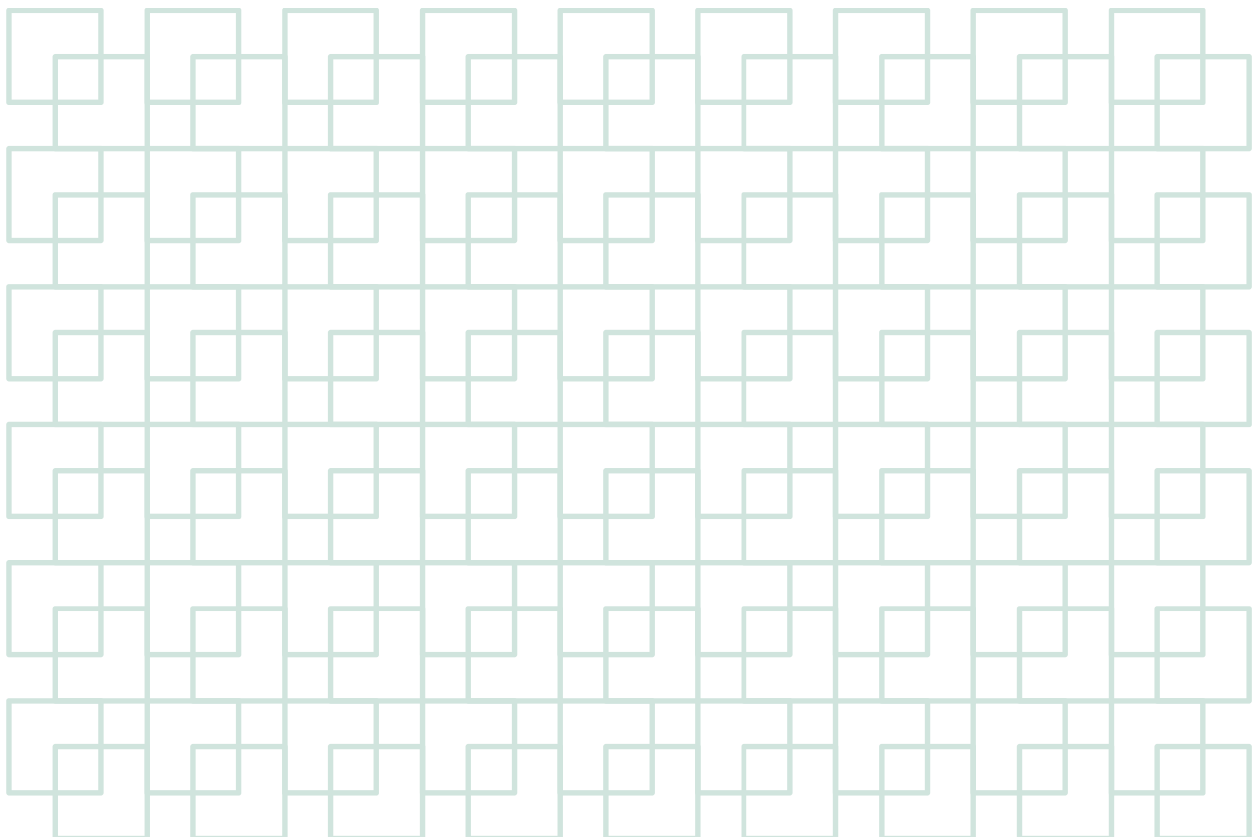


**Norwegian University of Life Sciences**  
Faculty of Veterinary Medicine

# **Guide for the content and scope of the doctoral dissertation's extended abstract**

**Version 1**

**Approved: May 20, 2020 by the PhD Program Committee VET**



## Purpose of the guide

A doctoral dissertation composed of several smaller works must have an introductory chapter that summarizes and groups problems and conclusions of the smaller works, and that documents the dissertation's underlying cohesion. The introductory chapter is called the extended abstract. The purpose of this guide is to give recommendations as to the content and scope of the extended abstract.

## Purpose of the extended abstract

NMBU's Regulations for the PhD degree Section 10.1, Requirements of the dissertation, point 3 states: *The dissertation can either be a monograph or a collection of several scientific works in article format. If the dissertation is in article format, then the dissertation must have an introductory chapter that gives an all-encompassing perspective, summarizes and compiles problems and conclusions presented in the articles, and documents the dissertation's underlying cohesion. The PhD candidate must be the sole author of the extended abstract.*

Even though the PhD candidate is the sole author of the extended abstract, he or she shall receive advice when writing it. The extended abstract must be an independent scientific text that supplements and further explores in depth the articles, rather than repeating and summarizing them. The various parts of the extended abstract should not repeat themselves either.

The extended abstract must:

- Be a scientific text of high academic quality.
- Demonstrate an updated overview of the scientific field, as well as demonstrate the ability to explore in depth specialized scientific problems.
- Demonstrate maturity, including the ability to critically evaluate one's own research and the research of others.
- Show how overarching problems are answered through the individual articles and provide a summation of the dissertation's contribution to the scientific field.
- Justify the choice of research questions and/or hypotheses.
- Reflect over ethical questions.
- Demonstrate methodical and theoretical competency and evaluate this in connection with one's own scientific research.

## The extended abstract's contents and scope

The extended abstract normally encompasses ca. 50 – 80 pages, excluding the reference list.

The extended abstract's table of contents normally follows this order:

Title

Table of contents

Acknowledgements

Abbreviations and acronyms

Summary

List of articles

Introduction

Knowledge gaps

Aims or objectives  
Results/Summary of articles  
Material and methodological considerations  
Synopsis/General discussion  
Concluding remarks/conclusions  
Future perspectives  
Reference List  
Enclosed articles, including supplementary material

## Title

The dissertation's title should be descriptive and cover the main points of the dissertation, and contain keywords from the dissertation. The title must be precise, but not too long. If necessary, it may include a subtitle.

## Table of contents

This gives an overview of the extended abstract's contents. The candidate should not use more than three heading levels.

## Acknowledgements

This section is used to thank everyone who contributed towards the work. The candidate can choose the style of this section. The contents of the foreword and acknowledgements are not evaluated, and the candidate is therefore free to express his or herself. It is normal to thank the university, faculty, institute, financial and project partners, advisors, collaborators, colleagues, and family/friends.

## Abbreviations and acronyms

The candidate creates an alphabetic list of all abbreviations and acronyms used in the dissertation.

## Summary

The summary should not exceed one page. The summary presents the background, hypotheses, methods, main findings, and conclusions. The summary should also exist in Norwegian. A summary in the candidate's language can also be included if this is not Norwegian or English.

## List of articles

The list of articles gives an overview of the articles included in the dissertation. Each article must include the full name of the authors, title of the article, and publication status (manuscript, submitted, accepted, in press). If the article is accepted or in press, the year, journal, and other relevant publication information (e.g., doi, issue, page numbers) should be included.

## Introduction

The introduction shall give an overview of the field, both historically and professionally. The candidate shall show his or her knowledge of the research field. This includes referring to other scientific fields and research groups to place the dissertation in the right context and perspective. The overarching problems are introduced, and the candidate identifies knowledge gaps in the research field.

The scope of the introduction can be challenging, but it is important that the candidate attempts to be structured and precise. The introduction should stand alone as an independent text, with both the structure and underlying cohesion to provide the reader with enough information to understand the point of the research project and the research results. The introduction should provide a logical bridge to the section describing aims or objectives.

### Aims or objectives

The candidate presents a main objective for the dissertation, as well as subobjectives. The objectives discussed in this section should form the basis for the discussion section and conclusions that come later. The objectives may be presented as hypotheses.

### Results/Summary of articles

The articles are either summed up individually or collectively. If the results are presented collectively, the candidate can indicate which article the results come from by denoting the article number in parentheses: (article II).

The summary should not be a repetition of each article's abstract. The candidate has the chance in this section to present methods that were used and achieved results, before the thread is picked up again in the discussion.

### Material and methodological considerations

The candidate describes the chosen study design and methods. The chosen methods are elaborated, and pros and cons discussed. The candidate can also elaborate on the methods that were not chosen and explain why they were not used. Unexpected issues that the candidate faced during the doctoral work can be presented.

A report of the materials used can be included. It is sometimes difficult for the opponents to see if there is a connection between (perhaps the same) materials used in the articles. The material limitations can be presented.

### Synopsis/Discussion

The discussion should be overarching, to show the main findings in the dissertation and contributions to the research field in question. How the different articles and work hang together to form a cohesive dissertation should be clearly presented and documented.

The discussion should give a broader perspective of the candidate's work. The discussion must hang together with the dissertation's title and the stated objectives. The candidate should describe and elaborate on the achievement of the objectives, and present how the field's knowledge gaps have been addressed by the new research.

### Concluding remarks/conclusions

In this section each objective and subobjective should receive concluding remarks, and it should be made clear how the results have led to new knowledge in the research field.

### Future perspectives

The candidate is expected to place his or her research in a future perspective, and try to answer questions about the natural way forward and how the dissertation's work can be expanded upon.

## Reference List

The references used in the extended abstract should be formatted according to the traditions of the research field in question.

## Enclosed articles, including supplementary material

The articles included in the dissertation should be enclosed in their entirety. This includes any supplementary material to the articles. In front of every article there should be a separating page that clearly denotes the article number (Article I, Article II, etc.).

Non-published articles can be formatted so that they are easy to read, i.e., figures and pictures may be placed where they would naturally belong in the text. These articles/manuscripts must have page and line numbers so that the opponents can refer to them during the disputation.

For published articles, the publisher's PDF version may be used if the work is already accessible online (open access or redeemed), or if permission is granted to use it in the dissertation (this varies between journals). If it is not available online or no permission granted, then the post-print version (version after peer review, before the publisher's PDF version) must be used in the dissertation. You may find further information about this on NMBU's websites.

## Other

### Errata

A dissertation must be printed exactly as it was delivered. Only formal errors («errata») that have no bearing on the scientific content may be corrected after the dissertation is approved and before the final printing or publication. These corrections must first be approved. An application to correct formal errors in the dissertation should be sent to the PhD advisors.

Please note that it is not allowed to swap a manuscript out with a PDF of an accepted article. It is not allowed to change page numbers either.

### Guidelines and regulations

The requirements for the PhD dissertation are described in Section 10 of the [Regulations for the Doctor Philosophiae \(PhD\) degree at NMBU](#).

Some guidelines pertaining to the extended abstract can be found in the [Guidelines for the Evaluation of Candidates for Norwegian Doctoral Degrees](#).

### Contact information

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