal, book, edition, pages
- Standard numbers, as ISBN, ISSN, etc.

⁵<http://www.boku.ac.at/bib/services/literaturverwaltung-zitieren/>

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Examples of citation

Harvard

FORNECK, A., WALKER, M. & BLAICH, R. 2001. An in vitro assessment of phylloxera (*Daktulosphaira vitifoliae* Fitch)(Hom., Phylloxeridae) life cycle. *Journal of Applied Entomology*, 125, 443-447.

GRIESSER, M., LAWOW, N. C., CRESPO-MARTINEZ, S., SCHOEDL-HUMMEL, K., WIECZOREK, K., GORECKA, M., LIEBNER, F., ZWECKMAIR, T., PAVESE, N. S. & KREIL, D. 2015. Phylloxera (*Daktulosphaira vitifoliae* Fitch) alters the carbohydrate metabolism in root galls to allowing the compatible interaction with grapevine (*Vitis* spp.) roots. *Plant Science*, 234, 38-49.

APA 6th

Forneck, A., Walker, M., & Blaich, R. (2001). An in vitro assessment of phylloxera (*Daktulosphaira vitifoliae* Fitch)(Hom., Phylloxeridae) life cycle. *Journal of Applied Entomology*, 125, 443-447.

Griesser, M., Lawo, N. C., Crespo-Martinez, S., Schoedl-Hummel, K., Wieczorek, K., Gorecka, M., Liebner, F., Zweckmair, T., Pavese, N. S., & Kreil, D. (2015). Phylloxera (*Daktulosphaira vitifoliae* Fitch) alters the carbohydrate metabolism in root galls to allowing the compatible interaction with grapevine (*Vitis* spp.) roots. *Plant Science*, 234, 38-49.

Citation of Internet sources:

For the citation of Internet sources the following recommendation is issued:

[Name [(Hrsg.)]: Title, Online in the Internet, URL: <Schema: // Internet Protocol Parts / Path> ([ff .;] [Stand dd.mm.yy;] Query dd.mm.yy [; [timezone:] hh.mm. clock]])resorted

In general published sources and information from the Internet should be used only in the most necessary case.

Use of figures and tables:

Figures and tables from other sources cannot be used directly. The permission of the author(s) or the publisher(s) must be obtained, signed and attached in the appendix. Literature references must be clearly indicated. It is therefore appropriate to take over the most important information from figures and tables and design it yourself. In this case, the reference must be: modified from AUTHOR (year). List of figures and tables are to be created with running numbering of the figures or the tables, the titles and the page number.

d. Correction of the Master Thesis

The Master Thesis text will be corrected for **three times**. The first two versions of the Master Thesis are corrected by the supervisors to provide comments and suggestions to improve the thesis. Incomplete work will not be pre-corrected. The students implement the suggestions in their work, after the assessment by the examining supervisor. This can either request further

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suggestions for improvement or judge the work. The decision is up to the examining supervisor. It should be noted that the first Thesis version is included in the final grading. The version submitted after the introduction of the examiner is the final version of the master thesis.

Every scientific activity must be based on one's own "ideas of the essential, conclusions and judgments". The author must stand fully behind his/her ideas - only then it will be a satisfactory work. If the supervisor wishes to have a specific situation, he/she will point it out on his/her own initiative, and then this sub-aspect should be worked out.

Questions such as "what's missing" or "how many pages do I have to write" are inadmissible because they do not bear witness to independent thought and consideration, but they are the basic prerequisite for writing a master thesis.

e. Cover template: see separate word document

7. Assessment of the Master Thesis & Registration for the Defensio

You can find information about the degree program on the website of the Student services⁶.

To register for the **defensio**, you must have passed all exams successfully, the master thesis must be assessed, the discharge stamp of the library and all necessary forms signed. All points can be found on the information page of the study service. To register for the Defensio you need two hard copies of the Master Thesis, as well as one hard copy per supervisor.

Assessment of the Master Thesis:

The form "**Assessment form for a Master Thesis**" is used. The categories: problem formulation, research question, research design, methodology, research results, analysis / interpretation / discussion / conclusions, bibliography, quality formulations / linguistic presentation and structure of work, are evaluated. The evaluation form is filled out by supervisors and must be handed in by the students in the original form when signing up for the Defensio in the Study Service Center together with all other documents. A copy remains in the secretariat of the Institute of Viticulture and Pomology.

⁶<http://www.boku.ac.at/studienservices/themen/infos-studienabschluss/>

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The online **abstract entry** takes place after completion of the thesis and before the degree. The abstract of the finished master thesis is to be entered in German and English in BOKUonline. As soon as the master thesis has been registered in the study department, the study department will create a corresponding record in BOKUonline. Once approved by the Dean of Studies, the Abstract dataset is automatically available in the Abstracts application and the student can complete the data entry (applies only to master thesis submitted to BOKU). After a first approval by the student (s) the final release of the abstract will be done by the formal supervisor. Subsequently, the written signature of the abstract will be done by the student(s).

Registration for Defensio:

Done using the form **“Anmeldung zur Defensio” (Registration for Defensio)**. When filing in the Dean's Office, a decision must also be made about the second examiner at the Defensio in agreement with the supervisor. Obtaining the signatures on the registration form is the responsibility of the student. The student submits a copy to the secretariat of the Institute of Viticulture and Pomology Institute and submits the original to the study department.

Registration for the defensio must be made at least three weeks before the scheduled date.

Evaluation of the Defensio:

The student brings the form **“Bewertungsbogen Defensio Masterarbeit” (Evaluation sheet for the Master thesis Defensio)** independently and filled out with the personal data for the defensio. Original is sent to the study department by the secretariat of the Institute of Viticulture and Pomology.

The **“Richtlinien für die Defensio einer Meisterarbeit an der Universität für Bodenkultur Wien” (Guidelines for Defensio of a Masterat the University of Natural Resources and Applied Life Sciences Vienna) applies⁷.**

⁷https://boku.ac.at/fileadmin/data/H01000/mitteilungsblatt/MB_2015_16/MB16/Richtlinie_Defensio_Masterarbeit_2016.pdf

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Der vorliegende Leitfaden basiert auf der Richtlinie zur Betreuung von Masterarbeiten des BOKU Instituts für Waldbau, Department für Wald und Bodenwissenschaften (Neumann/Vacik/Hasenauer, 2017).

Wien/Tulln, im Juli 2021

Univ.Prof.in Dr.in Astrid Forneck

Institutsleitung Wein- und Obstbau