



UNIVERSITY OF CALGARY
FACULTY OF NURSING

Guidelines for Manuscript-based Thesis

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Introduction

This document is intended to complement the Faculty of Graduate Studies [Thesis Formatting Guidelines](#) all graduate students are expected to follow.

Deciding to Complete a Manuscript-based Thesis

It is common practice in many disciplines that students publish the results of their research as manuscripts in journals or conference proceedings during the course of their thesis studies. This is an important consideration to the student's career development, and an appropriate and timely way to disseminate information.

What is a Manuscript-based thesis?

As an alternative to the traditional thesis format, the thesis can consist of a collection of papers of which the student is the first author. These papers must have a cohesive, unitary character making them a report of a single program of research. In order to complete a manuscript-based thesis in the Faculty of Nursing, the following apply:

- manuscripts must be current and completed for the thesis project
- the student must be first author of each of the manuscripts
- manuscripts may include protocol manuscripts, systematic reviews, methodology manuscripts, or data-based (meaning data have been collected from human, animal or other sources (e.g., historical archives) manuscripts
- a rigorous systematic review such as a Cochrane Systematic review would be one example that attempts to identify, appraise and synthesize all the empirical evidence that meets pre-specified eligibility criteria to answer a specific research question. Types of Cochrane reviews that may be applicable to the Faculty of Nursing include: intervention reviews, prognosis/health outcome or qualitative reviews to name a few. Depending on the nature of the evidence, the review may include a meta-analysis or meta-synthesis.
- for a thesis to be considered “manuscript-based,” the following apply:
 - **MN** – a minimum of 2 manuscripts (must be deemed ready for journal submission according to the supervisor and supervisory committee; at least 1 must be data-based)
 - **PhD** – a minimum of 3 manuscripts (at least 1 submitted for publication and at least 2 deemed ready for journal submission according to the supervisor and supervisory committee; at least 1 must be data-based)

Considerations

Creating a manuscript-based thesis may not be for everyone. In making the decision, it is important to take into account:

- the student's writing capacity,
- the student's desired career (academic, business, education...),

- the 'fit' of the research design,
- support from the supervisor/supervisory committee,
- supervisory committee members' publication experience, and
- the required time commitment.

It is also important to consider whether it is possible to design a thesis project that can be easily combined, and integrated into a series of manuscripts, in a coherent manner, for example:

- conducting a series of studies or sub-studies,
- using a staged approach by, for example:
 - conducting a systematic review as the basis of the study;
 - developing original methods or protocol; then
 - Producing findings based on analysis of data.

Benefits of Completing a Manuscript-based Thesis

A number of benefits can result for both the student and supervisor, including:

- better positioning for future career (postdoctoral fellowships or academic positions),
- gaining publishing experience,
- potentially increasing research efficiency,
- potentially leading to more practical and useable results,
- allowing greater depth, breadth and comprehensiveness, and
- opportunities for real life learning (manuscript preparation, submission process, peer review, etc.).

Challenges of Completing a Manuscript-based Thesis

Students may experience a variety of challenges in using this approach including:

- working within uncertain timelines,
- developing a thesis that is coherent,
- structuring and formatting, as there may be very different audiences and purposes for the various papers,
- a longer time commitment may be required because writing manuscripts can be difficult the first time around, and
- circumstances may change while completing the research and preparing the thesis (e.g., unfavorable results of a review, unexpected (or no) study results).

Developing a Manuscript-based Thesis

Planning Process

Students who wish to proceed with a manuscript-based thesis along with their supervisor and supervisory committee members should:

- plan a manuscript-based thesis from the beginning of proposal development, ensuring full committee support,
- organize the thesis and completion process to facilitate manuscript development,
- outline the planned manuscripts and identify targeted journal(s) in the thesis proposal, and
- develop and adhere to a timeline to complete each manuscript and submission.

Student as Primary Author

When co-authored papers are included in a thesis, the student must be the first author (the author who has made the most substantial contribution) for all papers included in the thesis. See [Faculty of Nursing Authorship Policy](#).

In addition, the student is required to make an explicit statement in the thesis as to who contributed to such work and to what extent. This statement should appear in a single section entitled "Contributions of Authors" as a preface to the thesis. The student is strongly encouraged to seek the assistance of their supervisor in this undertaking.

Since the task of the examiners is made more difficult in these cases, it is in the student's interest to clearly specify the responsibilities of all the authors of the co-authored papers.

Role of Committee Members as Authors

It is advisable to discuss authorship issues at a thesis supervisory committee meeting as early as possible in discussion of thesis research. Each committee member needs not be involved in publication of each manuscript. All authors must adhere to the [Faculty of Nursing Authorship Policy](#).

As the research evolves, or as circumstances change over time, it is important to review and confirm the format of the thesis periodically with the supervisor and thesis supervisory committee. In no case can a co-author of any component of such a thesis serve as an External Examiner for that thesis.

Manuscript Editing

The principles set out by FGS for copy editing the thesis, apply to all published manuscripts. Ultimately, the thesis must be the student's own work. Preferably, editing should take place as part of a learning process, in a collaborative effort between the student and his/her supervisor and other academics in the University. Working with a student to teach him/her how to edit the thesis is part of a learning experience. However, also having a thesis professionally copyedited is acceptable by the Faculty of Graduate Studies in the 2023 [Thesis Formatting Guidelines](#).

Formatting the Manuscript-based Thesis

General Format

Manuscripts can be stand-alone chapters in a thesis, or parts of a chapter. However, the thesis must be more than a collection of manuscripts. All components must be integrated into a cohesive unit with a logical progression from one chapter to the next. In order to ensure the thesis has continuity, connecting texts that provide logical bridges preceding and following each manuscript are mandatory.

Text of the manuscripts that are included, as part of the thesis must conform to the Faculty of Graduate Studies 2023 [Thesis Formatting Guidelines](#), with respect to font size, line spacing, and margin sizes, references, etc.

Note that the Faculty of Graduate Studies Thesis Formatting Guidelines make it mandatory to include a preface with an explanation of which parts of the thesis is already published and details of the publication.

Potential Elements of a Manuscript-based Thesis

- 1) Contributions of Authors. Include an explicit statement clearly identifying the contributions of all authors of the co-authored papers. ([Appendix A](#))
- 2) Introduction. Clearly states the rationale and objectives of the research. A clear case for why the manuscripts form a coherent body of research should be made.
- 3) Literature Review. A comprehensive review of the literature (in addition to that covered in the introduction of each paper)
- 4) Methods. In some circumstances, it may be helpful to include a detailed methods chapter where all methods used in conducting the thesis research are described in detail. This level of detail would not be normally seen in a published manuscript.
- 5) The Manuscripts.
- 6) Conclusion. The final conclusion should reflect the entire body of research presented in all parts of the thesis, including all manuscripts. For PhD theses, the original contribution to the advancement of knowledge in the research area should be clearly stated in the final conclusion.
- 7) References. It is clear that the list of references may be formatted differently in each manuscript. For this reason, a general alphabetically-ordered References chapter, including all references cited in the entire thesis (i.e., those cited both in manuscripts and in chapters which do not include manuscripts), is important.
- 8) Additional Information as Required

Manuscripts for publication are frequently very concise documents, therefore where appropriate, additional material must be provided (e.g., in appendices) in sufficient detail to allow a clear and precise judgment to be made of the importance and originality of the research reported in the thesis. Additional material can also be placed in other sections of the same chapter, as appropriate.

Ethics Approval to Conduct the Study

An Ethics Certificate is required for all research involving human participants – it must be on the student’s file in order to graduate. Research involving human subjects includes any secondary use of previously collected data from human subjects.

If the supervisor has a current ethics certificate for a project that includes the student’s work, the supervisor must add the student’s name to the CHREB (or alternate ethics review board, as appropriate) protocol certificate (a new application is not required).

If you are uncertain about the need for an ethics certificate, please discuss this with the Office of Bioethics. A brief note indicating ethics approval is not required should be on your file if this is the case.

Copyright

Copyright is the sole and exclusive right of a copyright owner to produce, reproduce, perform, publish, adapt, translate and telecommunicate (e.g., post on the internet, email, etc.) a work, and to control the circumstances in which others may do any of these things. Do not mistake ‘referencing’ or ‘quoting’ as eliminating the need to obtain copyright permission, as outlined below.

Copyright law in Canada protects a wide range of works. Producing, reproducing, performing, publishing, adapting, translating and telecommunicating a “substantial” part of someone else’s copyrighted work is copyright infringement, unless (a) you fall within one of the exemptions set out in the [Copyright Act](#), or (b) you have written permission from the copyright owner.

It is commonly understood that, for most purposes, copying more than a few sentences of a literary work, a few words of a short poem, a few bars of music, or a few seconds of a film is a "substantial" portion of the work. Also, copying any important part of a painting, graph or table, etc., is a "substantial" portion of a work.

Copyright protection comes into effect as soon as a work is created; there is no requirement that the work be registered or that the word "copyright" or the symbol © appear on the work. Accordingly, works that are publicly available on the Internet (such as images found via Google) are treated the same way under copyright law as materials distributed in any other way. In Canada, generally speaking, copyright expires 50 years after the death of the author, regardless of who holds the copyright.

In the context of this document (i.e. creating a manuscript-based thesis), this means that you need to be concerned about the following:

- Using any materials in your manuscript(s) that are copyrighted by others, and
- Ensuring that you have permission from editors of journals where your manuscript(s) have been sent to include the manuscript in your thesis.

How to Seek Permission to Use Copyrighted Material

Seeking permission is a straightforward process, but obtaining responses from copyright owners can take a long time. You are strongly encouraged to send out your permission requests as early as possible. The University of Calgary [website](#) has resources to assist with this process:

1) Identify the Copyright Owner. The first step in the process is to identify the copyright owner. Usually, you will be able to identify the owner somewhere on the work by looking for the copyright symbol ©, which should have the copyright owner's name next to it. You'll often find this at the beginning of a book, at the side of a photograph or at the bottom of a web page. The copyright owner of manuscripts is the commercial publisher.

2) Permission from Individuals. If the copyright owner is an individual, then the next step is to email or write to him/her, explaining how and why you want to use the work and requesting permission. The permission should be in writing; an email message will suffice. Keep a record of who gave the permission, what was permitted, the date, and how to contact the person who gave the permission. This information should be included in an appendix in your thesis.

3) Permission from Commercial Publishers. If the copyright owner is a commercial publisher, the fastest course of action is often to search for the work in question at the [Copyright Clearance Center](#). The CCC handles permissions for a large number of publishers, and permission to include images, tables, etc. in theses can often be obtained through the CCC website swiftly and at no cost. If you cannot obtain permission through the CCC, then the next step is to check the publisher's website. Many publishers will require that you submit your request directly to their permissions department, while others will require that you use an online form. When you arrive at the website, look for a link that says, "Rights and Permissions" (or something similar), then read through the available information to determine the correct method for requesting permission.

Permission to include a manuscript in your thesis document may be requested at the time of manuscript submission to a journal. ([Appendix B](#)) Request that the manuscript be included in the thesis and that it is for non-commercial use. If this was not done at the time of submission, permission may also be obtained through the CCC. If permission is not available through the CCC, then you should check the journal's

website. If you cannot locate any information about copyright and permissions on the journal's website, then visit the website of the company or organization that publishes the journal.

You should keep copies of all letters and forms granting you permission to use copyrighted material. These copies are for your own records and proof of permission should be included in an appendix in your thesis document.

It is the responsibility of the student to obtain all permissions. Where material previously published (or in press) by the student is included as part of the thesis, it is his/her responsibility to:

- ensure that permissions from copyright holders are obtained,
- clarify his/her own contributions in multi-authored publications, and
- provide in a preface to the thesis, full citation(s) to those publications

The student must also obtain signed waivers, indicating the co-authors of unpublished manuscripts agree to have the manuscript(s) included in the thesis. These documents **MUST** be included in the thesis (with signatures removed). ([Appendix C](#))

Written permission has been obtained from the Department of Community Health Sciences, Cumming School of Medicine, University of Calgary as well as the Copyright Office of the University of British Columbia to use substantial elements of their policies.

Appendix

A. Preface

Statement indicating that ‘n’ manuscripts, based on the thesis work have been published in peer-reviewed journals.

Student’s role (name) in the work (e.g., led the conceptualization, protocol design, implementation of the protocol, data analysis, initial draft of the manuscript). Committee members’ (names) role in the work. Other co-authors’ (names) role in the work. Statement that ‘all authors contributed important intellectual content and provided critical reviews of the papers’. (NOTE: This is in keeping with ICMJE guidelines).

List manuscripts using appropriate citation formatting.

B. Seeking Copyright Permission to include Manuscript in Thesis

Simply indicate that you are seeking permission to include the published manuscript in a manuscript-based thesis.

C. Signed Waiver indicating Co-Authors of unpublished Manuscripts agree to have the Manuscript included in the Thesis

The signatories below agree that the, yet unpublished, manuscript entitled “.....”, may be included in this thesis.

List names, student will keep the document with original signatures. The document will be included in the thesis (usually before or after the manuscript chapter), WITHOUT signatures.