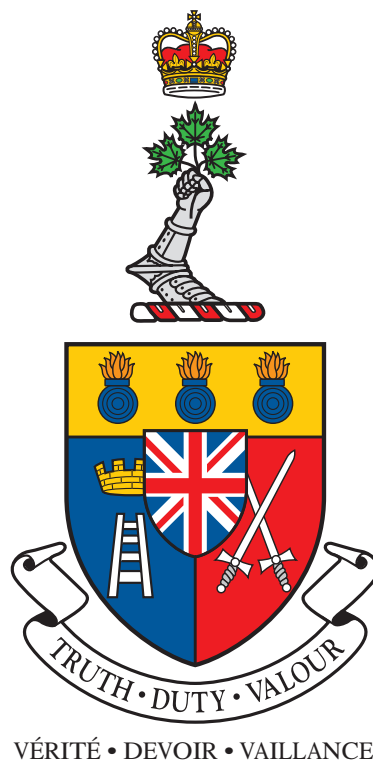


Thesis Preparation Guidelines

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Royal Military College of Canada

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1 Introduction

This document provides guidelines for the preparation of graduate theses at the Royal Military College of Canada. Refer to the Calendar of the Division of Graduate Studies for the procedure for thesis approval and deposit, the number of copies of the thesis, binding, distribution of thesis copies, copyright, and confidentiality status.

In this document, the word “must” indicates a requirement that is mandatory, the word “should” indicates a guideline that is recommended but optional, and the word “may” indicates an action that is permitted.

Any deviations from the requirements of this document must be explicitly approved by the Division of Graduate Studies prior to thesis acceptance.

Program-specific requirements are documented in Appendix A.

The primary version of the thesis is the electronic file that will be archived by the RMCC Library and by Library and Archives Canada. Some paper copies may be required for the thesis examination and a small number of paper copies will be bound following final submission. Except where explicitly noted, all requirements of this document apply to both electronic and paper copies.

2 Thesis structure and major elements

The thesis or dissertation is a formal document describing the outcome of a program of research. While details vary with the academic discipline, it will normally include the statement of a problem, the theory, methodology, results, discussion, conclusions and identification of source material. The thesis must be a standalone document that is sufficiently complete that it does not require any other material to substantiate its findings.

The written thesis itself must be a coherent account of a research project, not a collection of loosely connected studies. It must be in a form acceptable for its discipline and must demonstrate a thorough knowledge of the topic and a scholarly approach.

2.1 Required divisions and organization

The thesis must include the following divisions in the order shown, taking note that some divisions are optional or only applicable to certain theses. See section 2.5 for descriptions of each division.

- Title Page
- Statement of Ethics Approval (where applicable)
- Dedication (optional)
- Acknowledgments (optional)
- Abstract and Résumé
- Co-Authorship Statement (where applicable)
- Table of Contents
- List of Tables (where applicable)
- List of Figures (where applicable)
- List of Symbols, Abbreviations, Acronyms, and Nomenclature and the Glossary (where applicable)

- Preface (optional)
- Body of the thesis (see section 2.2 for required contents)
- List of References or Bibliography
- Appendices

2.2 Formats of the thesis body

The thesis body must be in either traditional format or article-based format (sometimes referred to as “manuscript-based format”).

2.2.1 Traditional format

The traditional format organizes the written thesis around a central problem. Its body must contain the following chapters:

- introduction
- a comprehensive review of the relevant literature, according to disciplinary norms,
- middle chapters as appropriate, and
- summary and conclusion.

2.2.2 Article-based format

The article-based format organizes the thesis around chapters that are focused on related problems. The chapters may include published articles, submitted articles or unpublished work that is suitable for publication.

These articles alone do not constitute the thesis; rather, the thesis must contain additional text that connects them, producing a cohesive, unitary focus and documenting a single program of research. An article-based thesis will be judged by the examiners as a unified, logically-coherent document in the same way a traditional thesis is judged.

If articles with multiple authors are used, the student must be the main research contributor and the main author, regardless of the order of author names shown on the articles. See also subsection 2.5.6. Multiple-authored articles cannot be used in more than one thesis, either at RMCC or elsewhere. Where students have worked collaboratively on projects, it may be preferable for each student to write a traditional format thesis, identifying individual contributions.

Publication or acceptance for publication in no way supersedes or otherwise influences the responsibility of the thesis examining committee to evaluate the thesis during the examination process and to recommend or require changes.

The body of an article-based thesis must contain the following chapters:

- Introductory chapter to the entire thesis
- A comprehensive review of the relevant literature, according to disciplinary norms. This may be omitted only if the integrated articles themselves provide a comprehensive literature review, which is normally not the case in journal and conference articles.
- Middle chapters, which may be articles, supporting material, or a combination.
- Final chapter that links the separate studies together and to the relevant discipline or field of study.

Articles that are integrated in the thesis must be reformatted such that the style of the whole thesis is consistent with these guidelines.

See subsection 2.5.6, subsection 2.5.13, and subsection 3.1.4 for other requirements specific to the article-based format.

2.3 Length of the thesis

Theses vary widely in length. Candidates should consult their supervisors to identify any length-related expectations.

2.4 Inclusion of copyrighted material

The Copyright Act includes a “fair dealing” provision that allows reproduction of copyrighted material in some circumstances, for example, quotation for scholarly purposes where properly attributed.

In some cases, including reproduction of the student’s own works that have been published in a venue that required assignment of copyright, explicit permission from the copyright holder may be required.

Where a significant amount of the student’s work that has been published or submitted for publication is reproduced in the thesis, a note identifying the publication venue must be included.

See the Canadian Association of University Teachers’ *CAUT Guidelines for the Use of Copyrighted Material*¹ for further guidance.

2.5 Detailed requirements for thesis divisions

The following sections provide guidance regarding the contents of the major divisions of the thesis. Each major division must start on a new page.

¹<http://www.caut.ca>

2.5.1 Title Page

An example title page for a thesis written in English is shown in Figure 2.1. All elements illustrated in the figure must be present as shown, excepting only subtitles and suffixes following the author's name, both of which are optional. Civilian candidates should not include a rank.

Both English and French titles must be provided. For a thesis written in English, the title is shown in English first, then in French. The order is reversed for a thesis written in French.

The author's full name should be displayed with all given names spelled out. As a minimum, the usual given name and the family name must be spelled out with any other given names reported as initials only. Nicknames must not be included.

The name of the degree must be indicated in full, as it appears in the current Graduate Studies Calendar. "Doctor of Philosophy" (without a field of study stated) is the degree name for all doctoral candidates.

The date of the thesis is determined by the month in which the final version of the thesis is submitted for archiving. Only the month and the year are shown on the title page.

2.5.2 Statement of Ethics Approval

Where research involving human subjects has been conducted as part of the thesis work, the first page of the thesis must state: "The research involving human subjects that is reported in this thesis was conducted with the approval of the Royal Military College of Canada General Research Ethics Board."

2.5.3 Dedication

The thesis may include a dedication page, which must have no heading. The dedication text must be brief.

2.5.4 Acknowledgments

The thesis may include an acknowledgments page, starting with the heading "Acknowledgements", which consists of a statement of appreciation or recognition of special assistance. The number of people acknowledged should be kept to a minimum. The text must not contain any inappropriate comments.

2.5. Detailed requirements for thesis divisions



Figure 2.1: An example English title page.

2.5.5 Abstract and Résumé

The thesis must include an abstract, starting with the heading “Abstract”. The abstract should consist of a statement of the thesis research problem, a brief description of the research and methodology, a condensed summary of the findings, a brief discussion of the results and a short sentence on the main conclusions. The abstract must not include mathematical formulas, diagrams, figures or references.

For theses written in English, the abstract is immediately followed by a French translation of it, under the heading “Résumé”. For theses written in French, the résumé page precedes the abstract page.

2.5.6 Co-Authorship Statement

Where a thesis in article-based format contains papers co-authored by the candidate and others, the thesis must state explicitly the contribution of the candidate to those papers. The supervisor(s) must certify the accuracy of any co-authorship statement during the examination.

2.5.7 Table of Contents

The table of contents must list all divisions and subdivisions of the thesis, including the appendices, but excluding the title page, the dedication page, and the table of contents itself. It must start with the heading “Table of Contents” or “Contents”. The headings of divisions, parts, sections, chapters, and their principal subdivisions must be worded exactly as they appear in the thesis.

2.5.8 List of Tables

If the thesis contains tables, the thesis must include a list of tables, which starts with the heading “List of Tables”. The list of tables must contain exactly the same numbers as appear above the tables in the text and in the appendices, as well as the number of the page on which each table appears. For each table, either the exact caption from the text or a shortened version must appear in the list of figures.

2.5.9 List of Figures

If the thesis contains figures, the thesis must include a list of figures, which starts with the heading “List of Figures”. It must contain exactly the same numbers as appear below the figures in the text and in the appendices, as well as the number of the page on which each figure appears. For each figure, either the exact caption from the text or a shortened version must appear in the list of figures.

2.5.10 Other lists and the Glossary

A thesis containing a significant number of symbols must include a nomenclature (list of symbols). A thesis containing a significant number of abbreviations or acronyms must include a list of abbreviations and acronyms. A thesis containing significant non-standard vocabulary must include a glossary. The symbols, abbreviations, acronyms or words defined in these lists must be presented in alphabetical order. For symbols, the order should be lower-case symbols, upper-case symbols, Greek symbols, symbols from other languages, subscripts, and superscripts.

These lists must start with the appropriate heading, similar to the list of figures. Each list must be presented in two columns. The first column should be just wide enough to include the longest word, abbreviation, acronym, or symbol to be defined. The second column must occupy the rest of the text width and must present the definition or explanatory text. A gap of at least 6 mm should be left between the columns.

2.5.11 Preface

The thesis may include a preface section, which starts with the heading “Preface”. The material contained in such a section is generally information that the author wants to convey to the reader before he or she reads the thesis.

2.5.12 Body of the Thesis

See section 2.2 for the required content of the thesis body. Each chapter of the body must begin on new page and should start with the chapter number, followed by the chapter title, e.g., “1 Introduction”.

2.5.13 List of References or Bibliography

In both traditional and article-based theses, all references cited in the text or in the appendices must appear in a single, consolidated list of references or bibliography presented after the last chapter of the thesis and before the appendices. The list of references or bibliography must start with the appropriate heading.

2.5.14 Appendices

Appendices may be included as required to provide supplemental material. The appendices may be separated from the preceding material by a cover sheet with a heading “Appendices” (or “Appendix” if there is only one). Each appendix must

2.5. Detailed requirements for thesis divisions

begin on a new page, with the heading “Appendix” (or “Appendix A”, “Appendix B”, etc., if there are multiple appendices).

3 Format of the thesis

3.1 Conventions of style

Students should follow a standard manual of style appropriate to the field of study. Where the manual of style conflicts with this guide, this guide takes precedence.

3.1.1 Thesis title

The title must spell out acronyms, abbreviations, and symbols, such as United Nations for U.N. An exception to this rule is when an acronym is a trademark, e.g., CANDU.

3.1.2 Spelling and punctuation

English language theses must use one of Canadian, British, or American spelling and punctuation. French language theses must use one of Canadian French or French spelling and punctuation. One form only must be used consistently throughout the thesis.

3.1.3 Chapter and section numbering

For all levels of titles and headings, numbering or lettering and placement must be consistent throughout the thesis.

3.1.4 Reference citation and List of References or Bibliography

References must be cited in a consistent scholarly style appropriate to the field of study. Similarly, bibliographic information must be presented in the list of references or bibliography in a consistent scholarly style appropriate to the field of study.

3.1.5 Notes

Notes must conform to a scholarly style appropriate to the field of study. Notes may be placed either at the bottom of the page (footnotes) or at the end of the thesis, before the bibliography (endnotes).

3.1.6 Measurement units

Units used in the thesis must be consistent with standard practice in the field of study. The International System of Units (SI) must always be used when this is practical. Where there is a special reason for using a non-SI unit, the non-SI unit must be defined in terms of SI units at first use or in the glossary.

Units must be formatted in accordance with section 5.1 of the *SI Brochure*¹ published by the Bureau International des Poids et Mesures.

3.2 Page layout and typography

3.2.1 Page size and margins

The thesis must be formatted for standard US Letter sized paper, which is approximately 216 mm wide by 279 mm high.

All pages containing body text must have the same margins and:

- the top, bottom, left and right margins must be between 32 mm and 43 mm, with 43 mm margins preferred;
- the left and right margins must be the same width;
- all body text, figures, tables, and other illustrative materials must be contained within the margins.

Pages containing only figures, tables and illustrative materials may have different margins as appropriate, at least 15 mm in width.

Running heads, page numbers and other supplementary elements may be placed in the margins but must be at least 15 mm from the edges of the page.

3.2.2 Fonts

The main body text must be set at 11 points, with type no smaller than 9 points permitted for captions, footnotes, graphs, and figures. Condensed type must not be used.

¹<http://www.bipm.org/en/publications/si-brochure/>

A serif, proportionally spaced typeface such as Times should be used for the main text. Mono-spaced typefaces must not be used for the main text; however, they may be used to set computer code.

Major division and chapter titles, section and subsection headings, and figure and table captions should stand out clearly and may be in a different type style and size from the main text.

The style of font used for the text and for each level of titles and headings must be consistent throughout the thesis.

3.2.3 Line spacing and justification

The thesis must be single-spaced throughout, with main body text lines separated by not more than 13 points, measured baseline to baseline (i.e., 13-point leading). A similar ratio of type height to line separation must be maintained for smaller type. In most word processing systems, default single-spacing will meet this requirement.

There must be a blank line between individual entries of the list of references or bibliography.

All text lines in the body of the thesis must be either left aligned or fully justified, with a consistent alignment used throughout. The dedication (see subsection 2.5.3) should be centred.

Figure and table captions and chapter, section and subsection headings may be centred.

3.3 Page numbering

With the exception of the title page, each page in the thesis must be numbered consecutively. The title page is assigned number “i”, although the number is not printed on that page. The pages of preliminary material (from the dedication through the preface, if present) must be numbered with small Roman numerals (ii, iii, etc.). The remainder of the thesis, starting with the first page of the first chapter as page 1, must be numbered with Arabic numerals (1, 2, 3).

3.4 Security classification markings

In the event that the thesis is classified, the appropriate security classification markings must be displayed on the cover and in the body of the thesis in accordance with current security directives.

3.5 Figures and tables

3.5.1 Figure and table captions

Each figure and table must have a caption that begins with the word “Figure” or “Table”, capitalized, and the figure or table number, followed by a brief description.

Figure captions go below figures; table captions go above tables. One blank line must separate the caption from the figure or table.

3.5.2 Figure and table numbering

Each figure, including those in appendices, must have a unique number, as must each table. The series of numbers for figures and tables must be separate. The numbers for both figures and tables must appear in consecutive order in the thesis and must be presented in Arabic numerals.

Either consecutive numbers (e.g., Table 42) or composite numbers in which the first numeral refers to the chapter (e.g., Table 3.5) should be used.

3.5.3 Figure and table placement and orientation

Figures and tables should be inserted as close as possible to the relevant text, but not before the first reference to the figure or table in the text.

Figures and tables should be presented in the same orientation as the text wherever possible. Figures and tables that are wider than they are tall may be presented in landscape orientation with the bottom of the figure or table facing the right of the page.

3.5.4 Oversized figures and tables

Figures or tables that cannot be made legible on the standard page size may be formatted for oversized sheets. See subsection 4.2.6 for information regarding paper copies of oversized material.

Tables that are too long to fit on a single page should be divided and continued on the following pages.

4 Electronic and printed versions

4.1 Electronic version

The electronic version of the thesis must be a single Adobe Portable Document Format (PDF) file. The file must be compatible with Adobe Acrobat version 5.0 or higher. PDF files generated from Microsoft Office, PDFLaTeX or XeLaTeX will normally be acceptable provided the output is a single file. If the output is split across multiple files, these must be combined for submission.

Supplementary material such as video or audio recordings, computer source code, etc. may be provided as files separate from the main document. Under current policies these will not form part of the permanent record maintained by Library and Archives Canada.

4.2 Printed version

4.2.1 Paper

Examination copies and final copies for binding must be printed on standard US Letter sized white paper. One type and quality of paper must be used throughout the document, except that colour figures may be on different paper if necessary (see subsection 4.2.5).

4.2.2 Examination copies

Any paper copies provided to examiners must be printed single-sided to allow space for comments on the blank page backs.

4.2.3 Final copies

Final copies for binding must be printed on paper sufficiently thick to be opaque. They should be printed double-sided but may be printed single-sided. A good quality

acid-free paper with 25% cotton content or more (“high-rag paper”) should be used.

4.2.4 Print quality

The thesis text must be printed in solid black characters that are consistently clear, dense and without shadows. A laser printer will normally provide acceptable print quality.

4.2.5 Colour figures

Colour figures should be produced directly on appropriate paper meeting the page size requirement. Alternatively, they may be mounted on thick paper of appropriate size using dry mount tissue.

4.2.6 Oversized pages and supplementary material

If material larger than the standard size must be used, it must be carefully folded into the document or placed in a pocket attached to the inside back cover of the thesis. Folds must be at least 15 mm from the edges of the standard paper to allow for trimming by the binder. There should be as few folds as possible.

Oversized material that is not inserted into the document, and supplementary material that is not printed such as computer media, transparencies, slides, etc., must be inserted into pockets attached to the inside back cover of the thesis. Since this material may become separated from the thesis, all materials must be sealed in an envelope marked with the candidate’s full name and the title of the thesis, and must be submitted with the thesis. There must be one envelope with full contents for each printed copy of the thesis.

Supplementary electronic media must include both electronic and physical labels that list the thesis title, author, institution, and date. A description of any electronic supplementary material, including file names, formats, and a brief description of the contents, should be included as an appendix of the thesis and as a “read-me” file on the electronic media itself.

4.2.7 Multi-volume theses

A thesis longer than 400 pages must be bound in two or more volumes, each of not more than 400 pages. Each volume must have its own title page and table of contents. Other preliminary pages are found in volume I only. Page numbering must follow consecutively from one volume to the next. The separation between volumes must be at the end of a major division. The title pages for all volumes must

be identical, except for the mention “Volume I”, “Volume II”, etc., just below the title. Title pages of volume II and subsequent volumes are neither numbered nor counted.

A Program-specific Requirements

A.1 Mechanical and Aerospace Engineering

A PhD thesis in programmes in Mechanical and Aerospace Engineering must include a section entitled “Statement of Contributions” immediately after the Abstract and Resumé. This section must clearly and explicitly state the contributions of the thesis to new and original scientific knowledge and/or engineering innovation. Each significant contribution should have its own sub-heading.