

Master Exam Information



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**Institute of Medical Biostatistics, Epidemiology and Informatics
(IMBEI) at the University Medical Center of the
Johannes Gutenberg - University Mainz**

If you plan to take the final exam in the master's degree programme in epidemiology, this brochure can provide relevant information.

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1. Preconditions

An eligible master thesis candidate in the **postgraduate programme** is registered in the Master of Science Programme in Epidemiology at the Johannes Gutenberg University of Mainz and has collected at least 27 of the required 60 ECTS. Within 8 weeks after passing all module examinations, the candidate has to submit a topic which was agreed upon by his/her supervisor(s). Otherwise the chair of the board of examiners will allocate a topic (§15, 4 examination regulations).

The registration in the **consecutive programme** is usually done as soon as the core modules and the elective modules are finished (§15, 4 examination regulations).

2. Topic research and supervision

The thesis topic should be agreed upon with the supervisor and should be worked on under his/her supervision. The supervisor has to be authorized to take examinations in the Master of Science Programme in Epidemiology.

Should the master thesis be composed in cooperation with an institution which is not a part of the Department of Medicine in Mainz, the approval of the chair of the examination board is required.

3. Registration

The student has to register his/her thesis topic when starting to work on the thesis. To do this, the student completes an exposé (see appendix 2) and a statistical analysis plan (SAP). These documents are submitted to the thesis supervisor who signs them. They are then submitted to the programme coordinator (together with the completed and signed registration form - see appendix 1).

Procedure exposé/SAP

- Exposé (already agreed with the supervisor and confirmed by signature) sent by email to the programme coordinator, who forwards it to the head of the master programme to assess whether the project is fundamentally suitable for a Master's thesis and whether the exposé meets the requirements
- After assessment by the head of the master programme, the exposé is returned to the student with feedback; the head of programme simultaneously suggests a second assessor (usually from the IMBEI)
- SAP must be agreed with the supervisor and should also be sent to the second assessor before the analyses begin

For students in the **postgraduate programme**, the master thesis should be completed within three months for full-time students and six months for students who are working at the same time. In the **consecutive programme**, it should be completed within three months.

In special cases, the timeframe can be extended once for 4 weeks.

For consecutive students: presentation of Master's thesis in the IMBEI „Oberseminar“

- Upon submission of the exposé, an appointment will be made with the programme coordinator for the presentation of the Master's thesis in the Oberseminar. The Oberseminar should take place after the first descriptive analyses (the aim of the Oberseminar is to discuss the statistical methodology and, if necessary, to receive suggestions for alternative approaches. Therefore, the presentation should take place before the analysis begins)

- Oberseminar (in presence): 15 minutes for presentation of the Master's thesis, 15 minutes for discussion/questions, followed by feedback from the assessors (optional)
- It is the students' task to discuss the suggested changes from the advanced seminar with the supervisor and implement them if necessary. The final decision on changes will be made by the supervisor and student shortly after the advanced seminar. It is recommended to send the revised SAP to the second assessor for information.
- Dates: always the last Thursday in March, June, September and the 2nd or 3rd Thursday in December, i.e. 4 dates per year (several students can present their Master's thesis in one seminar)

4. Master Thesis

The aim of the master thesis is to work on a theoretical or empirical question. This includes concrete collection of data and a subsequent evaluation respecting recognized procedures and scientific considerations.

If data already available are analyzed, a high-quality evaluation of the data with appropriate descriptions of the literature and methods as well as an adequate discussion are expected.

The thesis should show whether the candidate has acquired the theoretical and practical knowledge necessary for the transition into the professional practice and is able to use this knowledge in an epidemiological context.

A publication as first author is not sufficient. A systematical review is not sufficient either to meet the methodological requirements.

Before starting the thesis it has to be clarified whether the results of the thesis will be published. If parts of the thesis will be published before submission of the thesis, the board of examiners has to be

contacted and the board has to agree with publication. After submission, the thesis is accessible in the institute's library.

The Master of Science Programme in Epidemiology places emphasis on biostatistics; thus it is intended to demonstrate the student's ability to use statistical methods in epidemiology.

The candidates follow the STROBE statements for the thesis, since these are used for the evaluation by the assessors.

4.1 Format

The master thesis should be printed single sided on one side only of A4 paper, using 1.5 line spacing. Furthermore, please use the font sizes 12 pt (Times New Roman, Arial or Tahoma) for the text and 10 pt. and single-spacing for footnotes.

Margins of 3 cm on the left and right hand side as well as margins of 2 cm on top and bottom should be left on each side. Use full justification paragraph formatting.

The master thesis should consist of about 60-80 pages (**excluding** table of content, glossary of abbreviations, bibliography, and appendices).

4.2 Structure

The master thesis should consist of the following paragraphs. Please adhere to the usual structure of a scientific paper:

Title Page (see appendix 3)

Schedule Page (see appendix 4)

Table of Content

Index of figures and tables

Glossary of abbreviations

1 Introduction

2. Methods and Material (especially with empirical works)

3. Results

4. Discussion
5. Summary
6. Bibliography

Appendix

Specification of own contribution (if the thesis consists of group work)

Declaration that the thesis was written on your own and you cited all used sources ("Last page", see appendix 5)

4.2.1 Title page, schedule page and indexes

Please use the examples from the appendix 3 and 4 when writing your title and schedule page. A table of content, index of figures and tables, and glossary of abbreviations should precede your introduction.

4.2.2 Introduction

The aim of this chapter is to introduce the topic and motivation in a clear and comprehensive manner. A description of the latest state of scientific research and literature, and the context of the master thesis (place your master thesis in perspective to your institution/project and specify your own contribution to the project) are essential.

4.2.3 Hypotheses

The formulation of the hypotheses follows the introduction. The hypotheses should be as specific and precise as possible and should be taken up in the discussion.

4.2.4 Methods and material

In this chapter the candidate should describe the chosen methods and procedures of the thesis. This chapter should have the form of

a “recipe book” so that others can comprehend (“cook”) what was done exactly.

The student should address the scientific question by using quantitative methods and software. He/she should demonstrate the acquired knowledge and skills through her/his description and use of methods, data collection and data analysis. However, the candidate should not cite textbook knowledge that has long been known. Possibilities are, for example, own data analyses and interpretations or meta-analyses. GEP can be helpful.

Quantitative statistical methods should be applied for a meta-analysis. A systematic review is usually not sufficient to meet the methodical requirements of a master thesis in epidemiology. Should the master thesis be a meta-analysis quantitative statistical methods have to be used.

4.2.5 Results

The results of the scientific research should be described in a short and poignant manner, and illustrated by using tables, histograms, or graphics. Tables and graphs should complement the text but not repeat it. A summary should provide the most important statements of the illustrations.

Illustrations (tables, graphics, etc.) should be labelled in a way that they stand alone, i.e. which data were included in the illustration.

4.2.6 Discussion

The main part of a scientific work is the discussion, in which a critical appraisal of your own methods is essential. The newly acquired scientific results should be compared to the latest published findings and critically examined.

Central questions regarding the discussion are:

- What have I learned?
- How do my new results relate to my prior knowledge?
- How could the questions be answered?
- What are the answers?

- What are the weaknesses of my study?
- What are the strengths of my study?
- Prospects

The discussion's length should be at least a quarter of the thesis.

4.2.7 Conclusion

The conclusion sums up the most important results of the work. If the thesis is written in English, the conclusion will also have to be translated into German. The conclusion consists of approximately 1-2 pages.

4.2.8 Bibliography

The cited literature should be continuously numbered throughout the text and mentioned in the bibliography.

Please use the Vancouver referencing convention for citing. The citation rules from the appendix should be strictly adhered to.

Please make sure that all the quotes from the text are mentioned in the bibliography and that all the citations from the bibliography appear in the text.

4.2.9 Appendix

You do not necessarily have to attach an appendix to your master thesis. But in case you have analysis data relevant to the thesis, e.g. questionnaires, material used to collect data, or additional tables (that are only summed up in the results chapter, but not documented), it is recommended to include the appendix for better comprehension.

Please number all illustrations in the appendix in order to reference them in the text. An index of the appendices at the beginning of the thesis is advisable in case of extensive appendices.

4.2.10 Specification of own work

The part of the work that was done by yourself must be clearly indicated in terms of where your efforts start and end. If the thesis consists of group work, please **explicitly** specify your own contribution.

4.2.11 Declaration

The master thesis must be provided with a statement that the candidate independently wrote the thesis and used no sources or aids other than those indicated (see Appendix 5).

5. Submission and assessment

The candidate is expected to submit 3 bound copies of her/his master thesis to the board of examiners within the time limit. When submitting the thesis a statement by the first assessor is to be handed in stating that he/she agrees with the submission of the thesis in the current version. The examination board will forward the thesis to the first and second assessor.

The assessment process shall not last more than 6 weeks.

6. Oral exam

If the master thesis is graded with at least a “sufficient” (4.0), the candidate is admitted to the oral exam, which usually takes place 1 – 4 weeks after the end of the assessment process.

The exam will be carried out by two examiners and one associate. The oral exam will mainly cover the contents of two modules chosen by the candidate during her/his registration for the exam.

For the **consecutive students of cohort MSE 11 and following** and for the **postgraduate students of cohort MSE 13 and following**, the exam will take place as follows:

The exam takes 45 minutes. As a rule, one of the examiners should be the mentor of the thesis. Subject of the oral exam is the contents of the master thesis and questions within the context of the master thesis topic. Additionally, for consecutive students the contents of a core or elective module is subject of the exam; for postgraduate students the contents of an elective module is subject of the exam. The module has to be chosen by the candidate before the exam. The candidate will present his/her master thesis; the presentation should last 10 minutes at the most.

For **students of earlier cohorts** the following is applicable:
The master thesis will be publicly presented (15 minutes presentation, 15 minutes discussion). The following examination will consist of two basic modules or one basic module and one elective module. These modules have to be chosen by the candidate.

As a rule, the examination is taken in German. Exceptions can be made by the examination board, if the candidate wishes to take the exam in a different language (see § 16 section 3 of exam regulations).

7. Contact information

If you have further questions, please contact:

Oliver Bayer
Tel.: 06131 – 17 4577
E-Mail: oliver.bayer@uni-mainz.de

Michaela Seibert
Tel.: 06131 – 17 8428
E-Mail: seibert@uni-mainz.de

Office hours:

Monday – Thursday, 9:00 – 12:00 h
(or by appointment)

Chair of the board of examiners:

Univ.- Prof. Dr. Susanne Singer
Institut für Medizinische Biometrie, Epidemiologie
und Informatik
Universitätsmedizin der
Johannes Gutenberg-Universität Mainz
Rhabanusstr. 3
55118 Mainz

OurHomepage contains further relevant information:

<http://www.unimedizin-mainz.de/imbei/imbei/mse/aktuelles.html>

Appendix 1 - Example Registration Form



Institute for Medicinal Biostatistics,
Epidemiology and Informatics,

Registration
Master thesis in the study programme
'Master of Science in Epidemiology'

.....
Name, First Name of the student

Intends to work on the following master thesis:

Title:.....

Please enclose the exposé (3-4 pages) separately.

The work will be carried out
alone

jointly with:.....

Start of the master thesis (date of application):.....

Mentor and first assessor:

.....
Signature

Second assessor:

.....
Signature

.....
Mainz, date Signature student

Appendix 2 - Example Exposé



Name:
Address:
Phone:
Mail:

Exposé for the master thesis:

Title:

Introduction:

Introduction into the topic, relation/reference to literature, questions to be worked on in the thesis

Methods:

Short description of the methodological approach

Schedule:

Containing information on:


- Beginning
- Literature search and first analyses
- Final analyses, summary of the results
-

References

The exposé should not be longer than 3-4 pages.

Appendix 3 Example Title page

For the first page of the master thesis:

 <p>MSE Master of Science Programme Epidemiology</p>
<p>Institute of Medical Biostatistics, Epidemiology and Informatics University Medical Centre of the Johannes Gutenberg-University Mainz</p>
<p>(Title of Master Thesis)</p>
<p>Master Thesis For the Master of Science Programme in Epidemiology University Medical Center of the Johannes Gutenberg-University Mainz</p>
<p>Candidate's Name</p>
<p>Mainz, Date (Date when the candidate hands in the master thesis)</p>

Appendix 4 Example Schedule Page

On the second page of the thesis (so-called schedule page) below information has to appear in the lower third of the page:

1. Assessor:	Univ.-Prof. / Prof. / PD / Dr. (name with initials)
Institute	
Address	
2. Assessor:	Univ.-Prof. / Prof. / PD / Dr. (name with initials)
Institute	
Address	

Appendix 5 „Last page“ of the master thesis

Declaration that the thesis was written on your own.

I hereby declare that I have not used any other sources or aids than those mentioned in the thesis.

_____ _____

Date Signature

Appendix 6 Quotation rules

Please adhere to the rules of the Vancouver Convention when you are quoting from literature. Several methods and examples on how to quote properly when writing scientific papers can be found in the following paragraphs.

The data is complete and should be used in the below- mentioned order.

A. An Article in a Scholarly Journal

The titles of scholarly journals should either be written out in full or abbreviated according to ISO standard.

Example:

New England Journal of Medicine or N Engl J Med

Schema:

Author(s). Title of Article. Title of Journal. Year; Volume Issue: pages

Author(s). Title of Article. Title of Journal. Date; Volume Issue: pages

Examples:

Hrobjartsson A. What are the main methodological problems in the estimation of placebo effects? J Clin Epidemiol. 2002; 55:430-435

Brody H. The lie that heals: the ethics of giving placebos. Ann Intern Med. 1982;97(1):112-118

B. Books

Schema:

Author(s). Title of Book. First Place of Publication: Publisher; Year of Publication

Editor's Name, Ed. Title: Subtitle. Edition. First Place of Publication: Publisher; Year of Publication: pages

Examples:

Steger F. Das Erbe des Hippokrates: Medizinethische Konflikte und ihre Wurzeln. Göttingen: Vandenhoeck & Ruprecht; 2008

Schölmerich J, Hrsg. Medizinische Therapie 2007/2008. 3. Aufl. Heidelberg: Springer; 2007: 73-80

C. A Work in an Anthology, Reference, or Collection

Schema:

Author(s). Title of Essay. In: Editor's Name, Ed. Title of Collection. Edition. First Place of Publication: Publisher; Year: Pages

Examples:

Dettli L. Placebowirkung. In: Frölich JC, Hrsg. Wirksamkeitsnachweis von Medikamenten aus ärztlicher und juristischer Sicht. München: W. Zuckerschwerdt Verlag; 1992: 54-66

Niklewski G, Baldwin B. Depressive Erkrankungen. In: Förstel H, Hrsg. Lehrbuch der Gerontopsychiatrie und – psychotherapie. 2. Aufl. Stuttgart: Thieme; 2003: 436-444

D. Master thesis/ Dissertation/ Postdoctoral Thesis:

Schema:

Author. Titel [Specify the work]. Place of Publication: University; Year.

Author. Titel [Specify the work]. Place of Publication: Name of Department and University; Year.

Examples:

Woll J. Etablierung von Expressionssystemen für Gene der Indolalkaloid-Biosynthese unter besonderer Berücksichtigung von

Cytochrom-P450-Enzymen [Dissertation]. Mainz: Johannes Gutenberg-Universität; 2005.

Engels B. Kartierung und Klonierung auf dem linken Arm des Chromosoms IX der Hefe *Saccharomyces cerevisiae* [Diplomarbeit]. Mainz: Fachbereich Biologie der Johannes Gutenberg-Universität; 1994.

E. Electronic Sources (e.g. CD-ROMs):

Schema:

Author(s) or Editor (if available). Title [Specify the medium]. Place of Publication: Publisher; Year

Example:

Anderson SC, Poulsen KB. Anderson's electronic atlas of hematology [CD-ROM]. Philadelphia: Lippincott Williams & Wilkins; 2002

F. Electronic Documents / Web Sources:

Electronic articles and books usually have the same characteristics as the published versions (i.e. including publisher, place and year of publication, volume issue, and pages). Therefore, the above-mentioned quotation rules also apply to the web sources.

Usually, there is a print version or an archived electronic copy on the library's server. Please try to find out if there are any library references. If yes, please quote those references.

Web documents are often changed or deleted. Please make a copy of the used document or print it out.

The following details are mandatory when quoting from web sources:

- Date you accessed the material
- Electronic address

Schema:

Author(s) or Editor (if available). Title of Article. Version/Issue/
Date of Publication [Date of Access]. URL: Electronic address

Examples:

American Heart Association. Arrhythmias Originating in the
Ventricles. Last updated 09/21/07 [quoted on 14.05.2008]. URL:
<http://www.americanheart.org/presenter.jhtml?identifier=11>

Krankheit. In: Meyers Lexikon Online 2.0. [quoted on 20.01.2008].
URL: <http://lexikon.meyers.de/meyers/Krankheit>

Dietrich D. Staatliches Amt für Arbeitsschutz Coesfeld, Hrsg. Sterile
Materialien für die Medizin – der Gefahrstoffschutz ist mit dabei.
Stand März 2003 [quoted on 10.02.2008]. URL:
[http://deposit.dnb.de/ep/netpub/47/35/91/981913547/_data_stat
/_Sterile_Materialien.pdf](http://deposit.dnb.de/ep/netpub/47/35/91/981913547/_data_stat/_Sterile_Materialien.pdf)

Checklist for master thesis:

- Search for topic and first assessor
- Contact via E-Mail with possible assessor
- Write the exposé incl.
- statistical analysis plan (SAP)
- signature of first assessor

Hand in the registration of the thesis to the programme coordinator incl.:

- Registration form
- Exposé
- SAP

Hand in the exposé and SAP to second assessor, especially in case the first assessor is not from the IMBEI

Hand in three bound copies of the master thesis at the study coordination office in due time

Oral examination:

1 – 2 weeks after handing in the thesis consult the programme coordinator regarding:

- Date of exam
- Exam subject/s (module/s)
- Examiners (proposals can be made by candidate)