

Thesis Requirements

PCOM Biomedical Sciences Graduate Degree Program

This publication is produced by the Office of the Senior Associate Dean for Curriculum and Research at the Philadelphia College of Osteopathic Medicine (PCOM). The purpose is to provide graduate students and advisors with requirements and standard procedures for completing the thesis. This guide is a modification of the [Thesis Guide of Pennsylvania State University](#) and is hereby gratefully acknowledged.

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Section 1--Introduction

Overview of Requirements
Thesis Standards and Variations
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Responsibility for the Thesis

A thesis, as a requirement in a student's graduate education at PCOM, serves the primary purpose of training the student in the processes of scholarly research and writing under the direction of members of the faculty. After the student has graduated and the thesis is "published" (in the sense of being made available to interested readers either as a bound volume or in electronic format), it serves additional purposes - among others, a contribution to human knowledge, useful to other scholars and perhaps a more general audience as well.

The thesis must be submitted in both print and electronic (PDF) formats. The Graduate Program, the College Library, and the faculty of PCOM have established format standards for print and electronic submission that a thesis must meet before it receives final approval as a graduate requirement. This publication sets forth the PCOM thesis standards and provides guidance on a variety of matters related to thesis preparation.

An Overview of Requirements

Some thesis requirements are purely technical; other requirements, such as those for the title page and the signatory page, have been established to ensure that certain vital information is presented in an orderly, uniform manner. A number of guidelines presented in this publication simply reflect generally accepted conventions of writing that aid communication between author and reader.

Students are strongly encouraged to make extensive use of Library information resources and productivity tools. RefWorks is particularly valuable for citation management and bibliography formatting.

Thesis Standards and Variations

The requirements in this guide apply to all PCOM theses. They are, however, designed to allow for maximum flexibility in minor matters in which standard practices vary among academic disciplines--for example, reference forms. Thus, while you will need to comply with the specifications given here, you will probably also need to consult a specialized manual of scholarly style in your field or the style sheet of a leading journal. Do not use another thesis as a model for yours, because the other thesis will necessarily be at least one step removed from an authoritative style guide. In addition, manuals and journal style sheets are revised from time to time.

Precedence of PCOM's Requirements

You may find instances in which a specialized style manual recommends practices that conflict with the requirements set forth in the Thesis Guide. If so, the PCOM requirements take precedence. You have a fair amount of discretion in regard to most matters of style - for example, the system you adopt for capitalization and underlining in headings. Whatever choices you make, you should be consistent in all matters of form.

Additional Reference Works

It is of course expected that a thesis will be written in clear, grammatically correct English; that words will be spelled correctly and divided, if at all, according to syllables; and that punctuation will be standard and appropriate. For these reasons it is advisable to have at hand a good desk dictionary and a handbook of grammar and usage during the writing and revision processes. (See Appendix A for guidance in certain specific matters.)

In short, the general principles of thesis writing are clarity, correctness, compliance (with this and other guides), and consistency. A fifth "c" should be added: common sense. In doubtful cases, the most appropriate decision is nearly always a clearly reasonable one.

The Role of the Senior Associate Dean for Curriculum and Research Office

The Senior Associate Dean for Curriculum and Research Office is the branch of the Graduate Program responsible for certifying that theses have been prepared in accordance with the regulations in this guide. When a thesis is submitted to the Senior Associate Dean for Curriculum and Research Office, it should already meet the format requirements set forth here. In addition, the text should be proofread and as free as possible of grammatical errors and typos. If this is the case, you may not need to make any changes to your thesis after submitting it to this Office. If, however, there are major format problems, you may have difficulty making required corrections in time to graduate.

The Senior Associate Dean for Curriculum and Research Office is available to help you to prepare an acceptable final manuscript. You are welcome to call, write, or visit the office with general or specific questions. The office operates on the theory that nearly all format problems, which occur in thesis writing, have solutions within the framework of the stated requirements, and the staff is happy to help you in finding these solutions. Of course, you should read this Guide first. If you believe you need a lengthy consultation, you should call ahead to be sure that someone will be available to speak with you. Otherwise, no appointment is necessary.

Responsibility for the Thesis

In all cases the thesis author bears ultimate responsibility for meeting Graduate Program requirements. The best advice is to start early with the preparation of the thesis and to make certain that the requirements given in this guide are fully met.

Section 2--Submitting the Thesis to the Senior Associate Dean for Curriculum and Research Office

Steps in the Thesis Submission Process
Items Required for Submission of the Thesis
Master's Thesis Checklist
Review of the Thesis
Correcting the Thesis and Making Copies
Final Submission, Approval, and Letter of Certification
Final Disposition of Theses
Letter of Certification

The steps in the thesis submission process are enumerated below, followed by more detailed information on some of the procedures. A Thesis Calendar listing the dates by which the steps must be completed will be annually distributed and posted in Blackboard.

Steps in the Thesis Submission Process

1. Obtain a copy of the Thesis Requirements and a Thesis Calendar.
2. Mail, fax, or carry a copy of your Signatory page to the Senior Associate Dean for Curriculum and Research Office to be checked before the page is signed. If problems with this page are discovered later, it will be necessary to redo the page and obtain new signatures. You are also welcome to call or drop by the Senior Associate Dean for Curriculum and Research Office for answers to specific questions.
3. Copy or print the unsigned Signatory page onto 25% cotton bond thesis-quality paper (of the same brand you plan to use for your final copy).

NOTE: retain a copy of the Signatory page without signatures for inclusion in your electronic submission.

4. Copy or print the unsigned Permissions page onto 25% cotton bond thesis-quality paper (of the same brand you plan to use for your final copy).
5. Submit a copy of the thesis to each committee member.
6. Make any changes required by the committee.
7. Receive committee approval of the thesis in the form of committee members' signatures on at least two copies of the signatory page on thesis quality paper. One of these will become part of the final, official copy of the thesis; the other is for your use in making additional copies.
8. Receive primary Faculty Advisor permission to provide Internet access to the abstract and/or full text of the digital version indicated by signature on the Permissions page. Student Author signature is also required.
9. The print version is unbound.
10. The electronic version must be in PDF format and submitted on a disk, thumb drive, or memory stick clearly labeled with your name. (Consult the Library staff on formatting and submission questions). Be sure that all pages are present, in the right order, and that there are no formatting errors.
11. Submit the thesis in both print and electronic formats along with required supporting materials (see checklist) to the Senior Associate Dean for Curriculum and Research Office by the deadline listed on the Thesis Calendar.
12. Pick up your thesis when you are notified that the thesis has been reviewed.

13. Make any required revisions in both the print and electronic formats.

14. Submit the final unbound print copies and the PDF to the Senior Associate Dean for Curriculum and Research Office for checking and, if all is in order, approval. The approved thesis will be retained in the Senior Associate Dean for Curriculum and Research Office until after Commencement, when it will be sent to the College Library.

15. It is your responsibility to make any copies for personal use, and to arrange with the Library for binding if you so choose.

Items Required for Submission of the Thesis Following Committee Approval

The following checklist indicates the items that are required when the thesis is first submitted for formal review by Senior Associate Dean for Curriculum and Research Office.

Master's Thesis Checklist – Print Format

____ 1. One completed copy of the checklist.

Print Format

____ 2. One completed copy of the [Thesis Binding Form](http://www.pcom.edu/library/docs/Biomed_Thesis_Binding_Form.pdf)
http://www.pcom.edu/library/docs/Biomed_Thesis_Binding_Form.pdf.

____ 3. One signed two-part Permissions Form. Signatures must be in dark blue or black ink.

- The first part grants the College permission to copy print and digital versions of the thesis for preservation purposes and to catalog and circulate the print version.
- The second part grants the College permission to provide Internet access to the digital version. **Both** the Student Author and Faculty Advisor must sign and indicate what level of access is permitted (abstract only or abstract and full text).

____ 4. One signed Signatory Page (see "Signatory Page" in Thesis Requirements Section 5 and samples in Appendix B). This page must be complete and accurate. Paper and print must match those to be used for the final copy.

____ 5. **Two** complete copies of the thesis, including the front matter and any appendices; pages must be numbered.

Electronic Version

____ 6. One complete copy of the thesis, including the front matter and any appendices; pages must be numbered.

- in Word or PDF Format
- on Disk, Thumb drive, or submitted as e-mail attachment to Faculty Advisor with a copy to Library@PCOM.edu.
- name file "Last Name First Name Year" (e.g., Smith Cathy 2010)
- name multiple files "Last Name First Name Year file #oftotal " (e.g., Smith Cathy 2010 file1of3)

____ 7. One completed but unsigned two-part Permissions Form (fill in your name and thesis title but do not sign). Signatures are not included in the electronic version for privacy considerations.

____ 8. One completed but unsigned Signatory Page (Committee members names are listed but not their signatures). Signatures are not included in the electronic version for privacy considerations.

Review of the Thesis

The thesis will be reviewed by a staff member in the Senior Associate Dean for Curriculum and Research Office. The length of time required for this process naturally varies according to the number of theses awaiting review at any given time. If you submit your thesis early, you can expect to get it back within a

week. If you turn it in on the final date, you may have to wait sometime to learn what corrections may be required.

You will be notified when the thesis has been reviewed. The Senior Associate Dean for Curriculum and Research Office staff will set a date -- two weeks later, or three weeks if the thesis is being mailed -- by which the final copy must be submitted. Required revisions will be indicated on the thesis itself.

Personal Copies

You may wish to make at least three other print copies -- for your departmental library, your thesis adviser, and yourself. Some authors give a copy to each committee member.

Final Submission, Approval, and Letter of Certification

When the corrected thesis is submitted to the Senior Associate Dean for Curriculum and Research Office, it is examined once more to make certain that revisions have been made, that the paper and print are of the required quality, that all the pages are present. If everything is in order, the thesis is approved and the student is so notified in person, by phone, or by mail.

Final Disposition of Theses

The final copy of the thesis is retained in the Office of the Senior Associate Dean for Curriculum and Research until after the degree conferral date. The print version is bound and placed in the Library. Depending on the level of permission granted by the Student Author and Faculty Advisor, the electronic version may be used for preservation purposes and/or deposited in a freely accessible institutional repository of scholarly works.

Letter of Certification

If, before your degree is actually conferred, you need documentation that you have met the requirements for the degree, you may apply for a letter of certification. You should apply for this letter at least two weeks before you need it. When your thesis is approved, the Senior Associate Dean for Curriculum and Research Office will issue such a letter, assuming that all other degree requirements have been fulfilled.

Section 3--Technical Requirements: Paper, Print, and Typing

- Paper
- Print and Photocopy Quality
- Print Quality, Type Spacing
- Specifications
- General Printing Rules
- Margins
- Spacing
- Page Numbers

Paper

The final print copy of the thesis must be submitted on high quality white paper. Acceptable paper will have a watermark indicating the cotton (rag) content. "Erasable" paper must not be used for any copy of the thesis.

Exceptions are allowed in the quality and weight of paper for the final copy only in the case of photographic plates and pocket material. If you have special problems in this regard, consult the Senior Associate Dean for Curriculum and Research Office.

You should make certain of your paper supply for the final copy before the first submission of the thesis, because the signed pages (the signatory page and, for master's theses, the permission-to-copy page) required at this time must match the paper to be used for final submission.

Print and Photocopy Quality

Regardless of the method used to print your thesis, the print must be sharp and of uniform blackness. The print should be dark enough to be readily legible, but not so dark that letters such as e and a begin to close up.

The final copy of the thesis must be "letter quality." Some dot-matrix printers are capable of producing such copy and some are not. The rule of thumb used by the Senior Associate Dean for Curriculum and Research Office is that if individual dots are visible, the print is unacceptable. Look especially at letters with diagonals, such as k, v, and w, and curves, such as c, o, and s, to help determine whether the print is likely to meet the specified standards. If there is any doubt, bring or send a sample to the Senior Associate Dean for Curriculum and Research Office for a ruling.

Print Quality, Type Spacing

All theses when first submitted must be double or one-and-a-half spaced (with the exceptions noted in "Spacing" below) and free from any handwritten corrections. The pages must be numbered. If the word processing program is not able to produce equations, superscripts and subscripts, etc., you may insert these by hand for the first submission (include a brief note of explanation to the Senior Associate Dean for Curriculum and Research Office). For the final copy, all superscripts, subscripts, equations and symbols must be printed; a different typeface may be used for such special cases if it is uniform throughout.

You will most likely be submitting photocopies of a master original for both the first and final copies. These must be clear, uniform, medium-dark copies without spots, lines, smudges, or "shadows," with print on one side of the paper only. The print must be permanently fused to the paper. It is a good idea to test this by rubbing a sample of the print with your finger or an eraser. If the print rubs or flakes off easily, the reproduction is not thesis quality. The print quality and darkness of the final copy must match that of the signatory page previously produced.

Specifications, Font Size and Style

Consistent format is essential, along with adherence to the specific instructions given below. If you will be hiring a typist, see "Hiring Someone to Word Process or Edit the Thesis" in Section 8 for considerations to be taken into account.

Font Size. Use a standard typeface of 10-, 11-, or 12-point size. You may use 10 or 12 pitch. Note that point and pitch are not the same. Point is a measure of the height of a typeface; there are 72 points in an inch. Pitch measures the width of type in characters per inch (cpi). Thus, the larger the point, the larger the type, but the higher the cpi, the smaller the print.

Do not use italic (script) print except for foreign words, book and journal titles, and special emphasis.

If you wish, you may use a larger size font for the title of the thesis and for chapter headings, as long as it is not larger than 18 point. Boldface type may also be used on the title page and for headings, as well as in the text for special symbols or for emphasis.

Reduced font size may be used within tables, figures and appendices, but it should be at least 9 points in size and must be completely legible. If you are inserting an illustration from another source, be careful that the image is clear and sharp.

Use a single font for the front matter, text, references, and appendix pages. If necessary, you may use different fonts within tables, figures, and appendices. Preferably, the same font should be used for all figure numbers and titles; however, in both cases, this may differ from the text font. Similarly, all page numbers should be in the same font, which may be different from that used for the text. To avoid distracting variations, changes in the font should be kept to a minimum.

General Printing Rules

One Side Only. Print on one side of the page only; this rule is cast-iron.

Dark Print. Be sure that the print is consistently dark and legible.

Proper Paragraph Indent. Indent paragraphs in a consistent manner, i.e., tab of 4 or 5 spaces, no less.

Chapter Head Pages. Begin each chapter on a new page. Do the same with each element of the front matter—list of tables, acknowledgments, etc.—with the references or bibliography section, and with each appendix. Continue the text to within 2 1/2 - 3 inches of the bottom of the page in other cases. (For guidelines regarding the layout of text on pages that contain tables, see "Placing Tables and Figures in Text" in Section 6.) Do not place a heading near the bottom of a page unless there is room for at least two lines of text following the heading. Instead, you should simply leave a little extra space on that page and begin the heading on the next page.

Splitting Entries Across Pages. For lists of tables and figures, as well as bibliographies or reference sections, it is helpful to the reader if you complete each item or entry on the same page.

Word Division. Carefully check end-of-line word divisions with a dictionary. Some word processors do not divide words correctly.

Margins

The left margin (binding side) of every text page must be at least 1 1/2 inches. The other three sides should have a margin of least 1 inch. This applies to all pages of the thesis. Everything on the page (including the page number, footnotes, etc.) should be within the remaining 6-by-9 inch typing area (for binding purposes). The page number placement is 1 inch from the top of the page; start the text a double space below the page number. You may relax the margins where necessary to 1-1/4 inches left, and 3/4 inch top, right, and bottom. These relaxed margins are the absolute minimum—margins any smaller than this will create problems in the binding process and will be marked as errors by the Senior Associate Dean for Curriculum and Research Office.

Facing Pages. Margins on facing pages (see "Oversized Materials" in Section 6) should be reversed; that is, the larger margin will always be on the binding side of the page.

Centering on Typed Block. For the title page and headings, center lines on the typed page rather than the paper, allowing for the extra half-inch of margin on the left.

Spacing

Use standard double or line-and-a-half spacing in the text, including the abstract, the acknowledgments, and the vita (unless the vita is in outline form).

Use of Single Spacing. Single spacing is allowed in certain limited cases: the table of contents, block quotations, headings, table titles, figure captions, tables, and appendices. It is also permitted within items in the list of tables, list of figures, bibliography/reference list, and notes, but double spacing must be used between items in these instances.

Page Numbers

Every page in the thesis, including those with tables and figures, must be counted, using small Roman numerals for the front matter and Arabic numerals for the text.

There are three exceptions: the Title, Signatory, and Permissions pages are not included in the numbering system.

With a few exceptions, page numbers should appear on every page that is counted. Numbers may be omitted on separate display pages and pages beginning a major heading (e.g., the first page of the table of contents, of the list of tables, of a chapter, of the bibliography/references, or of an appendix), but numbers should consistently be used or omitted on such pages.

Make sure that all pages are present and in proper order when they are numbered. It is not permissible to number a page with "a" or "b" or to skip any numbers.

Page Number Location. Type page numbers in a consistent location, at least 1 inch in from all edges of the page (see "Margins" earlier in this Section). The preferred location is the upper right corner. Sometimes front matter and display pages are numbered at the bottom center. Do not embellish page numbers with punctuation such as dashes or periods, and do not type the word "page" before numbers.

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Section 4--The Text of the Thesis

Organization and Headings
Documentation of Sources in the Text
Author-Date-Page Citations
Numbered Reference System
Notes (Foot- or End-)

A thesis typically has three major parts: the front matter (also called the preliminaries), the text, and the back matter. The text or body of the thesis is the subject of this Section.

Organization and Headings

The body of the thesis is usually divided into chapters and provided with introductory and concluding sections, which may or may not be designated as chapters.

The chapters of the thesis are given titles indicating their content. You will probably also need subheadings within the chapters to indicate the orderly progression of topics and their relation to each other. In any case, you should decide on an appropriate system of headings and apply it consistently throughout the thesis, including front and back matter.

Two major types of heading schemes are most frequently used, one indicating levels of headings by variations in capitalization, position, and formatting (termed the "standard" type for convenience), and one using a decimal system. These types are illustrated in Figures 1 and 2.

In choosing a heading scheme, you may follow a pattern that differs in details from the ones shown, but you should follow exactly and consistently the system you adopt. For example, you may wish to use roman numerals rather than Arabic for chapter numbers, and to underline chapter headings in addition to capitalizing them. (Roman numerals are not consistent with a decimal heading system.) All chapter headings should be typed in the same way, however, as well as all first-level subheadings, and so on. Within your chosen system of headings, work downward from the top without skipping levels. It is not necessary to subdivide each chapter to the same degree; you might have first-through fourth-level headings in one chapter but only first- and second-level headings in another.

If you choose a heading scheme which varies from that illustrated, each level of heading must be clearly distinguished typographically from the other levels, and the variations should be selected so as to reflect in a reasonably obvious way the hierarchy of headings. That is, higher level headings should look more important. Each subdivision of a first-level heading must be a second-level heading according to your system for the thesis as a whole, and each subdivision of a second-level heading must be a third-level heading. You might, however, adopt a pattern in which you consistently omit the second-level heading as shown and move directly to the style shown for the third level. (In fact, that is the system used in this guide.) Whatever the system of headings you select, you should allow at least one extra line of space above subheadings, and preferably below as well. Without the space, it is sometimes difficult to distinguish headings from text. A heading must never appear alone at the bottom of a page (a "widow"), without two lines of text under it.

Chapter 1

TITLE OF THE CHAPTER, CENTERED ON THE TYPED PAGE (IF IT HAPPENS TO BE LONG, DIVIDE IT ACCORDING TO SENSE)

Use triple or quadruple spacing before beginning the text. If possible, there should be some text between all levels of headings.

First-Level Subheading--Again, Divided If Long

Centered headings are superior to side headings; in a given location, underlined headings are superior to non-underlined headings.

Second-Level Subheading

Use at least triple spacing above and below first- and second-level headings.

Third-Level Subheading, Divided, If More Than Half a Line Long

Use at least triple spacing above this heading, and at least double spacing below it.

Fourth-Level Subheading

Use the same spacing as for a third-level heading. Divide all headings that are more than half a line long.

Fifth-level subheading. This level of heading is indented, followed by a period and underlined. It is preferable to use extra space above it.

Figure 1. Sample Heading Scheme of the "Standard" Type, Using Variations in Capitalization, Position, and Type Style

Chapter 1

TITLE OF THE CHAPTER, CENTERED ON THE TYPED PAGE (ACCORDING TO SENSE)

Use triple or quadruple spacing before beginning the text, which should have regular paragraph indentation.

1.1. First-Level Subheading

Use extra space above and below each level of heading. Decimal headings are generally typed all flush left. Underlining, italicizing, or bolding are optional, but must, of course, be consistent.

1.1.1. Second-Level Subheading

This is the first subdivision of section 1.1.

1.1.2. Second-Level Subheading

This is the second subdivision of section 1.1. If there is one subdivision of a section, there should be at least two.

1.1.2.1. Third-Level Subheading

This is the first subdivision of section 1.1.2. Further levels of headings may be created as needed by following the system illustrated here. Note that zeros as such are not used in this system. There is no 1.0, for example (though there might be a 10). Chapters are never numbered 1.0 or 2.0; always omit the zeroes.

Figure 2. Sample Heading Scheme Using the Decimal System

If you need more levels of headings than are shown in the samples, it is of course possible to expand the systems in a commonsense way. It is generally not a good idea, however, to splinter the thesis into minute fragments. Often a minor heading can simply be incorporated into the flow of the text.

Also keep in mind the conventional wisdom that a unit cannot be divided into a single part, or "you can't have an A without a B." If you have, say, only one second-level heading under a given first-level heading, you should probably incorporate it into the text or, if subdivision is really called for, create another second-level heading. Additionally, if you have only one appendix, call it simply "Appendix" (not Appendix A).

Documentation of Sources in the Text

Source citations are required in the text whenever you use a direct quotation, paraphrase another author's words, or include specific information that is not common knowledge (and is not the result of your own research reported in the thesis).

Systems of source citation fall generally into three categories: (1) parenthetical author-date-page documentation; (2) citation by number, keyed to a numbered reference list; and (3) footnotes or endnotes. You should select one of these systems and use it throughout the thesis. (A thesis using one of the first two systems may occasionally include a few footnotes presenting non-source information or comments.)

Whichever style of documentation you use, the references in the text must correspond exactly to the listing of sources at the end of the thesis. You should make certain that all items are included in the bibliography or reference list, that authors' names are spelled consistently and correctly, and that the dates are the same in both text and list. For a discussion of the form in which sources are listed in the bibliography/reference section of the thesis, see "Back Matter" in Section 5.

When you use a direct quotation from a source, run it into the text with double quotation marks if it is reasonably brief (four or five lines or less) with the end-of-sentence period in the normal place. If it is long, set it off from the text as a block quotation, placing the period at the end of the quoted matter, with no period after the reference citation page number. Shorter quotations may also be handled in this way if you wish to give them particular emphasis. Do not use quotation marks with a block. The quotation may be single spaced; it must be differentiated from the text by indentation of the entire block. Extra spacing above and below may be used.

Author-Date-Page Citations

This system is used frequently by authors in the social sciences, including psychology, sociology, and most areas of education. It is also used, in a slightly altered form, by some authors in the humanities and by many fields of the natural sciences. The American Psychological Association's Style Manual provides detailed instructions in this style, as do the style sheets of many academic journals that use this style.

The author-date-page system indicates, in parentheses at the end of a statement, the author's last name, the year of publication, and the pertinent page number(s). In the case of very brief articles, or if the textual reference is a general one to the entire contents of a book or article, the page number may be omitted. In this system, citations must correspond to a bibliography/reference section arranged alphabetically by author, so that a reader can easily locate the complete source.

The most common style for this type of documentation is illustrated in the following examples.

1. Reference citation paraphrased in text; note placement of period at normal end-of-sentence position.

Smith stated that the "placebo effect" disappeared when behaviors were studied in this manner (Smith 1982, p. 276).

2. Reference citation directly quoted; note placement of close quote and period.

The researchers propose an approach . . . that "focuses on the relation between input information and the general knowledge available to the subject" (Bransford & Johnson 1972, pp. 45-46).

3. Longer quotation of more than four lines or 40 word (block quote); note elimination of quote marks and placement of period.

Smith (1982) found the following: The "placebo effect," which had been verified in previous studies, disappeared when behaviors were studied in this manner. exhibited again [*italics added*], even when reel [*sic*] drugs were administered. Earlier studies were clearly premature in attributing the results to a placebo effect. (p. 276)

Other widely accepted practices for the author-date-page type of documentation vary slightly in regard to punctuation. Accepted systems do not, however, vary in the punctuation used at the end of a quotation. If the quotation is run into the text, the final punctuation mark (usually a period) should be placed after the

parenthetical citation (examples 1 and 2). If the quotation is set as a single-spaced block (example 3), the final punctuation should be placed before the citation. Follow the examples above for correct placement of punctuation before or after the parentheses.

If a source has two or more authors, use the last names of both in the text citation. If both have the same last name, use an initial preceding the last name for both:

(Wood and Donovan 1969, p. 243)

(J. Arnold & R. Arnold 1983, pp. 47-49)

If a source has three or more authors, you may use "et al." after the name of the first. Note that this term (abbreviation for the Latin et al., "and others") has a period after the "al." but not after the "et"; do not use a comma between the first author's name and this abbreviation. The following example illustrates correct usage:

(Goldstein et al. 1979, p. 23)

If the source has no individual author, use the publishing agency (or, in APA style, the title) as author:

(U.S.D.A. 1975, pp. 117-19)

In all cases, the name used in the parenthetical citation must exactly match the way in which the source is listed and alphabetized in the bibliography or reference section. If there is more than one source by the same author for the same date, these are designated a, b, etc., in the bibliography/references and the letter must be used along with the date for citations in the text:

Stevens (1980a) pretested the subjects on reading topics and related the scores to measures of comprehension.

If you need to cite more than one source at a given place in the text, use only one set of parentheses and separate the sources by commas or semicolons. Multiple sources are cited in either alphabetical or chronological order (alphabetical order is usually more useful for the reader because of the alphabetical arrangement of the reference list or bibliography). For example,

(Clark 1984, Sorenson et al. 1976, Yates 1986)

(Clark, 1984; Sorenson et al., 1976; Yates, 1986)

Sometimes authors' names (and publication dates) are included as part of the text. If so, use parentheses only for the information not included in the text:

Davidson has observed that "few definite conclusions can be reached on the basis of the available data" (1985, p. 20).

Davidson observed in 1985 that "few definite conclusions can be reached on the basis of the available data" (p. 20).

Numbered Reference System

This system is used most often by authors in the natural sciences. Detailed instructions are provided by manuals such as the American Chemical Society's Style Manual and by the style sheets of journals in these fields. In a numbered reference system, numbers enclosed within parentheses or brackets or typed as superscripts correspond to a numbered bibliography or reference list at the end of the text. The list may be alphabetized, or it may be arranged in the order in which items are cited in the text. If the list is numbered by order of citation, it must begin with 1 and continue consecutively throughout. The numerical sequence varies only when the same item is cited more than once; in that case the number is the same as for the first citation. For example, if you cite the second reference again after the sixth, the sequence of numbers would be 1, 2, 3, 4, 5, 6, 2. The next number would be 7 unless it indicates a previously cited source.

Placement of Reference Numbers. Parenthetical or bracketed numbers should be placed before periods, commas, and the like in the text, but after quotation marks. Superscripts follow all punctuation marks except dashes and are not enclosed in parentheses or brackets.

If more than one reference is cited at a given point in the text, use only one set of parentheses or brackets and separate the numbers by commas: [21, 22, 23]. The numbered reference system is most often used in scientific or technical fields where publication generally takes the form of short journal articles. For this reason it is not always necessary to cite specific page numbers. When they are needed, however, they can easily be included in the parentheses or brackets: [32, pp. 27-28] or [32:27-28].

Difficulty of Adding References. If you are using a numbered reference system and decide to add or delete a reference, you will need to renumber references both in the text and in the list at the end.

Notes (Foot- or End-)

This system is used most often by authors in the humanities and fine arts. The Modern Language Association's Style Manual and the Chicago Manual of Style as well as journal style sheets provide detailed information on this style. Footnotes or endnotes correspond to an alphabetically arranged bibliography. This system uses superscript numbers in the text to indicate notes that may be placed at the bottom of the page, the end of the chapter, or the end of the complete text (preceding the bibliography). The numbering system for notes may be consecutive throughout the text or may begin again with 1 in each chapter.

The superscript number in the text for each note is typed no more than one-half space above the line, after any mark of punctuation except a dash. It should never follow a colon or comma introducing a block quotation; it should appear at the end of the quotation instead. Do not use more than one number at a given point in the text. Instead, combine one or more source citations in one note. (In fact, some scholarly style guides recommend using one note number at the end of a paragraph for the citation of all sources mentioned in the paragraph.)

The format for the notes themselves varies among academic disciplines; consult a manual in your field. Current practice increasingly uses a relatively brief form—perhaps only the author's last name and page number. (As with other concise reference systems, the reader can easily find more complete information in the bibliography.) The Latin abbreviation "ibid."—capitalized at the beginning of a note—is useful to indicate the source cited in the note immediately preceding, but other Latin abbreviations have largely been phased out because they are not particularly functional.

Make certain when you pick a format that it is a note style, not a bibliography style. For example, authors' names in notes are not inverted, as they usually are in bibliographies, and internal punctuation is different.

If notes are included at the bottom of the page, each note must begin on the same page as the corresponding superscript number in the text. A footnote may, however, be continued on a following page if necessary.

If notes are placed at the end of chapters or the thesis, begin them on a new page with the heading "Notes"—typed as for a first-level subheading in the text (end of chapter) or a chapter heading (end of thesis). In either case, include the heading in the table of contents.

Section 5--Front and Back Matter

Front Matter (Preliminaries)
Bibliography or Reference List
Appendices

Front Matter (Preliminaries)

The front matter of the thesis includes these items, in the order given:

Title page
Permissions Page
Signatory Page
Abstract
Table of contents
List of figures or illustrations (if any)
List of tables (if any)
Preface or acknowledgments (optional)
Epigraph or frontispiece (if any)

Other items, such as a list of maps or a glossary, may also be included as needed. These precede the preface or acknowledgments. An "Introduction" may be chapter 1 or it may precede chapter 1; in either case it should be numbered as part of the text, not the front matter.

Title Page

The title page is the first page of the thesis. The required format is illustrated in Appendix B.

Minimum margins on the title page are the same as for other pages. Use appropriate vertical space between the individual items on the page so as to produce an attractive format within these specifications. (Extra space may be used to good effect above and below the thesis title.) Center all lines on the typed page. Be sure to type all items line for line as shown on the title page in appendix B, with the exception of the thesis title, which will vary in length.

The name of the graduate program, department, or college is called for primarily as an aid in library cataloging and referencing. Therefore, if this line would read the same as the graduate major cited below on the title page, it may be omitted.

Type the title using capital letters throughout. If it occupies more than one line, double space between lines. Word your title carefully so as to convey as precisely as possible the content of the thesis, and include terms that would be especially useful for purposes of information retrieval. Avoid excessive length, however, and unwieldy piling up of phrases. Express formulas, symbols, and abbreviations in words, even if the "shorthand" forms are conventional in your field and are used throughout the thesis itself. Be careful to punctuate appropriately, especially nonrestrictive clauses.

Use your legal name as it appears on your records in the Registrar's Office. If you have changed your name in any way, have the records corrected in the Registrar's Office before you submit your thesis.

If you include a copyright line (see "Copyright" in Section 7), you may begin it with either the word "Copyright" or the copyright symbol (a lower case c with a circle drawn around it; use a template to draw the circle neatly).

Designate correctly the degree you will be receiving; for example:

Master of Biomedical Sciences

Indicate the correct month and year of degree conferral, without a comma (not the date of the defense or the date you submit your thesis).

Permissions Page

This is a separate page; do not number this page; do not include it in the pagination (see Appendix B). For the print version, include a copy on thesis-quality paper with signatures (your signature and that of your Faculty Advisor) in dark ink. The form of your name, both as signed and as typed below the signature line, must be exactly the same as that used on the title page. For the PDF version, include an unsigned copy.

Whether or not you choose to include a copyright line on the title page, the thesis is your intellectual property (see "Copyright" in Section 7). In signing the permission statement you are not relinquishing any rights as author.

Signatory Page

When you submit your thesis, you must include one signatory page bearing the original signatures (in dark blue or black ink) of all your committee members or readers. The signatures indicate that these persons have approved the attached thesis as the complete and final work requiring no further alteration as an archival document. This page must be on at least 25% cotton paper, with both print and paper matching those to be used for the final copy.

Before making copies of the page for signing, however, you should have it checked by the Thesis Office for accuracy and format. In this way you can avoid the difficulties involved in getting new signatures at a later date.

NOTE: retain a copy of the Signatory Page without signatures for inclusion in your electronic submission. For the PDF version, include the unsigned copy.

The signatory page follows the title page in a doctoral thesis, and the permission-to-copy page in a master's thesis. The page number does not appear on it.

Department Head's Signature. The department or program head must sign the signatory page. If one of the signatories has a dual role (e.g., thesis adviser and head of the department), list both roles under the professorial title. If the sharing of roles leaves you with fewer than the required number of signatures, an additional reader must approve the thesis and sign the signatory page.

Number of Signatures Required. The signatory page for a master's thesis must have at least three signatures. The thesis adviser must be designated. You may have two thesis co-advisers, but not one thesis adviser and one co-adviser. If any committee member(s) withholds final approval of the thesis, the department head or graduate officer should consult the Senior Associate Dean for Curriculum and Research as to the nature of the problem and its possible resolution.

All signatories must be members of the Faculty, except in special cases approved by the Office of the Senior Associate Dean for Curriculum and Research. (To obtain approval, the department or program head should submit a request to the Senior Associate Dean for Curriculum and Research.) A person who receives special approval normally is designated on the signatory page as a Special Signatory. In either case, this designation should be the last line of the person's identification.

Be sure that all signatories are identified by their correct professorial titles. Check with the department for current information. Do not use such designations as "Ph.D." or "Dr." with the names. Administrative titles normally should not be included, with the exception of the head of the major department.

For persons not members of the PCOM faculty, the appropriate listing of professional titles may be straightforward, but should be cleared with the Thesis Office before the signatory page is finalized.

Proxy Signatures. If a signatory is not available to sign at the appropriate time, a proxy signature is allowed so that the thesis will qualify for formal submission. The department or program head may sign the name of the absent signatory and initial it beneath, thus indicating knowledge of the signatory's approval of the thesis. If at all possible, the thesis author should subsequently submit a new signatory page bearing the actual signature of the person in question.

Format. Type the page as shown in Appendix B (be sure to consult the sample page for the correct degree, master's or doctoral). Your name in the approval line typed at the top must match exactly your name on the title page.

Space the signatories' names proportionally, in no particular order, on the page, and include for each, in single-spaced list form, the professorial titles and then other pertinent designations as indicated in the paragraphs below and in the samples in Appendix B. Each signatory should fill in the blank for the date as well as that for the signature.

Abstract

The thesis must contain an abstract. An abstract is a concise summary of the thesis, intended to inform a prospective reader of the thesis about its content. It usually includes a brief description of the problem investigated, the procedure or methods, the results, and the conclusions.

An abstract should not include internal headings. It should not contain parenthetical citations of items listed in the bibliography or reference section. (If a reference is required, sufficient information should be given in the abstract to identify the source fully.) Diagrams or other illustrations should not be used.

Page Number and Placement. The abstract follows the signatory page and has the heading "Abstract" (typed in the same style used for chapter titles). Like the text, it must be double or one-and-a-half spaced. It begins on page iii, though the number may or may not appear on the page, depending on the system you are using for chapter heading pages throughout. If the abstract has a second page, it is numbered iv. There is no specific length requirement for this abstract.

Table of Contents

The table of contents is essentially a topic outline of the thesis. It is compiled by listing the headings in the thesis down to whichever level you choose. Keep in mind that there is no index in a thesis, and thus a fairly detailed table of contents can serve as a useful guide for the reader. For examples of format, see pages iii-iv of this guide and Appendix B. Your format may vary somewhat from the samples, depending on the levels of headings included, the system of capitalization used for headings in the text, length of indent for runover lines, and so on.

Typing Instructions. Type the heading "Contents" or "Table of Contents" at the top of the page, using the style you have selected for chapter titles throughout the text. List the divisions of the thesis that follow this page, beginning with the list of figures or tables (if applicable) and continuing through the other items of the front matter, the text, and the back matter. Do not list anything that precedes the table of contents, and do not list a frontispiece, epigraph, or vita. Do number the pages according to your system.

List all chapter headings and other major divisions. Be consistent in the level of heading that you list; e.g., if you list the second-level subheadings from one chapter, you should list the second-level subheadings from all chapters that contain this level.

Each level of subheading should be consistently indented a few spaces more than the preceding level. If items in the table of contents are single spaced, use dot leaders to connect each heading with its page number; dot leaders are optional with double spacing. Dot leaders must follow the end of a listing, not the end of the first line of a listing.

Be sure that the headings as listed in the table of contents match word for word and letter for letter the headings in the text. Capitalization should also follow the text. Do not, however, underline headings that are underlined in the text (though individual terms or book titles may be underlined if appropriate).

Right Aligned and Absolutely Correct Page Numbers. Align all page numbers on the right. Double and triple check to make certain that the listed page numbers are accurate; they may change as a result of revisions.

Appendix Listings. In listing appendices, indicate the title of each appendix, and include the same levels of headings (if applicable) as for the text. If you use separate title pages for appendices (see "Appendices" in Section 5), the number of the title page in each case is the one that appears in the table of contents. Type appendix titles in the same pattern you used for chapters—ALL CAPS or Initial Caps.

List of Figures and List of Tables

Include a list of figures (illustrations) and a list of tables if you have one or more items in these categories. Use a separate page for each list even if both would fit on the same page. Either list may precede the other.

Type the heading—for example, "Tables" or "List of Tables"—to match chapter titles. List the number, caption (title), and page number of every figure and table in the body of the thesis. You should also list figures and tables in the appendix if they have individual numbers and captions.

Identical Wording. List captions exactly as they appear in the text if they are relatively brief. If they are long, you may stop when you reach the first period (or other logical stopping spot) in the caption. In either case, your practice should be consistent and you should list the captions word for word and letter for letter up to the stopping point. Capitalize as in the text.

Spacing of Entries. Individual entries in the list are usually single spaced. Double spacing should be used between entries. Page numbers are typed on the same line as the last word of the caption. Dot leaders are optional. Do not break entries across the page ending.

If you use facing-page captions (see "Facing Page" in Section 6), list the page on which the figure or table actually appears, not the caption.

Preface

There is usually no reason to include a preface in the thesis. Any introduction usually appears as the first chapter. A preface is called for only when the genesis of the work needs to be explained or when the author's contribution to a multiple-authored work needs to be noted. If there is a preface, however, it usually incorporates acknowledgments. In the rare instances where there are separate sections for preface and acknowledgments, the preface appears first.

Acknowledgments

An acknowledgments page is required only if the author has received permission to use previously copyrighted material or is obliged to acknowledge grant sources. Otherwise, it is optional. If included, it is used to express the author's professional and personal indebtedness. The heading is typed as for other items in the front matter. There are two correct spellings of the word "acknowledgments" (the other is "acknowledgements"). Be sure to spell this word consistently.

General Character. The acknowledgments should be written in a dignified and professional manner. Dedications should not be included in the official copy of the thesis, though simple statements of thanks may be incorporated into the acknowledgments.

First Person or Third? When writing acknowledgments be sure that your use of "person" is consistent. If you begin with references to "the author," continue to use third person throughout. If you begin with first person ("I," "me," "my"), use first person consistently.

Epigraph or Frontispiece

Some authors include a quotation (epigraph) or illustration (frontispiece) as the last of their preliminary pages. Neither should be listed in the table of contents, though a frontispiece is sometimes included in the list of illustrations. The source of an epigraph is indicated below the quotation but is not listed in the bibliography or references unless it is also cited in the text. Do number the page if your system calls for numbering the first page of each major division.

Bibliography or Reference List

A thesis must include a bibliography or reference section listing all works which are referred to in the text, and in some cases other works also consulted in the course of research and writing. This section may either precede or follow the appendices (if any). In certain special cases, at the discretion of the thesis committee, references may be listed at the end of each chapter. Usually, however, a single section is more convenient and useful for both author and reader.

The forms used for listing sources in the bibliography/reference section are detailed and complicated, and they vary considerably among academic disciplines. For this reason you will need to follow a scholarly style manual in your field (e.g., ACS, APA, MLA).

Bibliographic citation management programs are invaluable tools for bibliography creation. Individual RefWorks accounts are provided by the Library. Students are strongly encouraged to use RefWorks.

Bibliography Subsections. The heading of this section— usually "Bibliography" or "References"—is typed like a chapter title in the thesis. A bibliography sometimes has subsections called "Primary Sources" and

"Secondary Sources"; a reference section may be divided into "Works Cited" and "Other Works Consulted." Other terms may be used as appropriate. However, if the author-date-page system of citation is used in the text, or if the sources are assigned numbers, the list of sources must not be separated into different types of publications—e.g., books, journals, government publications. These categories are properly used only with a system of footnotes or endnotes that provides complete bibliographical information.

The bibliography/reference list is numbered if number in the text cites sources. (Otherwise, it should not be numbered.) A numbered list may be arranged alphabetically, or it may be compiled in the order in which references are cited in the text. Each item is listed only once; if it is cited again in the text, the same number is used.

Alphabetical Order by Author Last Name. Sources must be listed alphabetically in the bibliography/reference section when a parenthetical author-date-page format or a system of notes (footnotes or endnotes) is used for documentation in the text. Arrangement is alphabetical by the author's last name, which is listed first for each item. Avoid the use of "Anonymous" for the author's name if at all possible. Where there is no author identified but there is a publishing agency (e.g., committee, association, and government bureau), use the agency as the author. If there is no agency, alphabetize by the title of the item. The textual reference should cite the item as it is alphabetized.

Chronological Order Only after Alphabetical Order. When an author has more than one publication in the list, arrange the items consistently in either alphabetical or chronological order. List all items for which a given person is the sole author first, followed by items of multiple authorship in alphabetical order of the second author's last name, and so on.

Use of the Long Dash. If you are using a long dash to indicate repetition of authors' names, do so only when the author or authors of the preceding item is exactly the same. Do not, for example, use a dash when the preceding entry has only a single author and the item at hand involves multiple authorship. (The long dash is used to indicate the exact repetition of one or more authors' names.)

Appendices

Material that is considered pertinent to the text of the thesis but is somewhat tangential or very detailed (raw data, quoted material too long for the text, procedural explanations, etc.) may be placed in an appendix.

If there is only one appendix, it is called simply "Appendix" (not "Appendix A"), and its title is designated. The form for the heading is the same as that for a chapter title. The heading pattern should follow the system you are using in the text for chapter headings. As elsewhere, consistency is the watchword.

Broadside Appendices and Separate Cover Pages. If there is not room at the top of the page for the heading or if an appendix is broadside on the page, a separate cover page preceding the appendix is used. If one appendix has such a display page, all appendices in the thesis must have them also for consistency. These pages must be included in the numbering system, though the numbers will not appear on them if you are omitting numbers from all display pages. The number of the display page is the one that appears in the table of contents.

The titles of appendices must be listed in the table of contents, using the same pattern of capitalization as used for chapter titles, as well as any subheadings of the levels listed for the text.

Exception to the Double Spacing Rule. Appendix material may be single-spaced. The type used in the body of an appendix does not have to match that of the thesis text, but print of separate cover pages and page numbers must be the same size and style as those used throughout. (Subheadings in photocopied material are an exception.) Sometimes photocopied appendices will show original page numbers. If so, you should type the thesis page numbers in approximately the same position used throughout. You may, however, adjust the position slightly if necessary to make the thesis page numbers clearly visible.

In general, margin and print-size requirements are the same as for the rest of the thesis. Minor variations may be acceptable, however, if required by the nature of the material. Consult an editor in the Thesis Office for a ruling on specific items. Oversize items may be included as a pocket material (see "Pocket Material" in Section 6).

Section 6--Tables and Figures

General Specifications
Captions for Tables and Figures
Appendix Figures and Tables
Spacing above and below Tables and Figures and Their Captions
Placing Tables and Figures in Text
The Half-Page Rule
Sources of Tables and Figures
Oversized Materials
Landscape Pages
Continuation of Tables/Figures
Facing Page for the Caption
Reduced Type
Foldout Pages
Pocket Material
Photographs
Plates

General Specifications

A table is a columnar arrangement of information, often numbers, organized to save space and convey relationships at a glance. A rule of thumb to use in deciding whether given materials are tables or figures is that tables can be typed, but figures must be drawn. You may need to consult a style manual in your field as an aid in preparing tabular material.

A figure is a graphic illustration—that is, it must be drawn or drafted—such as a chart, graph, diagram, map, photograph, or plate. You may have figures professionally prepared, or you may draft them yourself if the final product is of high quality. Straight lines must be typed or drawn with a ruler in black ink, and words included in the figure should be typed unless there are technical reasons why this is not possible. If necessary, particularly in the case of special symbols, you may use transfer materials, lettering guides, or very careful hand lettering. You may use the computer to generate figures, but be certain that the print is of letter quality and large enough to be readable (at least 9-point type). If you use color as a means of distinguishing different lines or areas in a figure, the distinction will be lost when the figure is photocopied. Thus, you should avoid such uses of color if at all possible.

Captions for Tables and Figures

Each table and each figure in the text must have a number and caption (title and, if appropriate, brief explanatory information). Tables and figures must be numbered in separate sequences according to the order of their appearance in the thesis. Number them consecutively throughout, beginning with 1, or by chapter using a decimal system. In the latter case, the first table in chapter 2, for example, would be table 2.1, the second would be table 2.2, and so on. Do not number tables and figures by sections in the chapter (as 2.2.1).

Appendix Figures and Tables

In numbering appendix figures and tables, you may continue the consecutive numbering system from the text or you may use a separate appendix system. In a separate system, the first table in Appendix A would be table A-1 (or A.1), and the third figure in Appendix C would be figure C-3; if there is only one appendix, the letter A (for Appendix) would precede all numbers. If you have several appendix figures or tables that can be grouped under a single appendix title—for example "Data Tables"—you do not have to give them separate numbers or include them in the list of figures and tables. They should be included in the list, however, if you number them separately. In any case, the comprehensive title of the appendix appears in the table of contents.

Spacing above and below Tables and Figures and Their Captions

Type table numbers and captions at least two lines above the table. Type figure numbers and captions at least two lines below the figure. The type used within tables and figures may vary from text type if necessary, but all table numbers and titles should match each other in format (position, capitalization, etc.) and in type style and size. All figure numbers and titles should likewise match.

You may relax the margins for pages with large figures and tables to 1 1/4" on the left and 3/4" on the right, top, and bottom. (See below for additional ways to handle oversize material.) Page numbers should appear in the same position as on other pages. If this is not possible because of the size of the figure or table, the location for the number may extend somewhat into the normal margin area.

Placing Tables and Figures in Text

To make it easy for your readers to find tables or figures, place a table or figure immediately after the first mention of it in the text—on the same page if there is room, or on the following page. Tables or figures of peripheral importance to the text may be placed in the appendix. If several tables or figures are mentioned on one page, they should follow on succeeding pages in the order mentioned. All tables and figures must be referred to in the text by number (not by a phrase such as "the following table"). Do not leave extra space on a page because you have mentioned a table or figure that will be placed on a following page; simply continue the text to the bottom of the page, and resume it after the table or figure has appeared.

The Half-Page Rule

A table or figure that is half a page or more in length should be placed on a separate page. One that is shorter may occupy a page of its own. A short table or figure may be combined with a half-page of text on a page, but at least four lines of space should separate the text from the table or figure. Two or more small tables or figures may be included on a single page, but they should be separated by at least four lines of space. Do not add text unless the tables/figures are very small. A table or figure should appear complete on one page if it will fit. If it will not, it should begin at the top of a page and continue on succeeding pages as necessary.

If you find it appropriate to group two or more illustrations together as one figure, you should provide a comprehensive caption for the figure. It is of course acceptable to label the parts a, b, etc.; in this case, the caption should identify the parts and include any necessary explanation.

Sources of Tables and Figures

If a figure or table is taken from another source, indicate the source at the bottom, either at the end of the caption (for figures only) or in a note beginning "Source: . . ." Source notes are not numbered, even if there are other numbered notes. If a figure or table is photocopied from its source, the same standards of type size and legibility apply as for the thesis in general. The number and caption (if any) are deleted from the original, and a new number and caption are added in the same font used for other figures or tables in the thesis. It is strongly recommended that minimum use of figures and tables from other sources be included in your thesis.

Oversized Materials

If you are having trouble fitting a large table or figure within the margins, even after using relaxed margins, consult the following options and select the method—or combination of methods—that is easiest and least costly.

Landscape Pages

You may place the table or figure sideways (landscape or broadside) on the page (facing to the right). If you do so, you must rotate it 90 degrees counterclockwise from its normal position. Place the table or figure number and caption sideways also so that all parts can be conveniently read together. You must place the page number in the same location as for other pages (usually the upper right corner of the sheet in its standard position).

Continuation of Table/Figures

You may continue the table or figure on succeeding pages. Type "(cont. on next page)" (without the quotation marks) at the bottom right of a figure or table to be continued. In the case of a table, the following page should have the heading "Table 4 (cont.)" (substitute the appropriate number; spell out the word "continued," if you like). If a figure is carried over to another page or pages, the complete caption should appear at the bottom of the first page only. The next page reads, at the bottom, "Figure 3.4 (cont.)" (for example).

Facing Page for the Caption

You may use the entire typing area (approximately 6 1/2 by 8 1/2 inches) for the table or figures and place the number and caption on a facing page preceding the table or figure. Type the number and caption so that they will read in the same direction as the table or figure; e.g., if you place the figure sideways, type the number and figure sideways. Place the page number on the same side of the sheet as the number and caption, in the upper left corner if your other page numbers are on the upper right. If you

are centering page numbers at the top or bottom, continue your usual practice on this page. Leave the front side of the page completely blank since you may not type on both sides of a page. (See "Page Numbers" in Section 4.)

Reduced Type

You may photo reduce the body of the table or figure to meet margin requirements. Do not reduce the number and caption, or the page number. The size of the type should be no smaller than 9 point after reduction.

Foldout Pages

You may place oversized material on a foldout page if necessary—but remember that foldouts can be awkward to handle and may be difficult to read when scanned. Paper for foldouts must be 11 inches wide and is usually 16 inches long. Thesis-quality paper of these dimensions may be obtained from the Senior Associate Dean for Curriculum and Research Office. The left edge of the foldout page should be even with the other pages of the thesis, and all folds should be made vertically. Folds must be at least 1 inch from the right edge of other thesis pages and at least 1 1/2 inches in from the left side. (The purpose of this specification is to avoid damage to the foldout when pages are trimmed for binding.) The right edge of the foldout sheet should line up with the right edge of other pages. Place the page number, as before, 1" down, 1" from right edge.

Pocket Material

You may fold oversized items and include them as pocket material. When the thesis is bound, the material will be placed in a pocket attached to the inside back cover of the thesis. Submit pocket material to the Thesis Office in an envelope labeled with your name, graduation date, and the designation "Pocket Material," at the time of thesis submission. If the material is an appendix, list it in the table of contents; if it is a table or figure, list it as such in the front matter. Use the designation "in pocket" in place of the page number in the table of contents or list of figures or tables.

Photographs

Photographic illustrations to be used in a thesis must be either original photographs or high-quality reproductions. List and caption photographs as figures unless you wish to have a separate list of photographs or plates.

Plates

If you submit photographic plates, have them produced on relatively lightweight stock. You may type or photograph figure numbers, captions, and page numbers on the same page or type them on a facing page. Include them in the pagination even if you cannot place a page number on them.

Section 7--Copyright, Authorship, and UMI

Copyright
Materials Copyrighted by Others
Fair Use Defined
Letter of Permission
Previously Published and Multiple-Authored Work
First Author Requirement
Acceptability of Reprints
Classified Material

Copyright

Copyright is legal protection of intellectual property—in this case your thesis. This protection, in accordance with the U.S. Copyright Act of 1976, begins automatically as soon as a work is created. It is up to you to decide if you wish to maintain or register your copyright; PCOM has no requirement that you do either.

Your copyright gives you the exclusive right to print, reprint, copy, and sell your work and to prepare derivative works based on the copyrighted work. It protects an author against anyone's infringement of these rights. There are, however, limitations on your exclusive right.

1. Others may excerpt portions of your thesis for scholarly work or research without obtaining your permission, provided the borrowing is "fair use" (see "Fair Use Defined" below). Of course, they must credit you as the source. Any borrowing beyond this "fair use" can be done only with your permission.
2. In order to maintain your copyright, you should insert a copyright notice on the thesis title page as directed under "Title Page" in Section 5. In this case the Copyright Office of the Library of Congress has the right to require you to submit deposit copies of your thesis. However, you would need to do so only in the event of a demand from that office for the copies.

If you include a copyright notice, you may also choose to register your copyright. Registration is a legal formality that makes a public record of your copyright. It is not a requirement for protection, but it is necessary if you can ever foresee becoming involved in a copyright lawsuit. If there is a chance you might take someone to court for using your work unlawfully—for example, if you have developed a separately marketable item such as a testing scale or computer program—you may want to complete this procedure.

Information on registering copyright is available from the U.S. Copyright Office, <http://www.copyright.gov/>. Be certain that you have included a copyright notice on the title page of the thesis if you plan to register your copyright.

Materials Copyrighted by Others

You do not need permission to use works in the public domain, i.e., works on which a copyright never existed and those on which the copyright has expired; however, you must properly acknowledge such works.

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Work by the thesis author which is published prior to thesis submission (or is currently, or is shortly expected to be published) may be accepted as (or as part of) the thesis, provided that the committee

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First Author Requirement

Your department may permit you to submit multiple-authored work as thesis material if you are first author of the work. Your contributions must be clearly and fully indicated in a preface to the thesis (see "Preface" in Section 5). If your thesis is composed of parts (published or unpublished), a comprehensive introduction should be provided. In most cases it is also appropriate and useful to have a conclusion placing the parts in perspective to the whole and making recommendations for future research. An overall bibliography is often included as well.

The styles used in previously published parts may follow the styles required by the previous publishers; thus, you may use different styles among parts. The pagination of the parts, however, must follow thesis guidelines, i.e., numbering must be consecutive from page 1 to the end of the thesis. Front matter is the same as for any other thesis.

Acceptability of Reprints

Preprints and reprints are acceptable for inclusion in the thesis if they meet type size, margin, and legibility requirements. If there are problems, consult the Senior Associate Dean for Curriculum and Research Office. Material that does not quite meet the usual type size and margin requirements may sometimes be placed in an appendix or, if not 8 1/2 by 11 inches, in a pocket. In such cases, a single display page in the body of the thesis can be used to indicate (for example) a chapter number and the title of the material, along with a designation such as "In Appendix C" or "In Pocket."

Classified Material

You may not use any information that is restricted or cannot be disseminated to the public in your thesis, because one of the primary intents of the thesis effort is to communicate the results of thesis authors' research to the scholarly community. If you believe that your thesis requires this type of special handling, your adviser or department head may direct a request to the Senior Associate Dean for Curriculum and Research.

Section 8--Other Requirements and Special Cases

Use of Human or Animal Subjects in Research
Journal or "Alternative" Format
Hiring Someone to Word Process or Edit the Thesis

Use of Human or Animal Subjects in Research

Any use of human or animal subjects for research purposes must be reviewed and approved before subjects are involved in any way. This requirement is part of the College's policy on ethics in research. It also provides legal assurance for the commitment that the College has made to the federal government regarding the protection of human or animal subjects.

In keeping with this policy, graduate students must receive approval for the use of human subjects in their research, including survey research. Approval cannot be granted by thesis advisers or committees, but must be obtained through the appropriate College committee. Research that entails more than minimal risk must be reviewed and approved by the College's committees, composed of faculty members and representatives from the community. Violations of the College's policy on human subjects are a serious breach of the trust placed in researchers by the scholarly community and society and may result in the imposition of disciplinary sanctions.

Additional information and forms for presenting proposals for the use of human subjects are available from the Office of Research Development.

Journal or "Alternative" Format

In academic areas where research is most often published in the form of journal articles, faculty members and students may wish to have the format of the thesis approximate that of a manuscript to be submitted

for journal publication. With very minor exceptions, this purpose can generally be accomplished within the bounds of the requirements set forth in this Thesis Guide. The main body of the thesis, for example, may be relatively brief, with such sections as the review of literature placed in an appendix. Tables and figures whose importance to the text is tangential may also be handled as appendix material. Or, as previously noted (Section 7), the thesis may consist of chapters that are essentially separate journal articles.

Students and faculty are invited to discuss particular cases with the Senior Associate Dean for Curriculum and Research Office staff.

Hiring Someone to Word Process or Edit the Thesis

Depending on your own proficiencies in the use of both machines and the English language, as well as the conventions of scholarly style in your field, you may want to engage the services of a typist or editor to aid you in the preparation of your thesis.

In hiring a typist or editor, you should feel free to ask for references or samples of previous work. You should establish in advance the terms of your agreement—the exact work to be done, time frame, rates, schedule for payment, and the like. Often typists and editors prefer to look over all or part of a manuscript before discussing precise arrangements. By clarifying the nature of the work to be done, this process can be advantageous to both parties.

Make certain that the typist or editor you hire has a copy of the current PCOM Thesis Guide, and, if necessary, whatever specialized style manual you are following. Do not expect a person to type and edit in one operation. Even if the same person performs both functions, editing must be done separately before typing to produce the best results.

Reference Works

The PCOM Library **Authors** Guide provides links to useful resources.
<http://www.pcom.edu/Library/Authors.html>

The works listed below are among those most frequently consulted—along with a good dictionary—as guides in thesis writing. The Senior Associate Dean for Curriculum and Research Office welcomes communication from thesis authors and faculty about other manuals and journal style sheets used in specific fields.

Chicago Manual of Style. 15th ed. Chicago: University of Chicago Press, 2003.

MLA Style Manual. 3rd ed. New York: Modern Language Association of America, 2003.

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

Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers. Washington, D.C.: Council of Scientific Editors, 2006.

Turabian, Kate L. A Manual for Writers of Term Papers, Theses, and Dissertations. 7th ed. Chicago: University of Chicago Press, 2007.

Appendix A

Guide to Some Minor Matters of Form: Capitalization, Numbers in the Text, Use of Commas

Capitalization

In capitalizing titles and headings (that is, in capitalizing the beginning letters of words), use a capital for the first and last words and any word following a colon. Do not capitalize an article (a, an, the) unless it is the first word; a preposition (of, between, with); the to in an infinitive (Right to Work); or a coordinated conjunction (and, but, for, nor, or). Do capitalize all nouns, pronouns (Its, Their, Who), verbs (Be, Is, Are, Do), adverbs, and adjectives—in short, all words not excepted above. Note that the length of the word is not the crucial factor; the function and position of the word determine whether it should be capitalized.

Some manuals favor the capitalization of prepositions of four or more letters. This practice is acceptable if it is consistent.

Numbers in the Text

The rules for handling numbers—whether to express them in numerals or words—are complex and, at times, may seem to conflict with each other. The following guidelines attempt to simplify this matter.

Most style manuals specify that numbers under either 10 or 100 should be spelled out, with larger numbers given in numerals. Whether 10 or 100 is used as the dividing line, however, there are cases in which smaller numbers also should be expressed in numerals.

1. In any context in which numbers are repeatedly used for a given category, all should be in numerals even if none are over 10 or 100.
2. If any numbers in a series are large enough to be in numerals, all must be. For example, "Replies were received from 7 superintendents, 32 principals, and 179 teachers"; "Of 114 tests run, 9 were inconclusive."
3. Numerals are nearly always used:
 - a. for percentages
 - b. for all references to page, figure, and table numbers
 - c. with units of measurement, such as inches
 - d. throughout most scientific writing
 - e. for measures of time in seconds, minutes, and hours

The principal reason for these conventional practices is the convenience of the reader, who finds it much easier to compare numbers when they are presented in the form of numerals. It should be noted, however, that a sentence should never begin with a numeral. If necessary, the number may be written out; but it is preferable to recast the sentence slightly so that it does not begin with a number.

When referring to chapters in the thesis, cite the number (whether Arabic, roman, or spelled out) exactly as it is typed for the chapter heading. Do not refer to "Chapter Two," for example, if the chapter heading is "Chapter 2."

Use of Commas

There are of course a multitude of constructions in which commas are used, and in many of these there is some latitude in the correct use of this mark of punctuation. However, certain issues call for particular care:

1. Do not use a comma with no connective word (and, or, but, etc.) between two independent clauses (comma fault). Instead, use a period or, if the clauses are closely related, a semicolon. This is a very common error. The word "however" is the culprit; do not automatically set off "however" with commas. More often than not, it should be semicolon however comma (or period). The results were inconclusive; however, they suggest some areas for future investigation. [A semicolon (or period) is correct before "however" in this sentence; a comma is not.]
2. Commas should be used in pairs to enclose phrases or clauses that are "parenthetical" (nonessential to the structure and meaning of the sentence, though perhaps informative).

My adviser, Professor R. O. Barnett, has been of particular help throughout the writing of this thesis. [Both commas are required.]

Special thanks go to my husband, Robert, for his help in tabulating the data, as well as his encouragement throughout this project. [To omit the commas would imply that the author has more than one husband.]

3. A comma is almost never correctly used before a parenthesis.

Other investigators, including Norton and Thompson (1953, p. 42), have also described this phenomenon. [The second comma must go after the parenthesis is closed.]

4. A comma should be used after the year in date forms if there is a comma before. Similarly, when the name of a city and state are given together, there should be commas both before and after the name of the state.

Paul Gorman was born on January 23, 1949, in Erie, Pennsylvania, and attended public schools in Pittsburgh.

Appendix B

Sample Pages Illustrating Format

Title Page
Permissions Page
Signatory Page for Master's Thesis
Table of Contents--"Standard" Heading Scheme
Table of Contents--Decimal Heading Scheme

Sample Title Page

Philadelphia College of Osteopathic Medicine

The Graduate Program

Graduate Program, Department or College

[optional if same as graduate major below]

TYPE YOUR THESIS TITLE HERE, IN SOLID CAPS, DOUBLE SPACED; IF TITLE IS
LONG, DIVIDE ACCORDING TO SENSE

A Thesis in [Graduate Major]* by [Author's Full Name, e.g., Leslie R. Anderson]

Copyright Notice, e.g., Copyright 1990 Leslie R. Anderson* [optional]

[single space on 3 lines]

Submitted in Partial Fulfillment of the Requirements for the Degree of

[Name of Degree]*
Month and Year of Degree Conferral, e.g., May 1990)*

*Do not use brackets. Supply the specific information called for.

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___ I grant permission to post only the Abstract.

Student Author Name

Student Author Signature

Date

___ I grant permission to post the entire work

___ I grant permission to post only the abstract.

Faculty Advisor Name

Faculty Advisor Signature

Date

Sample Signatory Page for Master's Thesis

We approve the thesis of John Doe.

Randall M. German Date of Signature

Professor of Engineering Science and Mechanics

Thesis Adviser

Barbara A. Shaw Date of Signature

Assistant Professor of Engineering Science and Mechanics

Richard P. McNitt Date of Signature

Professor of Engineering Science, and Mechanics

Head of the Department of Engineering, Science and Mechanics

Sample UMI Abstract

Abstract

*[Title of Thesis: If This Is Long, Carry It Over to the Next Line and Indent the Runover Portion]

[Author's Name as on Title Page]

[Abbreviation of Degree Expected, Month and Year of Degree Conferral]

Philadelphia College of Osteopathic Medicine

[Name of Thesis Adviser], Thesis Adviser

While the text may be the same, word for word, as the bound- in abstract, the heading is different, as indicated above. The heading is single spaced, but the text must be double spaced. the abstract may not exceed 350 words. In most fonts, this comes out to roughly one and one-half pages. Every word counts, even a, and, and the. If the abstract runs more than single page, type an Arabic 2 on the second page. Do not use Dr., Ph.D., or any professorial title with the professor's name; use only the designation "thesis adviser."

*Do not use brackets. Supply your own information.

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APPROPRIATELY

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