UNIVERSITÄT AUGSBURG
Medizinische Fakultät

Guidance on preparing a cumulative doctoral thesis
for the Award of the Degree of Dr. rer. nat. at the Faculty of Medicine, University of Augsburg

A cumulative doctoral thesis differs from a traditional monograph in that the scientific findings are not presented exclusively in a single, cohesive manuscript, but are based on several scientific publications. These publications are integrated into a self-contained doctoral thesis within an overarching scientific framework, particularly through an introduction and a comprehensive discussion.

The binding requirements are set out in the current Doctoral Regulations of the Faculty of Medicine at the University of Augsburg governing the award of the degree Dr. rer. nat., as well as in the General Doctoral Regulations of the University of Augsburg (APromO). This document is intended to provide guidance only and does not replace the doctoral regulations.

1. Requirements for a cumulative doctoral thesis

For a cumulative doctoral thesis, the requirements set out in § 9 of the Doctoral Regulations must be met. A cumulative doctoral thesis must be based on at least three scientific publications that have been accepted for publication in recognized, peer-reviewed scientific journals.

The following are considered eligible publications within the meaning of the doctoral regulations:
- Original research articles
- Comprehensive systematic reviews
- Meta-analyses

In particular, the following are not eligble:
- Letters to the Editor
- Case Reports
- Other short contributions or publications that do not qualify as original scientific research or comprehensive reviews.

The doctoral regulations do not specify a maximum number of publications.

Individual scientific contribution:
The doctoral candidate must have made the largest individual scientific contribution to at least two of the publications. Furthermore, the doctoral candidate's specific scientific contribution must be clearly identifiable for each publication.

The doctoral regulations identify the following areas as examples:
- Conceptualisation or study design
- Data collection
- Data analysis
- Manuscript preparation

The actual contribution may vary between publications. It is essential that one's own scientific contribution individual scientific contribution is documented transparently and can be verified.

The stated contribution must be confirmed in writing by all co-authors.

An application for approval to prepare a cumulative doctoral thesis must be submitted before work on the thesis begins. The Doctoral Committee will examine the publications and the statements describing the candidate's individual contributions to determine whether the requirements set out in the doctoral regulations have been met.

2. Thematic links between the publications

The publications must collectively address an overarching scientific research question. A cumulative doctoral thesis is therefore not merely a compilation of several independent publications. **Rather, the individual publications must be thematically connected and demonstrate a common scientific focus or contribute to an overarching research question.**

The overarching research question should be reflected in:

- the title of the thesis,
- the introduction,
- the presentation of the individual publications, and
- the concluding discussion

The introduction and discussion play a key role in this regard: their purpose is to explain how each publication contributes to the overall research project and how the findings of the individual studies can be synthesized into a coherent scientific contribution.

3. Approval of a cumulative dissertation



Approval must be obtained before work on the cumulative doctoral thesis begins. Before commencing work on a cumulative dissertation, the doctoral candidate must, in consultation with the Thesis Advisory Committee, submit an application for approval to the Doctoral Committee for the Dr.rer.nat. degree.

The application must be accompanied by written confirmation from the co-authors (see the download area of the website), the publications intended for inclusion in the cumulative thesis, and a statement detailing the doctoral candidate's individual scientific contribution to each publication.

4. Structure of the cumulative dissertation

The cumulative thesis must include an introduction and a discussion that establish the overarching scientific context of the publications and explain how the individual studies are interconnected.

The following structure is recommended as a possible way of organizing the content:

(1) Title page

(2) Summary in German

The thesis **must** include an abstract in German.

(3) English Summary

An English-language summary is also required.

(4) Acknowledgements

optional

(5) Table of Contents

(6) List of publications included in the thesis

For each publication, the full bibliographic details should be provided, including, where available, the DOI and publication status.

Example: Author A, Author B, Candidate A, et al. Title of article. Journal. Year;Volume:Pages. DOI.

Publication Status: accepted / published.

(7) Presentation of one's own scientific contribution

For each publication, the doctoral candidate's individual scientific contribution must be clearly described.

A clear and consistent presentation is recommended, for example:

Publication 1 – Own scientific contribution

- Study design:
- Data collection:
- Data analysis:
- Statistical analysis:
- Manuscript preparation:
- Manuscript Revision:
- Other contributions:

The statement must reflect the doctoral candidate's actual contribution and must be confirmed in writing by all co-authors.

(8) Introduction

The introduction provides the scientific background and establishes the overarching research question of the thesis. In particular, it should:

- introduce the overarching research topic,
- summarize the current state of scientific knowledge,
- formulate the research question and/or hypothesis,
- outline the specific research questions addressed by the individual publications, and
- explain the scientific connections between the individual studies.

The introduction should therefore go beyond the introductions provided in the individual publications and establish a coherent scientific framework for the entire thesis.

(9) Publications

Publications approved for inclusion in the cumulative thesis must be incorporated into the thesis or referenced in the bibliography, in accordance with the University's guidelines. Applicable copyright and publishing requirements must be observed.

(10) Overarching discussion

The discussion integrates the findings of the individual publications and places them within the broader scientific context. In particular, it should:

- synthesize the key findings of the individual studies,
- highlight similarities and differences between the publications,
- discuss the findings in the context of the current research,
- explain the overall scientific contribution of the thesis,
- critically evaluate the limitations of the studies, and
- identify unresolved questions and potential directions for future research.

A cumulative doctoral thesis should therefore not merely consist of a series of separate discussions accompanying the individual publications. The overarching discussion must provide an independent scientific synthesis and demonstrate the added value of the thesis as a whole.

(11) Bibliography

A complete list of references cited in the thesis.

(12) Appendix

optional

5. Copyright and publishing rights

Before incorporating manuscripts that have already been published or accepted for publication, doctoral candidates must verify which rights are retained by the publisher and under what conditions the publications may be reproduced in the thesis:

- whether the published full text may be included in the thesis,
- whether only the bibliographic details may be provided,
- whether a specific version of the manuscript must be used,
- whether separate permission from the publisher is required, and
- which requirements apply to the electronic publication of the doctoral thesis..

The applicable legal framework for doctoral studies is determined exclusively by the currently v



alid versions of the General Doctoral Regulations of the University of Augsburg (AProm0) and th e Doctoral Regulations of the Faculty of Medicine governing the award of the degree of Dr. rer. n at..