

# Rensselaer Writing Manual for Dissertations & Theses

May 2007

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## **PART 1: OFFICE OF GRADUATE EDUCATION GUIDELINES**

Every doctoral candidate must submit a doctoral dissertation, and except in the non-thesis option for the masters degree, every masters candidate must submit a thesis or project.

This manual explains the guidelines for writing and submitting a thesis, project, or dissertation. The Office of Graduate Education, in response to changing technology, revises the manual on an as-needed basis and places the revisions on this website (<http://gradoffice.rpi.edu/>). You should be sure to use a current manual. Product names mentioned in this manual are used for illustration purposes only and are not intended as endorsements or requisites. You can consult the Rensselaer catalog and RPInfo for due dates related to thesis defense and submission. You should also review the appropriate checklist for degree completion requirements:

- [Masters Candidates](#)
- [Doctoral Candidates](#)

## A. Preparation

The subject of the dissertation or thesis is selected in consultation with the department member designated as the candidate's thesis adviser or thesis research professor.

The Office of Graduate Education approves the final dissertation or thesis, and reserves the right to reject documents that vary from the guidelines in this manual or an approved alternative guideline. Please read this manual carefully, paying close attention to the [sample pages](#). In addition to structural formatting, you are also responsible for assuring that your manuscript follows conventional rules of grammar, punctuation, and spelling. For entries not mentioned in this manual, you may consult a standard style guide. The Rensselaer Library maintains a file of style guides sponsored by professional societies and of instructions for authors issued by professional journals in your discipline. Ask at the Library Reference Desk for more information. We also recommend that you seek assistance from your advisor for any formatting requirements that may be unique to your discipline. We encourage you to bring your unfinished manuscript to the Office of the Graduate Education staff for formatting advice.

## B. Submission

The Office of Graduate Education certifies deposit of the dissertation or thesis for degree eligibility.

Beginning with the fall 2006 semester for doctoral candidates and the fall 2007 semester for masters candidates, electronic submission is required. This is in addition to the submission of one printed copy. After passing the final examination and no later than the published submission due date, you must submit **one paper copy and one electronic copy** to the Office of Graduate Education. OGE will review both print and electronic copies and release them to the Library.

Note that electronic submission does not affect your personal copyright. Rensselaer will restrict access to your dissertation in accordance with US copyright law. Only your name as author, the title, and abstract of your dissertation or thesis will be searchable and displayable via the internet beyond Rensselaer.

Electronic submission or publication of a doctoral thesis on microfilm does not affect its publication in whole or in part as a book or in a journal. You are urged to seek conventional publication in a recognized technical or scientific journal. Consult your research professor for assistance.

Note that your department may require copies of your thesis – please be aware that their submission requirements are separate from those of the Office of Graduate Education. If you need additional copies bound for your department, you must make these arrangements individually. (See the Rensselaer Union Bookstore.)

## 1. Printed Copy and Supporting Paper Work

### Masters Degree

Masters candidates must submit the thesis to the advisor or advisory committee for review at least two weeks before the final copy is due in the Office of Graduate Education. For due dates specific to your intended semester of graduation, check the [Academic Calendar](#) in RPIInfo.

Bring the following items to the Office of Graduate Education in paper form, no later than the published submission due date. *These items are separate from and in addition to the electronic submission of your thesis..*

- Submit the thesis to the Office of Graduate Education, located at 4103 Walker Laboratory in a manila envelope with a copy of the title paged taped to the front. *Do not tape the original title page to the envelope.*
  - Print on *acid-free bond paper with 25 percent cotton content.*
  - The final copy must have the advisor's *original signature on the title page.*
  - *Do not* have the thesis bound or hole-punched.
- Also submit a [Record of Thesis/Project Examination Form](#) signed by your advisor.
- Bring a copy of the payment receipt from the Cashier in the Registrar's Office for the appropriate binding fee.
- Bring the Graduate Student [Exit Survey](#), available in the Office of Graduate Education or on the OGE website.

Candidates in Architecture are required to deposit their original drawings or photo-reproductions of them with their theses. The term "photo-reproduction" excludes the blueprint process, which is not acceptable.

### Doctoral Degree

Doctoral candidates must submit a copy of the dissertation in a final form and an abstract to the thesis adviser at least one month before the end of the term in which it is expected that the degree will be awarded. You must furnish each doctoral committee member with an individual copy of the dissertation and the abstract at least one week before the dissertation defense. For due dates specific to your intended semester of graduation, check the [Academic Calendar](#) in RPIInfo.

Bring the following items to the Office of Graduate Education in paper form, no later than the published submission due date. *These items are separate from and in addition to the electronic submission of your dissertation.*

- Bring one copy of the thesis, printed on acid-free bond paper with 25 percent cotton content, to the Office of Graduate Education, located at 4103 Walker Laboratory. The Title Page must have original signatures of the Doctoral Committee. The thesis should be in a manila envelope with a copy of the title paged taped to the front. *Do not tape the original title page to the envelope.*

- An additional copy of the abstract, suitable for publication in University Microfilms' Dissertation Abstracts
- The title page for the abstract. (This is *not* the same as the dissertation title page; please see [sample pages](#).) Note the abstract title page does not require signatures.
- The [Record of Thesis/Project Examination Form](#) signifying the doctoral committee's approval of content, format, and total dissertation credit hours, signed by the chair of the doctoral committee.
- Copy of receipt from the Cashier in the Registrar's Office for submission fee.
- Completed [ProQuest Information and Learning \(formerly UMI\) agreement](#).
- Money order for copyright application fee, (optional, please inquire with the Office of Graduate Education or refer to the ProQuest Information and Learning agreement form for details).
- [Survey of Earned Doctorates](#).
- Rensselaer Graduate Student [Exit Survey](#).
- Reprint Permission Letters, if required.
- Third party software licenses, if required.

Candidates in Architecture are required to deposit their original drawings or photo-reproductions of them with their theses. The term "photo-reproduction" excludes the blueprint process, which is not acceptable.

## 2. Electronic Submission

### How and When to Submit

You should submit the electronic copy after the title page of the printed copy has been signed and before you bring the signed copy and the other items listed above to the Office of Graduate Education. Note that the submission software (DigiTool) currently requires either Microsoft's Internet Explorer or Mozilla Firefox.

Before actually submitting your thesis, be sure to read the [detailed instructions](#) to preview the submission procedure. When you are ready to submit, go to the following web page, which contains a link to start the submission process:

<http://library.rpi.edu/update.do?artcenterkey=1072> . The websites of both the Office of Graduate Education and the Research Libraries also contain a link to the above page.

### File Formats for the Thesis or Dissertation and Optional Additional Files

The *dissertation or thesis must be PDF* (Portable Document Format). During the submission process you will be asked to submit **two** (2) PDF files.

File 1: A PDF file consisting of the *abstract title page* and the abstract. Note that the abstract title page is not the same as the title page for the dissertation. See the [sample pages](#).

File 2: A PDF file containing the complete thesis or dissertation.

**Embedded files** may be used for illustrative purposes in the body of a thesis and may use standard proprietary viewing formats such as Apple or Windows QuickTime, Macromedia

Flash, Windows MediaPlayer etc. Each embedded file, like other illustrative material, should be identified with a caption where it occurs in the text. The caption should identify the file format, required application, and a brief summary of content.

*Keep in mind that embedded files may not be reliably preserved in the future, especially proprietary formats such as Apple Quick Time (.mov) and Microsoft Audio Video (.avi). To aid in future migration, embedded files essential to the text should also be submitted as supplemental files, preferably in a non-proprietary format.*

**Supplemental files** may have value independent of the text; for example a complete musical performance, a video work, or a dataset. Examples of possible file types include spreadsheets, flash and video files. If preapproved by your thesis committee, you may submit one or more supplemental files. Supplemental files must be ***listed and described in an appendix of the thesis*** and identified by name, file type, size, disk number (if more than 1 disk), required application software, and any special hardware requirements.

Currently accepted file types are listed below. If you have a file type that is not in the list, please contact [ETD Support](#).

File formats marked with an asterisk (\*) are proprietary.

Images:

GIF (.gif)  
JPEG (.jpg)  
PDF (.pdf)  
TIFF (.tiff)

Audio:

Aif \* (Macintosh and Silicon Graphics)  
CD-DA, CD-ROM/XA  
.snd \* (Macintosh)  
.wav \* (Microsoft)

Video:

.mov \* (Apple Quick Time)  
.avi \* (Microsoft AudioVideo Interleaved)  
MPEG (.mpeg .mpg .mp2 .mp3)

Other:

.csv  
.xls \*(Excel)  
.swf \*(Flash)  
.midi (for electronic instruments)

***All supplemental files must also be submitted on optical disks (e.g. DVDs, CDs) and accompany the print version of the thesis in addition to electronic submission. Optical Disks should be numbered “Disk 1,” “Disk 2” etc. and labeled with the author’s name and date of graduation using a permanent black ink marker. (Paper labels may not be used because adhesives and inks may affect disk preservation.) Any film/tape formats must be converted to non-proprietary digital formats and submitted on optical disk.***

Note: A maximum of 7 supplemental files can be submitted electronically. If your thesis includes more, you need to advise OGE that additional files will have to be copied from an accompanying optical disk for the electronic version of your thesis to be complete.

## PART 2: PREPARING YOUR MANUSCRIPT

This section will help you meet the formatting and appearance requirements for your thesis or dissertation.

### A. Software Recommendations

We suggest that you produce your thesis or dissertation using MicroSoft Word or LaTeX, since they are used most commonly, and support is more widely available. LaTeX is particularly well-suited to formatting a long and complex document with tables of contents, cross references, tables, and figures. It also produces very high-quality mathematical expressions. Academic and Research Computing (ARC) in the Voorhees Computing Center provides *templates for both LaTeX and Word* that satisfy the Office of Graduate Education requirements. The [Instructions for using these templates](#) contain detailed information on preparing your thesis.

#### Notes on electronic submission:

The PDF files you submit must have all fonts embedded and must be text searchable.

If you prepare your thesis in LaTeX, there are straightforward (and free) methods of conversion to pdf. See [Creating a PDF File from a LaTeX Thesis](#) for detailed instructions.

If you use Word, a current version of the Adobe Acrobat program (e.g. *for 2007-8 versions 7 and 8 are current*) is the recommended method for conversion. For detailed instructions, see [Creating a PDF File from a Microsoft Word Thesis](#). You can obtain Acrobat Pro from the Campus Computer Store at a very favorable student price. Or you can use Acrobat Pro in the Sage 4510 PC Lab and on the machines in the VCC north lobby with the Sage 4510 image. Both the Folsom and Architecture Libraries have several machines (the ones connected to scanners) with Acrobat Standard. Adobe provides free conversion at <http://createpdf.adobe.com/index.pl>, but this may not be practical for large manuscripts.

### B. Specifications

The specifications for printed and electronic manuscripts are the same with respect to margins, line spacing, pagination, tables of content, footnotes, etc.

**1. Paper** – Use 8 1/2 by 11 inch, acid-free archival bond paper with a 25% rag content.

**2. Printing** – Print in black ink, single-sided.

**3. Graphs, Charts, Tables, etc.** – For theses and dissertations - (all documents)-- Graphs, charts, tables, diagrams, and all "non-verbals" should be prepared especially for the thesis or dissertation. Tables must be printed. Equations and labels used in charts and graphs must be printed. Handwritten items are not acceptable.

**4. URLs** may appear as references in the Bibliography. However, the body of the thesis should contain no URLs to external resources that are critical to the text because of the impermanence of such links. External resources, if important, may be documented by including a printed screen shot of the main page in an Appendix.

**5. Type Style and Spacing** – all documents -- The text should be spaced no closer than four lines per inch. Use the same font throughout the text and main body. This print should be no smaller than 10 point. You can use a different font for titles of figures, formulae, or to meet a specific need of the thesis, e.g., use of italics for quotes.

**6. Margins:** all documents.

- Top = 1"
- Bottom = 1"
- Outside = 1"
- Inside or Binding Edge = NO LESS THAN 1 1/2"

Page numbers in the upper right hand corner should be in line with the right hand margin with a minimum clearance of 1/2" from the top of the page. Page numbers appearing at the bottom of the page should be centered, again with a minimum 1/2" clearance between the number and the bottom of the page.

**7. Pagination** – all documents.

- All pages *except the title page* must be numbered.
- Begin the numbering of the “front matter” with small Roman ii, *the title page counting as i, but remaining unnumbered.*
- Use the Arabic number 1 to start the Introduction or Chapter I of the body or main text of the thesis, and continue throughout the text, figures, tables, maps, appendices, etc., numbering pages consecutively to the end.
- The number of each text page is placed in the same position on all pages at the upper right in line with the right hand margin and at least 1/2 inch down from the top of the paper so as to allow two trims at the bindery. However, *pages which are the beginning of a major section should have the page number at the bottom center.*
- Another acceptable method for positioning the pages numbers is placing all numbers in the bottom center with the page number at least 1/2 inch from the bottom of the paper.
- Landscape pages – the page numbers should appear in the same area of the page as the rest of the manuscript.

**8. Footnotes** – all documents - Cite all sources in an appropriate "References Cited" section(s) at the end of the manuscript. Apply this formatting even if you have elected to also footnote at the end of each chapter.

**9. Reproductions** – all documents -Reproductions, typically used in figures, tables, or appendices, must be placed within the normal margins.

**10. Use of Copyrighted Material** – all documents -When copyrighted material (beyond brief excerpts) is included in the thesis, the author should obtain written permission authorizing use of the material from the copyright holder. Ownership of the copyright can be determined by inspecting the copyright notice which by law must be on the backside of the title page. Proper acknowledgment should be made in the thesis of any work done by others.

## C. Organization of the Thesis or Dissertation

|                                    |                  |
|------------------------------------|------------------|
| Title Page                         | <b>Required</b>  |
| Copyright Notice                   | <b>If Used</b>   |
| Table of Contents                  | <b>Required</b>  |
| List of Tables                     | <b>Required*</b> |
| List of Figures                    | <b>Required*</b> |
| Preface, Foreword, Acknowledgments |                  |
| Abstract                           | <b>Required</b>  |
| Introduction**                     | <b>Required</b>  |
| Historical Review**                | <b>Required</b>  |
| Theory                             |                  |
| Method of Procedure                |                  |
| Materials and Apparatus            |                  |
| Results                            |                  |
| Discussion***                      | <b>Required</b>  |
| Conclusions***                     | <b>Required</b>  |
| Summary                            |                  |
| Literature Cited or References     | <b>Required</b>  |
| Appendix                           |                  |
| Index                              |                  |

\* Required if tables or figures are present.

\*\* These parts may be combined as "Introduction and Historical Review," and may include the review of the literature and/or the current state of the art.

\*\*\* These two parts are frequently combined and titled "Discussion and Conclusions."

## D. Sample Page Description

Please click on [sample pages](#) to view examples of formatted pages in PDF format. [Adobe Acrobat Reader](#) can be downloaded free of charge.

### 1. Title Page

**Please note that you must format the title page exactly as it appears in the sample.**

- The title page does not receive a number, although it is considered page *i* of the document,
- Beginning with the first page of the table of Contents, or Copyright page, if applicable, use small Roman numerals for all prefatory pages,
- Original signatures, not photocopies, are required on the masters thesis and doctoral dissertation title page,
- The signatures should be written in black ink using a medium point pen,
- Substitute "DOCTOR OF ENGINEERING" for "DOCTOR OF PHILOSOPHY" for the Doctor of Engineering degree.

If the thesis is submitted at an irregular time, mid-semester, for example, write the actual month and year of completion at the bottom of the title page, (do not use the day of the month,) and under it in parentheses the exact month and year in which the degree is to be conferred (For Graduation May 2007).

### 2. Copyright Notice

- Candidates who intend to file a copyright application with the U.S. Copyright Office must include a copyright notice as the second page of the thesis.
- The notice consists of three parts: the copyright symbol '©' and/or the word copyright, the name of the copyright owner, and the year of publication.
- The copyright notice, if included, is always page ii.
- Doctoral students wishing to copyright their dissertation may make arrangements through University Microfilms to have a copyright filed on their behalf.
- Complete the optional copyright section of the UMI Microfilm Agreement, available in the Office of Graduate Education or on-line at [http://www.rpi.edu/dept/grad/docs/UMI\\_Dissertation\\_Agreement\\_Form.pdf](http://www.rpi.edu/dept/grad/docs/UMI_Dissertation_Agreement_Form.pdf) .
- The Office of Graduate Education collects the copyright fee, payable to UMI, on Money Order only.
- Masters degree candidates desiring to copyright their thesis or project must make their own arrangements to file the correct papers with the U.S. Copyright Office.

### **3. Table of Contents**

The first page of CONTENTS is numbered ii (iii if a copyright notice is included), centered in the bottom margin, and subsequent pages are similarly numbered to end of CONTENTS.

All numbering and lettering of titles of parts and sections of the document must correspond identically to their placement within the document.

### **4. List of Tables**

Number this page(s) consecutively in lowercase Roman numeral page continuing from the last numbered page of CONTENTS.

All numbering, lettering, and captions in the LIST OF TABLES must correspond identically to their placement within the document.

### **5. List of Figures**

Number this page(s) in lowercase Roman numeral page consecutively from the page preceding it.

The term Figure includes graphs, photographs, plates, and all other types of illustrations.

All numbering, lettering, and captions in the LIST OF FIGURES must correspond identically to their placement within the document.

### **6. Foreword, Preface, Acknowledgments**

These are optional references which may describe how your study started and evolved, how the material has been organized and presented, or who assisted you throughout your studies.

Continue to use lowercase Roman numerals consecutively from the preceding page.

### **7. Abstract**

An abstract contains a statement of the problem, describes procedures or methods used, and briefly reviews results and conclusions. Continue to number these pages consecutively from the preceding page using lowercase Roman numerals.

- There is no longer a limitation on the length of the abstract.
- The separately submitted abstract, (the one intended for publication in Dissertations Abstracts International), should be consecutively numbered in Arabic numbers, with the title page counting as page one, but not numbered.

University Microfilms enters the abstracts into a database. They do not accept figures or diagrams that include graphics in this copy. For example, a chemical formula may be used, but a diagram depicting chemical bonding is not acceptable. UMI will not publish abstracts that do not conform to these rules and will return them to their authors.

## **8. Abstract Title Page**

An abstract title page is required, it differs from the title page in three ways:

- a) "An Abstract of ..."
- b) "The original of the complete thesis is on file in the Rensselaer Polytechnic Institute Library."  
Note: for the Doctor of Engineering degree, substitute "DOCTOR OF ENGINEERING" for "DOCTOR OF PHILOSOPHY".
- c) *The committee members do not sign the Abstract Title Page.*

## **9. Introduction**

This section is the beginning of the main body of the thesis.

Note that the INTRODUCTION begins the Arabic page numbering, 1, 2, 3, etc., through to the last page of the thesis, including the separate tables and figures inserted at the appropriate points in the text and any appendices at the end.

## **10. Literature Citation and Footnotes**

References to relevant literature should follow the commonly accepted practice in the candidate's field. Your advisor will assist you with the proper form of citation.

- Where the use of footnotes is accepted practice, these may appear at the bottom of a page, at the end of the thesis, or at the end of long chapters.
- Footnotes are indicated by superscript numbers inserted in the text at the appropriate point.
- Footnotes may include references to pertinent literature, or may simply consist of parenthetical elaboration.
- In any case, a section containing a list of all cited material and all references consulted but not cited must be included.
- If references are not cited by number, this list must be alphabetical by the first author's last name.
- If footnotes are not used, citations in the body of the text may be identified by a number corresponding to the number of the cited source in this list.
- Journal names may be abbreviated when this is common practice in a particular field.
- Check the library for examples of scholarly publications in your field.

## **E. Other Resources Available**

### **Thesis Binding**

The binding fee paid to the Cashier's Office covers the cost of having your thesis bound for permanent archiving at the Folsom Library. The Office of Graduate Education arranges to have your thesis bound – do not submit a bound copy to us. These copies are not returned to you. However, as a courtesy to the Rensselaer community, the Rensselaer Union Bookstore will arrange to bind personal copies of your thesis at contracted rates. If you are interested, please contact the Bookstore directly.

### **Writing Center**

The Writing Center, located in rooms 154A and 154 B of the Folsom Library, offers tutorial assistance to all Rensselaer students. Appointments are not necessary. Students are encouraged to come with a sample of their writing. The Writing Center provides an instructional, not an editorial, service. That is, the Writing Center Staff teaches students to write and edit their own work; the staff does not write and edit for them. If a student needs extra help with written English, they should bring small sections of early drafts to the Writing Center. The staff will do their best to assist them in improving their work. The Writing Center staff may also refer students to professional editors who will line-edit their work for a fee or to courses in writing that a student may take on the Rensselaer campus.

The Writing Center is open five days a week during the Fall and Spring semesters. The hours are Monday-Thursday, 10:00 a.m. to 6:00 p.m. and Friday, 10:00 a.m. to 3:00 p.m. During Summer sessions, the Writing Center is usually open for limited hours Monday - Thursday. For more information, students can call the Writing Center at Extension 8983 or visit their web site: [Writing Center](#)