Guide for the Preparation of Master's and Doctoral Theses

McMaster University

School of Graduate Studies

Hamilton, Ontario

Canada

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General Requirements

1.1 Introduction

A Ph.D. student may prepare and defend either a **standard thesis** (see sections 1.2 and 2.0) or a **"sandwich" thesis** (see sections 1.3 and 5.0) at oral examination (also known as the 'thesis defence'). Normally, a Master's student may submit only a standard thesis (see sections 2.0 and 5.2). Each department or program offering graduate work is wholly responsible for setting up oral examinations for Master's candidates (see Sections 6.1 and 6.2). The School of Graduate Studies is wholly responsible for arranging all Ph.D. oral examinations (see Sections 6.3, 6.4, and Appendix 1). **If after reading the material in the guide, you have any questions, please contact an Academic Services Officer in the School of Graduate Studies at gthesis@mcmaster.ca**.

1.2 Criteria for Acceptance of Standard Master's and Ph.D. Theses for Thesis Defence

A thesis is a coherent document that provides a complete and systematic account of the research work accomplished by the writer. The criteria for acceptance are listed in detail later in this guide, but in general, the requirements are summarized as follows:

a) Before submitting for defence, the text and accompanying illustrative material or multimedia must be clear and error-free and, where written using Canadian English and grammar; the student is advised to use a spell and/or grammar checker. Normally, the text of the Ph.D. thesis must not exceed 300 pages double spaced; a Master's thesis must not exceed 200 pages double spaced, but further information about a Master's thesis will be supplied by the student's department or Graduate Program.

b) Normally, only an electronic (PDF) version of the thesis is acceptable for submission for thesis defence. The word-processing program, format or multimedia used by the student will be one that is mutually agreed between the student and the Supervisory Committee. The arrangement and numbering of each page must be within the specified margins (see section 2.2). However, it may be necessary to provide an editable version of the thesis to accommodate the wishes of an internal or External Examiner. Consequently, the **student should be prepared to supply an editable version of the thesis to the School of Graduate Studies before the defence (see Appendix 1).** The student is permitted to include comments regarding the impact of COVID restrictions on the research plan. This should be included in the preliminary pages and no longer than 300 words.

c) After a successful defence and after the corrections have been made and approved, the student is responsible for making sure that the final electronic thesis is correctly prepared (i.e., page numbering of the preliminary pages, order of sections, chapters, etc.) before converting the document to a PDF

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file or approved multimedia format and then uploading the file to MacSphere. No changes will be permitted once the final thesis is approved and posted to MacSphere.

1.3   Criteria for Acceptance of a Sandwich Thesis (Containing Previously Published/Prepared Material) for Defence

It is increasingly common in many disciplines, especially at the doctoral level, to present for defence a thesis which consists in part of previously published peer-reviewed scholarly works (or submitted for peer review). If some of the research undertaken expressly for the degree has been previously published or prepared for publication as one or more journal articles, or parts of books, then electronic files of these published, 'in press' or 'submitted for publication' items may be included *verbatim* within the thesis; the thesis is then termed a 'sandwich' thesis. **In addition to the criteria in 1.2, certain important conditions need to be followed when preparing a sandwich thesis, as described in Section 5.**

1.4   Plagiarism Checking Software

As part of the review of a thesis, students will be required to submit their thesis using the university's designated plagiarism checking software meant for research documents that is available in Avenue to Learn through the Supervisor's account. Theses must be checked before they are publicly released, which for doctoral students corresponds to a time prior to it being sent to an External Examiner and for Master's students correspond to a time prior to its submission to MacSphere. Details on how to submit documents are available on the SGS website: https://gs.mcmaster.ca/student-guide-to-using-ouriginal-urkund-plagiarism-checking-software/.

Preparation of the Standard Master's and Ph.D. Thesis

2.1   The Electronic Thesis for Oral Defence

The **Master's thesis** which has been prepared for defence must be emailed by the student as an electronic file to those members of the Supervisory Committee who will act as examiners and to the Chair of the defence. The Master's student can obtain information about their thesis defence (i.e. the date, time, and venue; the names of the examiners) from the Graduate Coordinator or Graduate Administrator in the department or Graduate Program in which they are registered.

The **Ph.D. thesis** for defence must be emailed by the student to **all** Supervisory Committee members prior to initiating the thesis defence in Mosaic. Supervisors and Committee members will be attesting to the readiness of the thesis and student for the defence. In addition, the Ph.D. student should be prepared to provide an editable version of the thesis, if requested by committee members, which may include a Word document or similar word processing file format.

2.2 The Text of the Thesis

2.2.1 General

The thesis must be typed in either 10- or 12-point font. There are two types of fonts: proportional and fixed (typewriter style) and different space values for each character in a proportional font. Arial and Times New Roman are examples of proportional fonts. If you are using a proportional font for your thesis, you must use a 12-point font. A fixed font has the same value for each character, and an example of this is Courier. If a fixed font is used, the smallest you can use is 10 point (10 characters per inch). **The student is encouraged to select a font that is easy for the Examiner to read.**

The text may be single or double spaced; footnotes and long quotations should be single spaced. Word program such as WordPerfect, LaTeX and MS Word are automatically set to create footnotes in the correct format. The entire thesis must be in the same typeface and font and easy to read on screen.

The student is urged to find a text processing program which includes unusual symbols or characters should they be necessary. Characters that are not readily available (e.g., unique symbols) may need to be created in an electronic format which can be readily downloadable from a PDF file by future readers.

2.2.2 Header

All pages of the thesis, beginning with the Introductory chapter (or Chapter 1), must have header information containing the degree program, the author's name, McMaster University, and the department, e.g.

Ph.D. Thesis - J. Smith; McMaster University - Mechanical Engineering.

The word processing program should automatically insert headers at the top of each page. The purpose of the header information is to provide identification if people subsequently print or photocopy sections of the thesis.

2.2.3 Pagination

All pages are to be numbered EXCEPT the half title page, which is disregarded in the pagination, and the title page, on which the number (i) is implied but not written. The remaining pages of the preliminaries should be numbered with lower-case Roman numerals (ii, iii, iv, etc.) placed in the centre at the bottom of the page, approximately 2 cm from the bottom edge of the paper. **Page numbers should be in a consistent location on each page**.

All pages of the thesis, beginning with the Introduction or Chapter 1, must be numbered with Arabic numerals (1, 2, 3 and so on). This includes pages with tables, illustrations, diagrams, bibliographies, and appendices.

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2.2.4　Non-Text Format and Multimedia

Maps, diagrams, figures and tables may be drawn or prepared using a black font colour. The finished drawing should be scanned into an electronic format which can be incorporated into the text of the thesis using the word-processing program. Similarly, photographs should be scanned or converted into an electronic format which is suitable for including in the word-processing program.

Illustrations must be dark enough to view online and have standard margins on all sides. Pages wider than 8.5" x 11" should be photo-reduced provided the material is still readable.

Photographs should be originals, not photocopies. Students should consult McMaster Printing Services for page-reduction advice. *Oversized pages* (charts, graphs, maps, tables, etc.) should be carefully folded into the thesis and should ideally not extend the full width of the standard page.

2.2.5　Abbreviations and Symbols

Abbreviations and symbols must be those that are generally accepted in the field of study, must be defined in a list of Abbreviations and Symbols at the start of the thesis (see section 3.1.j below), and must be used consistently throughout the thesis.

Sequence of Parts of the Thesis

A standard graduate thesis consists of the following parts, and is arranged in this order:

3.1　The Preliminary Pages

The following preliminary pages will precede the main text: The Half Title Page; Title Page; Descriptive Note (page ii); Abstract; Acknowledgements; Table of Contents; List of Illustrations, Charts, Diagrams; List of Tables; List of Abbreviations and Symbols, Declaration of Academic Achievement. Preliminary pages from (c) onwards will be numbered using Roman numerals.

a)　*Half Title Page*

The length should not exceed sixty (60) characters (including Spaces). This page must **not** be numbered. **See Example 1 for the required format.**

b)　*Title Page*

All text on the title page must be centred between the margins. The top and left margins should be 3.8 cm (1.5 inches) and the right and bottom margins should be 2.5 cm (1.0 inch). The copyright line should be placed

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as the last line of the page. This page must not be numbered. **See [Example 2](#) for the required format.**

c)   *Descriptive Note*

This page lists degree and year; department; university name and location; full title in lower case; full name of author followed by degrees previously conferred; supervisor; and number of pages, counted separately for the preliminary pages and the text. This page must be numbered 'ii'. **See [Example 3](#) for the required format.**

d)   *Lay Abstract*

A lay abstract of not more 150 words must be included explaining the key goals and contributions of the thesis in lay terms that is accessible to the general public. This page must be numbered 'iii'.

e)   *Abstract*

An abstract of not more than 300 words must be included and indicates the major emphasis of the thesis, new discoveries, and its contribution to knowledge. The style of abstract varies from discipline to discipline but the student should follow an appropriate style. This page must be numbered 'iv'.

f)   *Multimedia Abstract* (Audio, video, animation)

Students may include a 3-minute audio or video clip describing their thesis, which will be linked to their thesis on MacSphere. Such multimedia abstracts must be approved by the Supervisory Committee. This is not a requirement and is at the discretion of the student in consultation with the Supervisory Committee.

g)   *Acknowledgements*

An expression of thanks for assistance given by the Supervisor of research and by others should be either set forth on a separate page or incorporated into the Preface (if there is one). These and all subsequent preliminary pages listed under (f), (g) and (h) must be numbered in lower case Roman numerals, i.e., 'iv', 'v', 'vi' etc.

h)   *Table of Contents*

Must include the titles of all section or chapter headings and subheadings with their respective page numbers and must be numbered in lower case Roman numerals continuous after (e).

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i) *Lists of Figures and Tables*

Must include the titles and page numbers; must be numbered in lower case Roman numerals continuous after (f).

j) *List of all Abbreviations and Symbols*

Must include with their appropriate definitions; must be numbered in lower case Roman numerals continuous after (g).

k) *Declaration of Academic Achievement*

The student will declare his/her research contribution and, as appropriate, those of colleagues or other contributors to the contents of the thesis.

NOTE: The Preliminary pages described above will also precede the main text of a 'sandwich' thesis.

3.2   Text, References and Footnotes

The text of the standard graduate thesis consists of the 'Introduction' section or chapter, followed by several well-defined sections or chapters which contain the research results, finishing with a Conclusion and Discussion section or chapter, or a summary statement of the results of the investigation.

The List of References section (or bibliography) follows the text, and this section is followed by any appendices. **See Example 4 for the recommended format of the bibliography for different disciplines.**

Regarding the style of writing, it is common practice to adopt the style (e.g., phraseology, nomenclature, abbreviations) practiced within the field of study. For more advice, the student may wish to be advised by the guidelines presented in A Manual for Writers of Term Papers, Theses and Dissertations (Kate L. Turabian, 8th edition, published 2013). These guidelines provide alternative formats to accommodate the practice in different disciplines but, once chosen, the format must be adhered to consistently.

Footnotes should be numbered (as necessary) and placed at the foot of the page or, with less convenience to the reader, at the end of the chapter or section, or at the end of the thesis. If footnotes are collected in one place, their location must be shown in the table of contents by title and page. Most word programs, by default, place footnotes at the end of each page and assign them consecutive numbers (see Turabian, Ch. 13, Section 13.17).

Students should contact their department for any departmental specifications for the preparation of a Master's thesis. Students can also review submissions in MacSphere for samples by field of study:
https://macsphere.mcmaster.ca/handle/11375/271

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Citations and References

4.1   Citing Published Articles within the Text

In the basic and applied sciences, referencing within the text must follow a **consistent system** which **normally** gives the surname of the author(s) followed by the year of publication (see Turabian, Chapter 10). The <u>Thesis Writer's Handbook</u> by Miller & Taylor (1987) may also be consulted for instructions and examples of MLA and APA document styles (also see the section on Electronic References below).

Note: Citing Master's and Ph.D. theses written by others fall into this category. Theses are publications that are available (either via the internet or through interlibrary loans, or through Library and Archives Canada) and should be cited as publications.

4.2   Citing Unpublished Articles by the Student within the Text

In respect of articles not yet published in the literature, the term *"to be published"* is <u>not</u> to be used, since a more precise term is desirable both for bibliographic accuracy and for information as to the status of the material. Either of the following wordings must be used, as appropriate:

a) *Accepted for publication in the [Name of Journal].* (If the issue in which the article will appear is known, it should be cited.) If the issue is not known, the date of acceptance should be stated immediately after the word accepted.

b) *Submitted [Date] to [Name of Journal].*

Note: The author of a thesis could alternatively treat an item in section 4.2 (b) as a 'private communication' (see section 4.3), but if there seems good cause to suppose the submitted article will be accepted, it may be of more value to mention the likely journal of publication.

4.3   Citing Other Unpublished Information or Articles within the Text

This category includes anything other than published accepted or submitted items. It could include material that is in draft prior to submission, internal reports that are not available through the internet or in standard reference library lists, and personal letters and oral communications. In the case of a letter or a report, a reference could read e.g.:

Private Communication from Dr. John Doe: Dept. of Gastronomy, McMaster University, Report No. 10/70.

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4.4   Electronic References

The following are recommended website links which provide information on how to cite electronic references:

APA Style Guide: https://libguides.mcmaster.ca/c.php?g=701989&p=4988677

Chicago Manual of Syle : https://www.chicagomanualofstyle.org/home.html

MLA Style Guide: https://libguides.mcmaster.ca/MLA

Preparation of the "Sandwich" Thesis

Some of the research undertaken by the student may have previously been published or prepared as one or more journal articles, or chapters of books; these items may be included within the thesis subject to the following regulations and to obtaining permission from the supervisory committee. A thesis consisting of peer-reviewed scholarly works (e.g., journal articles), whether previously published, submitted for peer-review, or prepared for publication but not yet submitted, is often referred to as a **"sandwich" thesis**. A **minimum of three publishable manuscripts in a doctoral thesis or two publishable manuscripts in a master's thesis** must be included within the sandwich thesis; **normally, at least one** of these must be published or 'in press' at the time the thesis is submitted for defence. The following points pertain specifically to the sandwich thesis:

5.1   The sandwich thesis must be a coherent presentation of the candidate's research work which includes an introductory chapter (normally 'Chapter 1') that outlines the general theme and the objectives, and a final chapter of conclusions that draws out the overall implications of the research. The introductory and concluding chapters need to be substantial in content, depth, and length, not paper thin. In addition to setting the overall context, and identifying how the several papers relate to each other, it would be valuable if the introduction could also warn a reader of any overlap in the article chapters, such as in the literature reviews or the methods section of each article. Likewise, the concluding chapter should show clearly how the preceding chapters form a coherent substantial body of work and how significantly this body of work advances our knowledge. The different chapters (or sections) which include the published or prepared articles must contribute to the general theme of the thesis. Repetition of material that appears in more than one journal article (e.g., introduction, background, methodology) should be avoided. **The author of the thesis shall normally be the main contributor to these published or prepared articles.**

5.2   The Preliminary pages (see section 3.1) for the sandwich thesis are similar to those of a standard thesis. However, the Preliminary pages of a sandwich thesis must include a preface that clearly documents the student's (and the other authors') contributions to each multi-authored work and when the work was

conducted. The student must justify why his/her original contributions should be included in the main body of the thesis.

5.3 There must be a written introduction **preceding each published (or 'in press' or submitted) scholarly work** which sets the context and draws out the overall implications of the work. The metaphor, 'sandwich thesis', implies that the 'meat' is in each of the scholarly works, but it is also important that there is 'bread' to hold the sandwich together.

5.4 For any chapter of the sandwich thesis that includes a **published scholarly work**, the student may choose to either incorporate **an electronic version of the published reprint** (with pages renumbered to fit in with the pagination of the thesis; see item 5.10 below), or **an electronic version of the published work** (e.g., the MS Word document) that complements the first (Introductory) and last (Discussion and Summary) chapters of the sandwich thesis in respect of font type and size, margins, and overall style.

5.5 In addition to the written text, which may include diagrams, figures and tables, the student may also include film or sound files with the electronic thesis. It will be the student's responsibility to ensure that all electronic files supplied to an External Examiner are in formats that the examiner may access easily. In the event an internal or an External Examiner prefers to assess an editable version of the thesis, the student will provide an editable copy of the sandwich thesis to the Academic Services Officer prior to the thesis defence. The text of the editable version of the thesis must be the same as that of the submitted electronic copy.

5.6 Written permission to include copyright material in a thesis must be obtained by the student from the copyright holder. **This permission must also include a grant of an irrevocable, non-exclusive license to McMaster University and to Library and Archives Canada to reproduce the material as part of the thesis.** While these licenses should normally be obtained at no cost, any payment which might be required by the rights holder is the exclusive responsibility of the student. If the scholarly work has been published in an academic journal, copyright will normally have been assigned to the publisher of the journal. If the material has been published in another format (e.g., as part of a book, or as a technical report, etc.) the copyright may not have been assigned to the publisher, but rather licensed by the author(s) for a specific purpose. The exact status of the rights attaching to the material must be determined. If the material has been co-authored, the status of the rights of each co-author in the work must be determined. The candidate must secure from any co-author of a published work a written waiver of all rights in favour of McMaster University and Library and Archives Canada to permit publication of the thesis. In addition, written permission must be obtained from any co-author who retains copyright or the person to whom the co-author has assigned copyright, by way of a grant of an irrevocable non-

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exclusive license to McMaster University and to Library and Archives Canada, to reproduce material generated by the co-author as part of the thesis. The thesis should indicate that scholarly works have been printed either "with permission" or "under license" (either by a statement in the preface or on the first page of each article). **Electronic copies of the letters of permission or licenses should be submitted to the School of Graduate Studies prior to the defence. See [Appendix 2](#) for an example of a Letter of Permission.**

5.7 For unpublished work (e.g., a paper that has been submitted for publication in a peer-reviewed journal but not yet published), a statement concerning the status of any dealing or contemplated dealing with the copyright or the auspices under which the work was prepared must be on the first page of the separately prepared, unpublished work. If copyright has already been legally assigned, written permission, as described in item 5.7 above, must be obtained.

5.8 For each published scholarly work, a complete citation, including first and last page number in the journal publication (or the Digital Object Identifier (DOI) number) and recognition of the copyright holder must be written on the first page of the chapter.

5.9 The previously published or prepared scholarly works must be assigned page numbers that are sequential within the thesis. To avoid confusion, it is essential to remove the original journal page numbers; this information will be included in the citation given on the first page of the chapter.

5.10 Journal articles typically contain many more words per page than a page of a thesis. Such articles must be prorated to assess their acceptability within the maximum-allowed 300-page length of the thesis.

5.11 A list of references is included in most journal articles or manuscripts that are included in a sandwich thesis. References should remain self-contained within each article, as they appear in the original published document. Frequently, this may appear as a serial number, often a superscript incorporated appropriately within the text, which relates to a non-alphabetic bibliography at the end of the article (or chapter; see for example Turabian 10.33). It is acceptable that, because journal articles from more than one journal may be included, more the one referencing styles will also be included within the sandwich thesis. References for the new material in the thesis, e.g., the first and last chapters, should be listed in the main reference list at the end of the thesis as in the standard thesis (see [section 3.2](#)). A reference in one or more of the reproduced articles or manuscripts should only be included in the main reference list if it is also cited in the new material.

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Finally, after a successful defence and all changes and corrections have been completed to the satisfaction of the Supervisor (or Examination Committee as necessary), the student will upload the sandwich thesis (including all associated approved files) as a PDF file to MacSphere as described for the standard thesis (see section 6.4).

a. For all co-authored articles that are part of the body of thesis, the **contribution of the student to each of the articles** must also be outlined in the preface to the thesis. The aim of this procedure is to ensure that only co-authored papers to which the student has made a significant original contribution are included in the thesis. The author of the thesis shall normally be the main contributor to these co-authored articles.

b. It is permissible to include electronic articles as they appear in an online journal; however, the Associate Vice-President and Dean of Graduate Studies, on a recommendation from the Examining Committee, may require that the published articles be reproduced as the final word processing file submitted for publication and in a form described in section 2.2. Illegible captions due to small fonts, miniaturized figures or tables, and irregular margins are among the reasons for insisting on incorporating the word processing file rather than reproducing the electronic reprint into the electronic thesis.

c. If copies of previously published material are presented in the thesis, the material must indicate the names and order of the co-authors exactly as published, and the relative contribution of each author. The name of the journal and other publication information (date, volume, pages and so forth) must also be included. All the required information must be presented at the beginning of the chapter or section of the thesis that reproduces the previously published material. The objective of this requirement and of requirements (b) and (c) is to assure examiners that there has been full disclosure of collaborative activity. It is the student's responsibility to obtain the copyright to include previously published material in the thesis.

Submission of the Thesis: Before and After the Defence

6.1   Submission of a Master's Thesis prior to Defence

To meet the requirements for a Master's degree, the thesis must be submitted by the student to the Graduate Administrator of the department (or Graduate program) prior to the defence by email no later than the date specified in the 'Sessional Dates' section of the School of Graduate Studies Calendar for the degree to be recognized at the appropriate convocation.

6.2   Submission of a Completed Master's Thesis after a Successful Defence

After a successful defence, the Chair of the Examination Committee will inform the student in general terms of the changes to the thesis which are required by the examiners. Usually, the Supervisor will be asked by the Chair of the Examination Committee to supervise these changes. In addition, the Chair of the

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Examination Committee will give to the student a form [entitled: 'Final Thesis Submission Sheet'] which will be initialed by the Chair to indicate whether the Examination Committee have decided whether minor changes are required to the thesis or not. This form will be given to the student to hand to the supervisor when all changes have been made. The form must be signed by the Supervisor when all changes have been approved. When the Supervisor has signed the form, the student will prepare a PDF version and upload the final thesis to MacSphere**.** The signed Final Thesis Submission Sheet should be sent to the Graduate Administrator for the program so that it can be submitted via Service Request. Evidence that plagiarism checking was done prior to submission shall be included on the form. **It is the student's responsibility to ensure that all pages of the final thesis are complete and placed correctly before uploading to MacSphere. No changes will be permitted once the final thesis is posted.**

The student should submit their final thesis after defence no later than the date specified in the 'Sessional Dates' given in the School of Graduate Studies Calendar for the appropriate convocation.

6.3   Submission of a Ph.D. Thesis prior to Defence

Having emailed a copy of the thesis to all members of the Supervisory Committee, the student will access the 'Student Centre' portal in Mosaic to initiate the defence process online. Using the SGS automated system, the Supervisor will be asked if they want to follow the Standard or Accelerated defence stream.

In the Standard stream, the Supervisor will nominate at least three potential External Examiners who will be approved by the Department Chair as being arm's length. Once approved, the student, in consultation with the Supervisor and Supervisory Committee members, will provide a preferred date and time for the defence and upload the thesis. The Supervisory Committee members will approve the chosen date in the system attest to the readiness of the thesis and student for defence. Once complete, the Academic Services Officer will recruit from the approved list. If the External Examiner can evaluate the written thesis but is unable to attend the thesis defence, the Academic Services Officer will discuss with the Supervisor an appropriate Internal Examiner from the university community to represent their interests at the defence.

In the Accelerated stream, the Supervisor will discuss potential External Examiners with the Supervisory Committee members and then reach out directly to the preferred arm's length External Examiner to check their availability. The Supervisor will be responsible for ensuring the External Examiner agrees to read the thesis and participate in the defence. Once the External Examiner is confirmed, the information should be entered in the system and approved formally by the Supervisory Committee and Department Chair, the Supervisor will select the approved External Examiner, enter the date and time for the defence, upload the student's thesis and select a Chair for the defence.

Once the initial approvals are complete, the External Examiner will be emailed a link to the online report form, including a link to the thesis, that must be completed at least one week prior to the defence date. If the External Examiner has not submitted the report one week prior, the student will be notified of the late report and must confirm in writing that they want to proceed with the defence date. If the report is not received 48 hours prior

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to the defence, the Academic Services Officer will notify the Examining Committee that the defence will be postponed, and a new defence date will be selected.

6.4   Submission of a Completed Ph.D. Thesis after a Successful Defence

After a successful Oral Defence, the Examination Committee may ask for changes to the written thesis. The Chair of the Examination Committee will give to the student a form [entitled: 'Final Thesis Submission Sheet'] which will be initialed by the Chair to indicate whether or not the Examination Committee has decided that minor changes should be made to the thesis before it is uploaded to MacSphere (a decision which is made by the Examination Committee).

If they decide that minor changes are necessary, then the Chair will ask only the Supervisor to oversee the changes by the student. There will be no requirement for the revised thesis to be sent to all Supervisory Committee members for further comment.

When the student's Supervisor is satisfied that all changes have been made correctly, the Supervisor will sign the "Final Thesis Submission Form". On the form, there is a question asking whether the final thesis should be posted immediately on MacSphere or if there should be a delay in publication or embargo. This section must be signed by both the student and the Supervisor. Once all sections of the form are complete, it should be sent to the Graduate Administrator for the program along with the licence forms provided in the Chair Package. Finally, the student will upload the PDF final thesis to MacSphere. **It is the student's responsibility to ensure that all pages are complete and correctly numbered.** The student must also ensure that all components that are included in the thesis, e.g., sound or video files, are readily accessible to future readers after uploading to MacSphere. **No changes will be permitted once the thesis is posted by the Academic Services Officer.** The Graduate Administrator will submit the forms via Service Request to be approved and processed by the Academic Services Officers as part of the process to approve students to graduate. The thesis will be posted, and students will receive a confirmation email giving the official date of publication of the thesis. If the thesis is embargoed, the abstract will be available but the link to the thesis will be unavailable until the date passes. Sometime after the thesis has been uploaded, the student will automatically receive an email invitation from the Associate Vice-President and Dean of Graduate Studies to complete the online 'Ph.D. Student's Exit Survey'.

The student is encouraged to upload the final thesis after defence no later than the date specified in the Sessional Dates contained in the School of Graduate Studies Calendar for the appropriate convocation.

6.5   Binding Copies of the Final Master's or Ph.D. Thesis

As of May 1, 2011, McMaster University no longer requires that a graduate student provide the university library or the student's department, school, or Graduate program with suitably bound copies of their printed

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thesis. Furthermore, Library and Archives Canada will no longer require an unbound copy but will access the student's thesis directly via MacSphere.

Cotutelle Degrees

A cotutelle is a Ph.D. jointly awarded by two post-secondary institutions, typically from different countries. McMaster's Cotutelle Policy is available here: https://secretariat.mcmaster.ca/app/uploads/2019/06/Cotutelle-Policy.pdf

Please refer to the Requirements section, specifically 8J, 12 and 13, as they relate to your thesis and defence.

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Example 1: Half-Title Page

GOVERNOR JOHN WENTWORTH

(Note: All Capital Letters)

The length should not exceed 60-character spaces, including spaces between words.

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THE CHARACTER AND ADMINISTRATION OF GOVERNOR JOHN WENTWORTH

(Note: All Capital Letters)

By KATHLEEN STOKES, B.A.

(Note: All Capital Letters) (All previous degrees should be listed)

A Thesis Submitted to the School of Graduate Studies in Partial Fulfilment of the Requirements for

the Degree Master of Arts

McMaster University © Copyright by Kathleen Stokes, June 1992

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Example 3: Descriptive Note

McMaster University MASTER OF ARTS (1992) Hamilton, Ontario (History)

TITLE: The Character and Administration of Governor John Wentworth AUTHOR: Kathleen Stokes, B.A. (McMaster University) SUPERVISOR: Professor H.E. Duckworth NUMBER OF PAGES: vii, 212

(To follow the title page and to be numbered ii)

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Example 4: Bibliography

Achtert, Walter S., and Joseph Gibaldi. *The MLA Style Manual*. New York: Modern Language Association of America, 1985.

American Mathematical Society. *A Manual for Authors of Mathematical Papers*. 8 ed. Providence, R.I.: American Mathematical Society, 1990.

American Psychological Association. *Publication Manual of the American Psychological Association*. 6th ed. Washington, D.C.: American Psychological Association, 2009.

Becker, Howard S. *Writing for Social Scientists: How to Start and Finish Your Thesis, Book, or Article.* Chicago: University of Chicago Press, 2nd Edition, 2007.

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Day, Robert A. *How to Write and Publish a Scientific Paper*. 5th ed. Phoenix, Arizona: Oryx Press, 1998.

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Appendix 1: Conducting an Online Ph.D. Examination

PROCEDURES AND INSTRUCTIONS FOR THE EXAMINATION OF Ph.D. THESES:
Conducting the Examination Online

1. Purposes of the Examination

It is the examiners' task to determine whether the student has met the University's thesis requirement that each doctoral candidate must present and successfully defend a thesis that embodies the results of original research and mature scholarship. The examiners represent Graduate Council and through it the Senate of the University and are therefore responsible for the standard of the Ph.D. in this University.

The oral defence at McMaster University is an examination of a Ph.D. Candidate's ability to defend his/her written work. Therefore, questions having to do with the detailed content, or the general argument of the thesis are relevant, as are questions regarding the relation between the matter of the thesis and the body of knowledge to which it contributes. (The more general judgment of the candidate's proficiency in his/her discipline and particular area of specialization is presumed to have been made at the time of the comprehensive examination.)

The committee of examiners, both of the written thesis and of the oral defence, will not likely all be expert in the candidate's specialty, or even in his/her discipline. It is the particular responsibility of the external examiner and the supervisory committee to ensure that the thesis does indeed present an original and significant contribution to knowledge. Other examiners may reasonably be expected to exercise their judgment as members of the University faculty, keeping in mind the standards of excellence expected by the University of its Ph.D. graduates.

The examiners (who volunteer) are expected to judge whether the defence is satisfactory or unsatisfactory. The examiners have previously read and reported on the written thesis and they must now give their final judgment on it, and the oral defence of it. Examiners are expected to exercise their judgment on these questions and only in exceptional circumstances should they abstain from voting.

2. Before the Oral Examination

If the defence location is not identified as online in the Admin Tools system, the SGS Thesis Coordinator will send an email to the student, Chair and Examining Committee members, excluding the External Examiner, to confirm that they want to proceed with the defence in an online format using one of the designated web meeting tools. The expectation is that the defence will be online and the host of the defence, either the Supervisor or the Chair, will use the web meeting tools to facilitate the defence.

The SGS Thesis Coordinator will send an announcement to the examining committee 3-4 days in anticipation of the defence that will include the email addresses for all participants to help with communication and conducting the meeting.

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Normally, the Chair of the oral defence will host the web meeting. If this is not feasible, the Supervisor may serve in this capacity. A staff representative from the department, for example a Graduate Administrator, is permitted to participate in the defence to assist with the technology with the understanding that all conversations held 'in camera' are confidential.

McMaster faculty and staff have access to several tools through UTS: https://cto.mcmaster.ca/it-updates/it-continuity-tools-services. Under "Video and audio calls", you will find links to request licenses for Zoom and Cisco WebEx which are the options recommended for an online Ph.D. defence.

    a.   Additional resources for WebEx:
        https://wiki.mcmaster.ca/webex/training_centre_support_resources

    b.   Zoom Quick Start Guide: https://cto.mcmaster.ca/app/uploads/2020/05/Zoom-Quick-Start-Guide.pdf

It is recommended that the Chair and Supervisor finalize the web meeting **2-3 business days** ahead of the defence. It is strongly recommended that a practice or test web meeting is scheduled, preferably with the candidate, to confirm how to use the required functionality.

In an effort to maintain the integrity of the defence, the decision to invite audience members to the defence will be left to the Chair and Supervisor as the controls remain with the "Host". If additional viewers will be invited to the defence, **a meeting password is required to avoid uninvited attendees**.

3. **Oral Examination Procedure**

    a.   The Chair of the oral defence (or Supervisor) will host the web meeting and verify that all required participants have joined the meeting online.

    b.   When the Chair confirms that all required participants are online, the Chair will introduce those committee members not known by the candidate, if any.

    c.   The Chair should explain to those present the composition of the examining committee There will be a **minimum of four members on the examining committee, but not exceeding 5 voting members**. All examining committee members are required to attend. In anticipation of the defence, the Chair for the defence and Supervisor will receive a set of scenarios to address possible participation or connectivity issues. If an examining member is not able to attend at the last minute and it is not addressed in the scenarios, approval from the Vice-Provost and Dean of Graduate Studies is required to proceed.

    d.   The Chair will select the candidate and use the option of moving them to the "Lobby" (WebEx) or "Waiting Room" (Zoom) while the order of questioning is established by the examining committee. Once the discussion is finished, the Chair will "Admit" them back into the room.

        i.   Instructions for moving attendees to and from the "Lobby" in WebEx:
           https://help.webex.com/en-us/nsq9s2h/Move-Attendees-to-and-from-the-Lobby-in-Cisco-Webex-Meetings

        ii.   Instructions for managing participants in Zoom: https://support.zoom.us/hc/en-us/articles/115005759423-Managing-participants-in-a-meeting

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1. Using the "Waiting Room": https://support.zoom.us/hc/en-us/articles/115000332726-Waiting-Room

    iii. If the Chair and Supervisor have decided to invite audience members to the defence, audience members should not be "Admitted" to the defence until the student is ready to present their findings. To maintain the quality of the web meeting, the "Host" should ensure that all audience members lines are muted, and video turned off. The Chair should cue the examining committee member to unmute to ask questions. They should also ensure that all examining committee members are muted when it is not their turn to speak.

e. The Chair will then have the student present an oral statement about his/her thesis of approximately 15 minutes duration (in no case more than 20 minutes). Controls in the web meeting can be shared to the student to allow them to navigate their presentation for the committee. **The student should stress the main points of the contribution to knowledge and the principal technical difficulties either of an experimental or theoretical nature which he/she has overcome. A simple summary of the thesis is neither necessary nor desirable**.

f. Individual examiners will question the candidate according to the order established by the Chair. **All members of the examining committee are expected to put questions to the candidate**. Issues that have been raised by members of the supervisory committee in the course of composition of the thesis may nevertheless be profitably brought up now, when the candidate will have to respond in the presence of others.

g. If present, the external examiner should be given full opportunity to question the candidate. If the external examiner is not present, **it is the Chair's responsibility to see that questions raised in the external examiner's report are put to the candidate by some member of the examining committee, preferably the supervisor**.

h. Candidates who are unwilling or unable to respond to questions should be cautioned that such an action may cause the examination to be adjourned, or in extreme cases, could lead to failure on one of both questions put to the committee about the thesis and its defence.

i. If audience members have been permitted, the Chair can ask for questions once the Committee's questions have been satisfied. To maintain the quality of the web meeting, audience members should either:

    i. "Raise their hand" and be prompted to unmute their line to ask the question

    ii. Type their question into the "Chat" feature to be read by the Chair

j. When there are no further questions, the Chair should move the candidate and any attendees (if applicable) to the "lobby" or "waiting room" using the corresponding feature to prevent access to the conversation and any recording functionality.

k. After a discussion of the examination, the Chair will ask for a vote on the success or failure of the **oral defence**. If there are two or more negative or abstaining votes, with at least one of these votes being from a member of the supervisory committee, adjournment is mandatory, and a decision must be reached at this time as to whether a reconvened oral defence may be held at a later date. If, in the judgment of the examiners, the defence is to be reconvened, the

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candidate should be told as clearly as possible what he /she must do to improve his/her defence of the thesis. In the event the written thesis is approved conditionally, the Chair is responsible for ensuring that (1) the candidate is advised of the conditions in writing, (2) the conditions are met before the thesis is submitted to the School of Graduate Studies, and (3) the SGS Thesis Coordinator is informed of the conditions.

l. Following the committee's decision, the Chair will email gthesis@mcmaster.ca with a CC to the examining committee members, including the External, to request the written vote of each examiner for the completion of the report form.

m. The Chair will then "admit" the candidate back into the web meeting to inform him/her of the committee's decision(s), and for any congratulations or discussion appropriate to the circumstances.

n. The examination will be formally adjourned, and the web meeting ended. Normally, examination of the candidate will not take more than two hours. In no case should it take more than three.

o. If the student has failed or if the oral defence is to be reconvened, the Chair of the examining committee should discuss the situation as soon as possible with the SGS Thesis Coordinator.

p. If the oral defence is reconvened, no new examining committee members will be added, except for necessary replacements. It is the duty of the examiners to attend the reconvened examination, and no subsequent defences may be held.

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Appendix 2: Permission Request Letter

[Department letterhead stationery (preferred) or return address] [Date] [Name and Address of copyright holder]

Dear,

I am completing a [Ph.D. or M.Sc., or M.A., etc.] thesis at McMaster University entitled [.....................................]. I would like your permission to reprint in full the following journal article in my thesis:

[Complete citation of the article]

Please note that I am [a co-author/the author] of this work.

I am also requesting that you grant irrevocable, nonexclusive license to McMaster University [and to the National Library of Canada] to reproduce this material as a part of the thesis. Proper acknowledgement of your copyright of the reprinted material will be given in the thesis.

If these arrangements meet with your approval, please sign where indicated below and return this letter to me in the enclosed envelope. Thank you very much.

Sincerely,

[Name and Signature]

(*Licence to the National Library is to be requested only for Ph.D. theses*)

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE

[Type Name of Company]

Authorized by: Title:

Date:

Signature:

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