Toronto Metropolitan University

Faculty of Engineering & Architectural Science
Graduate & Postdoctoral Studies

Guidelines for Manuscript-based Dissertations/Theses [1]

Preamble

A **thesis** is a research document, typically completed as part of a **master's** degree, in which a student demonstrates their *ability to analyze existing knowledge, apply appropriate methods, and contribute a modest, original insight to a specific field.*

A **dissertation** is a more extensive and original piece of research, required for a **doctoral** degree, that makes a *significant, independent contribution to knowledge and demonstrates the author's capacity to conduct sustained, high-level scholarly inquiry.*

A **monograph-style dissertation / thesis** is a traditional form of presenting research work done by a graduate student, written as a single, cohesive document that presents a unified research study. Unlike a manuscript- or publication-based dissertation (which compiles multiple related papers), the monograph format *emphasizes depth, coherence, and a comprehensive treatment of the topic within one integrated work.* At TMU, guidelines for this traditional style of dissertation/ thesis are developed by YSGPS and can be found here.

This document outlines the requirements for manuscript- or publication-based dissertations/theses across all FEAS graduate programs.

Both monograph-style and manuscript-style formats are acceptable and equally valid in fulfilling graduate degree requirements.

Purpose

All FEAS research-focused graduate programs strongly encourage graduate students to publish their work as dissemination of their scholarly, research and creative (SRC) activities is not only a testament of their achievement, but it may be an important key metric for those who seek the academic career. Moreover, the rigorous preparation for manuscript submission can be an excellent and valuable learning experience which leads to development of skills transferable to both academia and industry.

Therefore, Faculty of Engineering and Architectural Science and Toronto Metropolitan University allow the presentation of both Master's theses and PhD dissertations in either traditional (i.e. monograph style) or manuscript-based format. The manuscript-based format incorporates, as part of the dissertation, the text of one or more manuscripts of which the student is the ***main author*** or a main co-author. This text is from published papers, or of manuscripts which have been submitted for publication.

[1] Draft based on the Guidelines for the Manuscript-based Dissertation / Theses from the TMU's Environmental Science and Management (EnSciMan) Graduate Program, YSGPS and Student Guide to Doctoral Thesis, University of Toronto

It is important to remember that publications are by-products, just one of the outcomes of the graduate student's research. The **main indicator of successful research** leading to passing the PhD defence is a **clearly identified contribution to the existing body of knowledge**, an innovation, a discovery[2]. Not every publication can demonstrate those contributions. While going through the peer review process does bring validation to a researcher's work, not all publications carry the same weight and the level of scrutiny. Publication of manuscripts, or acceptance for publication by a peer-reviewed journal, **does not guarantee that the dissertation will be found acceptable by the examination committee** for the degree sought.

Regardless of whether a master's thesis or a doctoral dissertation follows a traditional or manuscript-based format, it must meet certain academic standards. Specifically, the candidate is expected to:

- Clearly demonstrate how the research provides an original contribution and advances knowledge in the discipline.
- Show deep familiarity with the field, including the ability to critically engage with and analyze relevant scholarship.
- Demonstrate competence in appropriate research methodologies and their application.
- Provide a comprehensive and well-structured account of the scholarly investigation.
- Present the findings and analysis of the original research in a coherent and rigorous manner.
- Properly document all sources and substantiate claims with evidence.
- Situate the research within the wider disciplinary context.
- Write in a style that adheres to recognized academic and scholarly conventions.

Major considerations and planning

The selection of acceptable publication venues should be determined at the graduate program level and, where appropriate, further refined within specific disciplinary areas. This list should be regularly reviewed and updated. Graduate program committees must also remain vigilant regarding the proliferation of predatory journals in recent years. In addition, they should be aware of the growing trend of traditionally closed-access journals transitioning to open-access models that require author fees, a shift often associated with changes in research funding, particularly in the United States. Relevant discussions can be found in S. Lee's *Chronicle of Higher Education* article, Making your research free may cost you (August 26th, 2025) and the announcement from the Association of Computing Machinery. Therefore, open-access journals should not be automatically disqualified as "low quality" venues.

The decision to pursue a manuscript-based dissertation is a significant one and should be discussed between the supervisor and the candidate at an early stage of the research process, or as early as possible. It is also recognized that this decision may evolve over time. Key considerations, such as manuscript topics, timelines, authorship, and target journals, should be discussed in advance, with clear communication and appropriate written documentation. Consideration needs to be given to the design of the research project to allow for the identification of discrete publishable components which still can be integrated into a coherent dissertation. Timelines may be crucial, especially when considering the journal review process.

[2] While Master's contributions expectations are less rigorous, some level of analysis and independent conclusions are still expected, which is not always adequately presented in a publication.

Consideration must be taken of the fact that the preparation of manuscripts should not greatly impede progress on the research and ultimate preparation of the dissertation, which must remain the priority of both candidate and supervisor.

These issues should also be introduced for formal discussion by the dissertation supervisory committee at an early stage. The choice to present research in a manuscript-based dissertation should be noted in the Research Proposal and may form part of the discussion at the Oral Candidacy Examination.

As circumstances may change over time, it is important to periodically review and confirm the issues involved with the supervisor and the dissertation supervisory committee. Continuing consultation is important: in case the dissertation examination committee feels that the dissertation has major omissions, the candidate may be required to resubmit an amended version.

Manuscripts

For the **PhD, generally, a minimum of three manuscripts** are to be included, out of which:

- at least one must be published,
- one could be in press, accepted, or under review by peer-reviewed journals and
- one could be submitted at the time of the dissertation examination.

Manuscripts which generally may be incorporated into a dissertation include research reports, literature reviews[3], discussions of theory or method, or descriptions of empirical findings. Each manuscript will typically address a unique research objective outlined in the dissertation proposal.

The manuscripts must result directly from the dissertation research.

Organization of a Manuscript-based Dissertation

The dissertation is to be **more than a collection of manuscripts**. It must be prepared specifically to meet the dissertation requirements. All components must be integrated into logical progression from chapter to chapter forming a unified and consistent report of the research undertaking. The manuscripts must be smoothly integrated into the dissertation. The manuscripts may be incorporated as the foundation of separate chapters or, where appropriate, may form sections within specific chapters. In order to ensure that the dissertation has continuity, additional text that provides the logical framework for the dissertation is required. In addition, alterations to and re-writing of the text of the manuscripts may be required. Formatting must be consistent throughout the dissertation.

In the case where manuscripts have been published, the dissertation is to contain the text, not the reprints, of the papers.

Formatting and required content

[3] It is at the discretion of the individual program to decide whether review articles may be included as part of a manuscript-style dissertation.

The entire dissertation must conform to YSGPS guidelines with respect to organization, content, and style.

As manuscripts prepared for publication are frequently abbreviated documents, where, in the interests of brevity, particular aspects of the research are not fully developed, **additional material must be provided** (e.g., in appendices, as bridging text, or as separate chapters and/or sections of the dissertation) where necessary. Overall, there must be sufficient detail in the dissertation to allow a clear and precise judgment to be made of the relevant literature, the objectives of the research project, methods, importance and originality of the research reported.

Specific issues related to formatting particular to manuscript-based dissertations which generally need to be considered include:

- The **Introduction** must provide the conceptual framework for the research and include a clear case demonstrating that the manuscripts form a coherent body of research within that framework.
    - The Introduction must also include **the full citation(s)** to the manuscripts incorporated in the dissertation including the detailing of where the manuscript has been published, including a link and a DOI number (if available) or where and when it has been sent for review/publication.
    - The Introduction also must include a separate section entitled ***"Contributions of Authors"*** detailing the extent of the contribution the candidate played in the work presented in each manuscript, and the role and contribution of any other authors. Note that this should present more details than what we usually see at the end of journal publications. The provided information should be detailed and precise with respect to the theoretical contribution, the conception of the experiments, data collection, data analysis, and writing the text. Data that was collected or experimental techniques that were conducted by someone other than the PhD candidate must be clearly indicated.
- Should the included manuscripts not provide *a comprehensive review* of the relevant literature, a ***separate literature review*** should be provided.
- Since it is common for published manuscripts only to include an abridgment of methods, ***it may be necessary to include a Methodology chapter*** detailing all methods used in conducting the dissertation research.
- A ***concluding chapter*** should reflect the entire scope of the dissertation research. A summation of ***conclusions, limitations of study, recommendations for future work and the original contribution of the dissertation to the advancement of knowledge in the research area*** should also appear here.
- **Appendices** must include raw datasets (or links to repositories), any additional information not already presented in the main body of the document (in the bridging text or additional chapters), that would allow examiners to fully understand the depth and the accuracy of the research as well as for the results to be reproduced at the later date.
- Although the lists of references may have been formatted in a different way for each manuscript, in the dissertation references are to be presented as a ***single comprehensive References list*** in format typically accepted in the graduate program / discipline (APA, IEEE, MLA, etc.) and placed ***at the end of dissertation / thesis***, after the Appendix(ices). In addition, in-text referencing is to be in a consistent style throughout the dissertation.

Authorship

Since a dissertation provides an account of the candidate's research, when co-authored manuscripts are incorporated in a dissertation, ***the candidate must be the primary author*** (i.e. the author who has made the most substantial contribution to the work presented in the manuscript) of each. An explicit statement must be included in the dissertation about the responsibilities for and the extent of the contribution the candidate made in the work presented in each manuscript, and the role and contribution of each of the other authors.

Particularly, the contribution of each to the following should be addressed:

- the design and identification of the research undertaking,
- responsibility for the research, data and other analyses, and the
- preparation of the manuscript.

This statement should appear in a separate section entitled "Contributions of Authors" in the Introduction to the dissertation. The supervisor(s) must confirm the accuracy of this statement at the PhD oral defence.

Except for the supervisor(s), co-authors of manuscripts cannot be part of the dissertation examining committee. This exclusion includes serving as either Internal or External Examiner for the dissertation.

Copyrighted Materials

Wherever previously published copyright material is incorporated in a dissertation, the candidate must obtain, whenever necessary, signed waivers from publisher(s). The student must also submit a signed waiver from any co-authors of unpublished manuscripts, except for the supervisor(s). These are to be submitted to the Program Office no later than with the official submission of the dissertation as they are not included in the dissertation. The incorporation of copyrighted material must be explicitly acknowledged in the dissertation; and tables and figures must have "Reprinted with permission of…" in their captions.

TMU Library provides regularly updated information on GenAI, Copyright and Intellectual Property, including TMU Fair Dealing Guideline. It is a PhD candidate's responsibility to be informed and abide by these guidelines and regulations.

Master's Theses

The general guidelines pertaining to manuscript-based Ph.D. dissertations may be used as guidance for the preparation of Master's theses. Generally, one or two manuscripts may form the basis of a thesis, out of which at least one must be *accepted, in press or published*. Besides the manuscript(s), all other elements of the thesis such as authorship, required content, additional material, raw data (if applicable) and formatting need to be followed as described above.