

**THE
UNIVERSITY OF ILLINOIS
AT
CHICAGO**

GRADUATE COLLEGE

THESIS MANUAL

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INTRODUCTION

The quality of a master's thesis or doctoral dissertation is determined by the graduate student, the student's advisor, and the thesis or dissertation committee. The Graduate College has developed this manual to aid the student and advisor in the presentation of the work in a format that is acceptable as a scholarly publication of the College. This is a consensus document. As such, these guidelines are designed to provide enough flexibility to meet the needs of each of the disciplines of the College while maintaining a style that is consistent for all theses and dissertations developed at the University of Illinois at Chicago.

TO THE STUDENT

The traditional academic finale for graduate work is the presentation of a doctoral dissertation or master's thesis (hereafter both will be referred to as thesis unless otherwise specified). The thesis serves as evidence that students have performed significant and acceptable research and/or scholarly work in their fields. Further, the thesis is a public and permanent communication of that effort for the edification of anyone interested in the field. It may stand on its own or it may serve as the starting point for additional study. The preparation of a thesis should thus be a source of pride not only for you, the student, but for the Graduate College as well. It should be as carefully written and edited as any other book in the library. The Graduate College, as the repository of the thesis, has a responsibility to ensure that certain standards of clarity, form, and suitable communication are met before accepting the thesis as final. You, as author, have to assume primary responsibility for both the content and the format of the thesis, however, your department is responsible for checking and verifying the format before the thesis is submitted to the Graduate College. You must be fully aware of the expectations of all aspects of the Graduate College guidelines. There are, of course, several possible means of communicating the same information depending on the nature of the information and the particular biases of the communicator. It is the purpose of these guidelines to assist you, regardless of field, in the preparation of a thesis that is consistent with high standards of appearance and communication. They are not meant to be restrictive or obstructive, but rather to ensure that there is a constancy of excellence over time and across the diverse areas of graduate scholarship within the Graduate College. It is hoped that these guidelines will apply to nearly all theses. Special problems can and do arise which cannot be solved by these guidelines. You are encouraged to discuss such problems with your thesis advisor when you begin to write your first draft, before you invest time and energy on a solution that may prove to be unacceptable. It is our intent to be helpful in achieving what should be one of your most rewarding goals in graduate studies.

TO THE ADVISOR AND DIRECTOR OF GRADUATE STUDIES

The purpose of this publication is to assist students in the preparation of their theses. It is also a guide for those who assist with the compilation or typing of information and who may not have had experience in thesis preparation. **It is not intended as rigid sets of rules that must be adhered to under all circumstances. There are many styles that are appropriate to particular disciplines and style manuals are available for those disciplines.** The American Chemical Society and the American Psychological Association are but two such examples. Style manuals such as Turabian, MLA Style Manual, and the University of Chicago Style Manual are more general in nature.

Please bear in mind that a thesis is a permanent record of the scholarly work performed by a student as a requirement for an academic degree awarded by this University. Its appearance and quality of workmanship are a reflection on you as well as on the student and the University. It is thus your responsibility to see to it that what is to go on public display in the Library or in University Microfilms is of the highest standard. It is in your role as editor for content, style, and correct grammar that this manual will be most useful. You must act as the primary reviewer for the Graduate College.

An old adage says "parenthood and proofreading are two obligations which cannot be delegated." You should encourage your students to meet the latter. The Graduate College does not provide proofreading services. The academic program (thesis advisor and/or Director of Graduate Studies) must check both content and format of the thesis. The Graduate College review is limited to certain aspects of format only (e.g. Title Pages).

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GENERAL INFORMATION AND DEADLINES

1. Program Responsibilities for Editing and Format

The Graduate College has ultimate responsibility for the quality of the thesis. The Graduate College has delegated the responsibility for quality control of content, most aspects of format, choice of style, proofreading, grammar (including word divisions and abbreviations), underlining, references and citations, etc., to the student's academic program. Unless a program has provided an alternative mechanism, the primary responsibility for this review must be assumed by the advisor. The thesis advisor is the closest representative of the Graduate College to the student, and is the best person to function as the primary editor.

Non-traditional theses (poems, stories, collections of published papers, etc.) should follow the traditional thesis format as closely as possible.

2. Graduate College Responsibilities for Editing and Format

The academic program is responsible for reviewing and approving most aspects of format before the thesis is submitted to the Graduate College. The Graduate College review is limited to only certain aspects of format. Specifically, the Graduate College will receive one electronic copy of the thesis, as well as some additional documents, and check for, or review, the following:

- A. **Examination Report** from the defense, Graduate College copy. This should be submitted by your program to the Graduate College within 48 hours, even if conditions are listed on the form. (The program should retain a copy and give the student copy to the student.)
- B. Verification of satisfactory completion of any conditions the defense committee may have specified on the **Examination Report** (if applicable).
- C. **iThenticate Report Form** (shared with the Graduate College via Box folder). The Graduate College may review the actual *iThenticate* analysis if necessary.
- D. A confirmation email from the committee chair verifying the version of the submitted thesis/dissertation is the final version approved by the committee (email to chair is auto-generated during the electronic thesis deposit, and that email includes a link to the submitted PDF).
- E. Information and spacing on the title page of the thesis.
- F. Print size and quality of the thesis.
- G. Spacing (double-spaced text) of the thesis.
- H. Abstract (submitted electronically as part of the thesis upload process).
- I. Publishing / Library fee payment confirmation (the Graduate College receives electronic confirmation when online payment is completed).
- J. **Survey of Earned Doctorates** submission is mandatory (doctoral only). The student may write "refused" for any question. This is an electronic form and submission, for which the Graduate College receives electronic confirmation when completed.
- K. One 9X12 Manila envelope that holds the **Dissertation Publishing Agreement** (doctoral only).
- L. **Thesis/Dissertation Student Information Label**, available from Graduate College as self-adhesive label, or printout from website (doctoral only). For the front of the manila envelope.
- M. **Dissertation Publishing Agreement** (doctoral only, mandatory) – PDF available on Graduate College website.

3. Protocol Approval

Federal regulations require that any research which involves the use of either human subjects or animals be approved by the Institutional Review Board (IRB) or the Animal Care Committee (ACC).

The regulations are all-inclusive in that surveys, interviews, pre-existing data and human tissues obtained for non-research purposes require review by the IRB before the research can be done. If the work is completed without IRB or ACC approval, it cannot be published, even as a thesis. Copies of the IRB or ACC approval must be included in the appendix of the final draft of the thesis submitted for review by the Graduate College. It is University policy that theses which are not in compliance with the Office for the Protection of Research Subjects (OPRS) or the Office of Animal Care and Institutional Biosafety will not be accepted for fulfillment of graduation requirements. For further information on IRB requirements, see <http://research.uic.edu/compliance/irb> or contact OPRS at 312-996-1711, Room 203, Administrative Office Building. For further information on ACC requirements, see <http://research.uic.edu/compliance/acc> or contact OACIB at 996-1972, Room 206, Administrative Office Building.

4. **Thesis Committee**

Students should select their committee members early in their research program. Selection guidelines set by the student's specific program and the Graduate College must be followed (see <http://grad.uic.edu/exams-defense>). The **Committee Recommendation Form** (fillable pdf at <https://grad.uic.edu/graduate-student-forms-publications>) for the proposed final examination committee must be submitted to the Graduate College for approval no later than three weeks before the date of the thesis defense (see page 19). After the Graduate College approves the proposed committee, an **Examination Report** form (see page 21) will be sent to the student's program for use at the defense.

5. **iThenticate Review**

In an effort to help graduate students from inadvertently including previously published work in their theses or dissertations without proper citation, paraphrasing, or quoting, the Graduate College requires students to screen their theses and dissertations using *iThenticate*. **The student must complete the *iThenticate analysis and iThenticate Report Form* prior to the defense. The analysis and form are shared with the advisor, and the form is provided to the whole committee.** Access to *iThenticate* will be given to the student by the Graduate College upon submission of the Committee Recommendation Form for the final defense. Complete information and tutorials are at <https://grad.uic.edu/ithenticate-review-procedures>.

The ***iThenticate Report Form*** (see page 22) will be used to report the results of your *iThenticate* scan results to your committee and the Graduate College. Thus, your review and the form must be completed before your defense and shared with your committee. By signing the **Examination Report** after a passing result, the defense committee is verifying they have reviewed the ***iThenticate Report Form*** and resolved any questions that may arise in a satisfactory manner. If there is a pass with conditions listed on the **Examination Report**, the person charged with verifying the conditions have been met will also verify that the changes have been properly reviewed with *iThenticate*. This form must be submitted to the Graduate College before your submission may be approved.

6. **Thesis Format Approval By Student's Program**

After the thesis has been defended and approved by the student's committee, the final revised version first must be submitted to the program for format approval (procedures vary by program). Students are strongly encouraged to ask questions about format from their program as soon as the preliminary chapters are to be written, and when a first draft is initiated.

7. **Submission of Final Approved Thesis to the Graduate College**

After the program approves the format of the defended thesis, the student must submit one electronic version of the final, corrected thesis to the Graduate College by the deadline for final approved thesis submission, as published for that term (see page 16 for additional material required by this deadline). The Graduate College may need approximately three weeks to review the submitted thesis during peak submission periods, especially near the submission deadline.

8. **Filing for Graduation**

Students must file for graduation using the online electronic submission **Intent to Graduate**. For instructions and link to the form, see <http://grad.uic.edu/graduate-student-forms>, or www.my.uic.edu (Student–Self-Service). The deadline to submit your graduation request is the Friday of the third week of the term (second week for Summer Session) of which you intend to graduate.

TECHNICAL INFORMATION

These guidelines may be used for the preparation of theses from any discipline within the Graduate College. Other recognized authorities such as APA or ACS may be used but must be adhered to throughout the thesis. Regardless of style, all theses should attempt to meet certain uniform standards of the College and the technical criteria indicated in these guidelines by an asterisk (*). The technical criteria that do not have an asterisk are optional and may be replaced by another recognized style. Those criteria that will be examined by the Graduate College staff are indicated by (GC).

* 1. **Font and Point (GC)**

The same typeface is to be used for all pages of the thesis except where italics are appropriately used. Typeface for text may not be less than 8 points and not exceed 12 points; typeface for headings may not exceed 12 points.

* 2. **Spacing**

- A. Double space: general text **(GC)**
- B. Single space: TABLE OF CONTENTS, tables (except short tables which may be double spaced to improve appearance), long quotations (usually also double indented), footnotes, figure legends. Other accepted disciplinary practices may be used.
- C. Appendices may be either single or double spaced.

No "widows" or "orphans" are allowable. A widow is a single line of text at the top of a page; an orphan is a single line of text at the bottom of a page. You must have at least two lines of text at the top and bottom of a page, even if a new paragraph or subsection follows directly. Most word processing packages can automatically prevent the creation of widows and orphans in the set-up or format of the document.

* 3. **Margins**

All pages must have margins of at least one inch (1") on the left side, and no less than one-half inch (½") on the other three sides. Material placed lengthwise (landscape) on the page is printed so that its width is the length of the page and placed in the manuscript so that the top line of the type is 1" from the edge of the page (see pages 40 and 45).

* 4. **Pagination**

Preliminary (pretext) pages are numbered consecutively **at the center bottom of each page within the typing area of the page**, using lower case Roman numerals and not followed by a period or enclosed in hyphens or parentheses. The title page, while counted as number “i” is unnumbered.

Arabic numerals are used, beginning with number 1 on the first page of the text and continuing consecutively throughout the rest of the thesis, including the CITED LITERATURE, BIBLIOGRAPHY, and VITA. All pages after the preliminary pages should be numbered in the upper right-hand corner within prescribed margins (see ILLUSTRATIONS, FIGURES, and SCHEMES for exceptions). Every page must be numbered consecutively, including appendices, diagrams, figures, and tables.

Page numbers must be inside the prescribed typing space, (i.e., numbers must be at least one-half inch (½”) inside the paper edges) and not followed by a period or enclosed in hyphens or parentheses. Two blank lines should appear between the page number and the text at the top of the page.

PRELIMINARY PAGES

Note: The name of the author, title of thesis and punctuation as approved by the Graduate College on the Committee Recommendation Form must appear on the **Title Page**. At least one given name (first or middle, etc) must be spelled out in full in addition to the family name (surname). No titles, such as RN, MD, etc., other than the degree being earned may be used on the title page. Additionally, your complete committee (specifying advisor and chair) are listed on the title page.

* 1. **Thesis Title and Title Page (GC)**

A. **Thesis Title**

The title should not contain abbreviations (including scientific, mathematical, or chemical names or symbols, whenever possible). Dissertation Abstracts guidelines recommend the use of word substitutes for formulas, symbols, superscripts, subscripts, Greek letters, etc., in the title. Abbreviations such as CPR, VD or COPD should be avoided. **Length of title may not exceed 105 characters including spaces.** Since the student’s name and thesis title must be identical to the title page in the thesis finally submitted, the student should be certain that the information on the **Committee Recommendation Form** is what is desired, at the time the form is sent to the Graduate College. If the title of the thesis will be different from that listed on the submitted Committee Recommendation Form, a Request for Change in Thesis Title or Committee Member(s) form must be submitted and approved by the Graduate College well before submission of the thesis. The thesis title should be mixed-cased (see example on page 24).

B. **Format of Title Page**

The title page is page i, but it does not receive a page number (see page 24). Other preliminary pages follow in the order listed below, the first actually numbered is page ii and all others follow consecutively. All preliminary pages except the title page must be sequentially numbered in lower case Roman numerals. The spacing and format of the title page should follow the example given on page 24. It should include the names and roles of the defense committee. The chair and

advisor should be specified as well as department (if from UIC) or institution (if from outside UIC) of the outside member.

C. **Fall Semester Theses**

If the deadline for thesis submission to the Graduate College for format approval for a fall semester is not met, the title page must use the following year as the date, since the degree will be awarded in the spring semester of the next year.

* 2. **Dedication (optional) (if used, page number ii)**

The dedication contains no special heading; see example on page 25.

* 3. **Acknowledgments (optional)**

An ACKNOWLEDGMENTS page may be included in a preface (see below), or it may stand alone. It is a brief note of appreciation for assistance given the candidate in the research and preparation of the thesis. The word ACKNOWLEDGMENTS should be centered at the top of the page. About five lines below the last line of the acknowledgments, beginning one inch (1") from the right-hand margin, the initials of the author should be given, all in capital letters, with no space or punctuation between them, e.g., ABC (see page 26). Continuing pages must be headed also, e.g., "ACKNOWLEDGMENTS (continued)", if this section is longer than one page.

* 4. **Preface (optional)**

A PREFACE may contain the author's statement of the purpose of the study, or special notes to the reader. Continuing pages must be headed, PREFACE (continued), if this section is longer than one page. An acknowledgement may be included in the Preface, or may have a separate section.

* 5. **Table of Contents**

Each entry shown should have a page number with leader dots from entry to page number that should flush right to the right margin. The heading TABLE OF CONTENTS should be centered and capitalized. The divisions shown in the table of contents must agree, in wording and style, with the divisions in the text. The preliminary pages should not be shown in the TABLE OF CONTENTS. Roman numerals are used to designate chapters. Main headings should be shown in capital letters both in the TABLE OF CONTENTS and in the text headings. APPENDICES and the VITA should be shown in the TABLE OF CONTENTS. Note that no titles are shown with the listing of appendices (see examples on pages 27-28 and 29). Continuing pages must be headed, TABLE OF CONTENTS (continued), if the table of contents is longer than one page.

* 6. **List of Tables**

When tables are used, a LIST OF TABLES should be placed on a separate page immediately following the TABLE OF CONTENTS. Center and position the heading, LIST OF TABLES, in the same manner as the TABLE OF CONTENTS including leader dots. Table numbers should be presented in Roman numerals, e.g., TABLE I, TABLE II, etc., and table titles in capital letters. If the title is longer than one line, it should be single spaced, with double spacing between titles (see page 30). The complete table title must be shown. Appendices which are actually tables must be listed here as sequentially numbered tables. Continuing pages are headed, LIST OF TABLES (continued), if the list of tables is longer than one page.

* 7. **List of Figures**

When figures, process flow charts, metabolic pathways or similar schematics are used, a LIST OF FIGURES should be shown on a separate page immediately following the LIST OF TABLES. Center and position the heading, LIST OF FIGURES. Figure numbers should be presented in Arabic numerals. Each figure or illustration must have a legend or title, with leader dots to a page number. The figure legend is presented in lower-case letters except for the first letter of the first word, which is capitalized (see page 31). Either the full legend may be used or an abbreviated, adequately descriptive legend may be used. Continuing pages are headed, LIST OF FIGURES (continued), if the list of figures is longer than one page.

* 8. **List of Abbreviations or Nomenclature**

If more than three abbreviations of words or phrases which are not in common usage are used in the texts, e.g., ATP, COPD, a LIST OF ABBREVIATIONS (also called nomenclature) must be included (see page 32). Continuing pages must also be labeled as above, if the list is longer than one page.

* 9. **Summary**

All theses, masters and doctoral, must have a SUMMARY. This is not an abstract. Continuing pages must be headed with SUMMARY (continued), if the summary is longer than one page (see page 33).

* 10. **Abstract**

The abstract is not a part of the thesis, but is submitted separately as part of the electronic submission process. A paper copy of the abstract is not required. The abstract must not exceed three hundred and fifty (350) words (maximum two thousand, four hundred and fifty (2,450) typewritten characters, including spaces and punctuation). Mathematical formulas, diagrams, and other illustrative materials are not recommended for inclusion. Outside readers typically view the abstract before deciding to read the thesis, so it should be well written, logical, and a complete reflection on you work.

USE OF PUBLISHED ARTICLES, FIGURES, AND TABLES, AND ARTICLES WITH MULTIPLE AUTHORS

See Introduction to Screening Your Thesis or Dissertation at <http://grad.uic.edu/ithenticate-review-procedures> for examples and more information for the following.

1. Published Articles

Some disciplines allow a student's published work to be used as part of their thesis or dissertation. The student should verify with their program the policy for this. If allowed and if the entire document is reprinted, students must follow the rules of their department and committee as well as the rules of the publisher who holds the copyright for that work. This will typically include: (1) An acknowledgement of the previous publication and the journal in a written statement in the text (e.g. under the Chapter Title, following the publisher's format); and, (2) Either written permission from the publisher or a statement from the journal's/publisher's website outlining their policies placed in an appendix of the thesis or dissertation.

2. Published Figures and Tables

Tables and figures may be copied directly from published documents only with the permission of the holder of the copyright, usually either the author or the professional society responsible for the

publication of the journal. It is not enough to simply cite the source. Rules of the publisher must be followed as described under **Published Articles** above. Additionally, each table, figure, image, etc. should include required citation as mandated by the publisher. Either written permission from the publisher or a statement from the journal's/publisher's website outlining their policies placed in an appendix of the thesis or dissertation. See page 48 for a sample letter.

3. Use of Articles with Multiple Authors

When a student is an author of a multiple author manuscript and wants to include that manuscript in their thesis or dissertation, all of the above rules should be followed and a description of the student's contribution, as well as the other authors' contributions, must be included. As many publications are collaborative in STEM disciplines, student may have a mixture of first author and middle author manuscripts as well as unpublished work. In these instances, in order to make clear to outside readers what a particular individual's contributions are, a statement following the *Acknowledgements*, and prior to the *Table of Contents* entitled *Contribution of Authors* should be included in the preliminary pages.

4. Use of Descriptions of Devices or Methods Used in Labs

Frequently, students in the STEM fields will include descriptions of devices or methods that are commonly used by their laboratories or research groups that have been previously published. If the student cannot paraphrase these statements (with proper citation) they should be placed in quotation marks and include the appropriate citation.

TEXT

The text is the main body of the thesis in which the problem is stated, methods described, results presented, analyzed and discussed, findings interpreted and conclusions reached. An introduction is optional. If an introduction is used, it becomes Chapter 1. The organization of the text will vary with different subjects, but a consistent style should be followed. Each chapter must begin on a new page. If a thesis is in two or more distinct parts, the CITED LITERATURE may follow each part

*** 1. Illustrations and Figures**

Illustrative materials may be figures, drawings, charts, diagrams, photographs, process flow charts, metabolic pathways, and if necessary, other items which may be approved by the Graduate College. Illustrations may be used whenever necessary. An illustration should be separated from the text both above and below by approximately five (5) single-spaced lines, or placed on a separate page, depending on the size of the illustration. If the illustration is too large to immediately follow the part of the text relating to it, the text should be continued and the illustration placed on the page that follows. This is particularly important in doctoral theses, which are microfilmed.

Multi-part figures, e.g., Figure 1A, 1B, etc., may be nested vertically or horizontally on the page and labeled Figure 1 with a legend that covers all parts of the figure. Separate figures, e.g., Figure 1 and Figure 2, must appear vertically on the page and may, or may not, be separated by text. Separate figures are never organized horizontally nor are they integrated with partial lines of text.

The legend and page number must be in the same typeface as the rest of the thesis; reduction of that typeface is not acceptable. Also, the legend cannot be copied with the illustration; original printing must be used for the figure legend. The illustrations should be numbered consecutively throughout the thesis, with Arabic numbers, i.e., Figure 1, Figure 2, etc. Figures are to be identified by

numeral only. Do not use designations such as Figure 1A, 1B except when referring to specific portions of a figure in the text. Figures may be set up with A and B parts.

When referring to figures in the text that are shown in the Appendices, use the following style: Figure 8, Appendix A.

A. **Size**

Preferably, drawings should be designed so that the figure number and legend can be placed on the same page within the prescribed margins with the figure legend appearing below the figure. If this is not possible, a page may be inserted between the text and illustration and the legend typed on a separate page.

Chemical structures need not be labeled as figures (see Formulas and Equations, page 8). Figure legends are to be as brief as possible; the extensive description should appear within the text.

B. **Oversize illustrations**

Illustrations larger than page size must be reduced to fit within prescribed thesis margins.

C. **Figure pagination**

The illustration page and the legend page (if one is used) are numbered consecutively within the text. If illustrations have several overlays, the overlays must be numbered as additions to that page, i.e., 36a, 36b, etc.

D. **Footnotes to figure legends**

Footnotes to figure legends must be identified by superscript lower case letters or Arabic numerals. Footnotes that are longer than one line should be single-spaced, however, a double space must be used between each footnote. Only one footnote can be placed on a single line. Footnotes longer than five lines should be avoided.

*2. **Tables**

Tables should be inserted into the copy as soon as possible after they are first mentioned. If the table is too large to follow immediately the part of the text relating to it, the text should be continued and the table placed on the page that follows. A table should be separated from the text both above and below it by approximately five (5) single spaces, or placed on a separate page, depending on the size of the table. Tables larger than one-half page should be placed on a separate sheet. A table of one page or less in length should not be divided and typed on two pages. Tables running longer than one page should be started on a new page and may be continued on one or more pages, as needed. Do not include text on the same page with tables that are more than one page long. The continuing page for the table must include the title and column headings. A table that is too wide for the page may be placed lengthwise on the page (see example on page 41-42). Tables that can fit either vertically or horizontally on a page must not be reduced. Only those tables that are too large to be placed horizontally may be reduced and continued on two or more pages, if necessary. Page numbers are not to be reduced in size as they must be in original type.

Be sure that tables can be read easily. Table titles are to be single-spaced; the body of the table may be single- or double-spaced for clarity and appearance. Headings and column and row entries should be clearly related. Ordinarily, vertical rules are not necessary, but in an extensive table they may be desirable. All tables should be numbered consecutively throughout the thesis with Roman

numerals, i.e., TABLE I, TABLE II, etc. Tables should be identified by numeral only. Do not use designations such as Table 1A, 1B. Tables may be set up with A and B parts. The table title should be in capital letters. Footnotes to tables are to be identified by lower case superscript letters (see pages 45 and 46); footnotes showing significance, such as p-values, may be indicated by asterisks. Each footnote should be single-spaced, however, a double space may be used between each footnote to improve appearance. Each footnote must be on a separate line ending with a period.

When referring to tables in the text that are shown in the Appendices, use the following style: Table VI, Appendix C.

3. **Footnotes Within the Text**

Footnotes may be used, but only to clarify or explain. Footnotes are not generally used as references and never as an indication of companies from which supplies were obtained. They may be numbered sequentially throughout the text or may begin with number 1 on each page; superscript Arabic numerals are to be used and must appear on the page where cited. An example of the format is given below.¹ Footnotes used in tables and figures must be identified by lower case superscript letters.² All footnotes must be within the required margins. Lengthy footnotes should be avoided (see page 35 for a correct example). A single footnote must not be split to two or more pages; the whole entry must be shown on the same page.

4. **Endnotes**

Endnotes at the end of chapters are an acceptable alternative to footnotes in those disciplines where the use of endnotes is a common practice. Endnotes follow the same format as footnotes, single-spaced with double spaces between them. Endnotes are not to be used to replace CITED LITERATURE.

5. **Formulas and Equations**

Long, complex mathematical and chemical equations should not be included in text lines, but should be placed in proper position in the center of the page between lines of the text.

6. **Chemical Structures**

When chemical structures are identified by numbers, they should be numbered consecutively throughout the thesis with underlined, Arabic numbers. Mathematical and chemical equations may be identified by designations, e.g., Equation 1, Equation 2, etc.

7. **Scientific and Numerical Notations**

As stated in the recommendations of the Thirtieth World Health Assembly of the World Health Organization (WHO), the WHO "...recommends the adoption to the use of SI units by the entire scientific community, and particularly the medical community throughout the world." Although usage of this system may vary from field to field, it is recommended that all measurement be given in the

¹ Footnotes appear at the bottom of the same page.

² Each footnote must appear on a separate line.

appropriate SI (Système International) units. These units and conversion factors are published in various scientific journals and handbooks. In some cases for the sake of reader clarity, it may be appropriate to express the units in both SI and, in parentheses, the less-scientific form. For example, most persons still think in terms of calories (more appropriately kilocalories or kcal) than in Joules. The proper SI expression would be "...contained 2510 J (600 kcal)...". When citing values from published manuscripts in which the units are not in SI, use the same format as above, such as "...reported total serum cholesterol concentrations of 6.21 mmol/L (240 mg/dL)...". If SI is to be used in parts of the thesis, it is strongly recommended that it be used consistently throughout.

Note that the symbol for liter is always a capital L rather than lower case.

When giving a decimal value of less than one (1.0), always precede the decimal point with a zero. For example, use 0.75 $\mu\text{mol/L}$ rather than .75 $\mu\text{mol/L}$. This style of notation avoids confusion as to whether or not the spot on the paper is a decimal point.

Be judicious and consistent in the use of significant figures. Frequently a biological process cannot be measured accurately to more than three or four significant figures. Generally, the number of units to the right of the decimal point in the standard deviation or standard error of the mean should be the same as used for the mean of the observations.

* 8. **Foreign Language/Foreign Terms**

If the thesis is written in English, terms in Latin, Greek, or other foreign languages should be underlined or italicized. In the case of taxonomic terms, the full binomial (genus and species) must be given on the occasion of the first citation; thereafter the initial of the genus plus the name of the species is given, e.g., first citation, Bufo americanus; subsequent citations, B. americanus. Abbreviations of Latin phrases in common usage such as et al., e.g., i.e., etc. need not be underlined, but unabbreviated phrases such as in vivo, in utero, and in vitro must be either underlined or italicized.

(GC) If the primary literature on a subject matter is in another language, and the thesis or dissertation addresses a community of scholars who publish in a language other than English, a student may elect to write the thesis/dissertation in that language at the discretion of the student's department, provided that all committee members read the language and support its use in the dissertation. Approval of the Director of Graduate Studies from the student's program is required. All theses/dissertations must include an abstract and title page in English. A second title page in the language of the thesis/dissertation may be included or the English title page may also include the title in the dissertation language underneath the English title.

* 9. **Abbreviations**

No abbreviations should appear in chapter headings or subheadings; also, sentences should not begin with abbreviations, symbols, letters or numbers. Ampersands (&) may not be used in the body of the text except in citations.

* 10. **Subheadings**

All subsections within chapters or sections must be underlined. A change in printing font may not show up in microfilmed copies. Subheadings should be indented as in an outlined format (see pages 39, 40, and 42-45). Do not start a paragraph on the same line as the subheading. Reference listings or reference numbers are not to be placed next to titles or subheadings. Subheadings more than one line in length should be double-spaced. All subheadings must be shown in the TABLE OF CONTENTS. Headings and titles of any kind must be identical in both the TABLE OF CONTENTS and the text, the LIST OF FIGURES and the text, and the LIST OF TABLES and the text.

REFERENCE MATERIALS
(Using the Chicago Manual Style)

* 1. **Text Citations**

Form A: Author and date are included in parentheses in the text. Complete references are listed alphabetically in the CITED LITERATURE and BIBLIOGRAPHY and are not numbered. Both names are included in the text citation in the case of dual authorship. If more than two authors are involved, only the first author's name followed by et al. is shown without a separate comma. Examples:

(Smith, 1958)
(Jones and Elsdale, 1962)
(Harrison et al., 1971)

When the same author(s) and year are used for two or more different references, lower case letters are used along with the date.

(Doe, 1975a)
(Doe, 1975b)

When more than one reference is used for a given citation, the following forms should be used.

(Clark, 1976; Smith and Smith, 1974)
(Ware, 1954a; 1954b)

Form B: References in the text are enumerated and cited consecutively by number and are listed in the CITED LITERATURE in the order of their first citation.

Alloxan-induced diabetes is often accompanied by tubule cell destruction (34).

Form C: References may be listed alphabetically by author in the CITED LITERATURE, enumerated there, and cited by number in the text.

Regardless of whether Form A, Form B, or Form C is used, personal communications, unpublished communications, and unpublished data are to be identified only in the text and not in the CITED LITERATURE, regardless of style used.

(Jones, 1980, personal communication)
(Andersen, 1975, unpublished data)

* 2. **Cited Literature**

All cited references must be listed in the CITED LITERATURE in consistent form. A single CITED LITERATURE section as distinct from a BIBLIOGRAPHY is included at the end of the thesis, unless the thesis has two or more distinct parts, in which case the CITED LITERATURE may follow each part. Journal abbreviations may follow Index Medicus, Chemical Abstracts, or other widely-used styles as determined and approved by the department. The CITED LITERATURE shall be single-spaced with double spacing between each entry (see below and pages 44 and 45). The term anonymous should not appear in this section. Personal communication, unpublished

communication, and unpublished data are to be identified only in the text and not in the CITED LITERATURE. Each entry must list each author's names; et al., ibid., or op. cit., are not acceptable for usage in the CITED LITERATURE. References that do not have an author should be alphabetized by the title of the reference.

* 3. **Bibliography (optional)**

In special cases, reference material not actually cited in the text may be included in the thesis in a BIBLIOGRAPHY, which follows the CITED LITERATURE section. The format for such supplemental references must follow the format of the CITED LITERATURE. The BIBLIOGRAPHY is not to be used to simply lengthen the thesis, but to provide additional sources of information for the reader.

* 4. **Examples of Both Cited Literature and Bibliography**

Journal Article

Grumbach, M., Morishima, A., and Taylor, J.H.: Human sex chromosome abnormalities in relation to DNA replication. Proc. Natl. Acad. Sci. USA 49:581-589, 1963.

Book

Elkinton, J.R. and Danowski, T.S.: The Body Fluids. Baltimore, Williams and Wilkins, 1955.

Chapter in edited volume

Schneider, I.: Insect tissue culture. In: Methods in Developmental Biology, eds. F.H. Wilt and N.K. Wesnes, pp. 543-554. New York, Thomas Y. Crowell Co., 1967.

Dissertation or thesis

Ross, D.: The Irish-Catholic Immigrant, 1890-1900. Master's thesis, Columbia University, New York, 1975.

Public document

United Nations: Report of the United Nations Scientific Committee on the Effects of Atomic Radiation. General Assembly, Official Records: Thirteenth Session, Supplement 17 (A13838). New York, 1962.

Public law

Public Law, no. 585, 79th Cong., 2nd Sess., August 1, 1946.

Legal case

Bellmeyer v. Independent District of Marshalltown, 44 Iowa 564, 1976.

Patent

Ebnoether, A. and Rissi, E. (Sandoz Ltd.): Dihydro-3-(4-hydroxy-1-phenethyl-4-piperidyl)-2(3H)-furanones. U.S. 3,740,407 (Cl. 260-293.67; CO7d), Appl. 52,736, 6 Jul 1970; 6 pp, 19 Jun 1973.

Reprint of earlier edition

Audsley, G. A.: The Art of Organ Building. 2 vols. 1905. Reprint (2 vols. in 1). New York, Dover Publications, 1964.

Review

Dowden, W. S.: Review of The Poetic Voices of Coleridge. by M. F. Schultz, Modern Philology 62:270-272, 1987.

Note: Each reference must be shown or listed separately. If a reference has more than one year of publication, etc, it must be listed separately for each year. **Do not use the following example** (with multiple years for publication listed).

Dowden, W. S.: Review of The Poetic Voices of Coleridge. by M. F. Schultz, Modern Philology 62:270-272, 1987a; Dowden 1988b; Dowden 1989c.

Because thesis citations and bibliographies are an important reference source for graduate students and other scholars, it is important that complete, full references be employed. This includes all authors, editors, publishers, dates, and both beginning and closing pagination.

APPENDICES

In some theses it may be desirable to include certain materials, e.g., text forms, blank record forms, detailed descriptions of apparatus, extensive tables of raw data, etc., which do not form a part of the text. Such materials should be included in the appendix that preferably follows the cited literature unless additional citations are in the appendices. Appendices are paginated consecutively from the preceding pages. Tables and figures in the appendices must be numbered consecutively continuing the numbering in the text.

Explanatory footnotes to charts, tables, and figures shown in the appendices must be indicated by the use of superscript lower case alphabetical letters or Arabic numerals as in the text.

Forms appearing in the appendices must have margins within the limits of the thesis text.

When there is a single appendix, that section should be headed only with the word APPENDIX. When there are several, the first page must have the word APPENDICES centered within the margins. The first appendix should be headed APPENDIX A, and continuing pages must be headed APPENDIX A (continued).

VITA

(applicable for all thesis and dissertations)

This section should be headed VITA. A VITA is not a resume. It is a professional biography of the candidate, including educational institutions attended, degrees, professional qualifications (including degree currently receiving from the University of Illinois at Chicago), honors, awards, publications, teaching and professional experience, and any other pertinent material. It should be short and written concisely in the style of a curriculum vitae, with no personal information included. The publications listed in the vita should follow the format used in the CITED LITERATURE section of the thesis; see example on page 48. The VITA does not have to be limited to one page in length.

SUBMISSION OF THESIS TO THE GRADUATE COLLEGE

Students in all programs must submit their master's thesis or doctoral dissertation to the Graduate College electronically, as a PDF through the Electronic Thesis and Dissertation submission system located at etd.uic.edu.

After you have submitted your ETD online for review, you will receive a series of emails from the Graduate College Thesis Office that will notify you that we have received your ETD and alert you to any required corrections or other steps you will need to take to complete your thesis deposit. You may also check the status of our review of your ETD, including final approval, at any time by returning to your submission profile at etd.uic.edu.

*1. Additional Forms and Payments

The following additional material must be physically submitted to the Graduate College Thesis Office (613 University Hall) as part of an ETD submission.

- ProQuest dissertation [Publishing Agreement Form](#) (doctoral students only)

Doctoral students must submit the above form in a single manilla envelope with a completed [Thesis/Dissertation Student Information Label](#) (may be obtained at 606 or 613 University Hall) affixed, or copy of the online version taped, to the front.

The following should be shared with the Graduate College via UIC Box account or emailed:

- ***iThenticate* Report Form**

In addition the following items must be completed by the time of submission or shortly thereafter:

- Payment for the library fee (master's students), or library fee and ProQuest fee (doctoral students) at https://quikpayasp.com/uillinois/commerce_manager/payer.do?orderType=UIC_Thesis. The Graduate College will receive confirmation of this payment. Save the receipt for your records.
- [Survey of Earned Doctorates](#) form (doctoral students only). The Graduate College will receive electronic confirmation of completion. Save the confirmation for your records.

MORE ABOUT COMPLETING YOUR THESIS

1. Publication of Thesis

Publication of your master's thesis or doctoral dissertation online in UIC Indigo, and additionally, your doctoral dissertation through ProQuest, is mandatory. See <http://grad.uic.edu/thesisdissertation-publishing-optionsaccess-and-related-information> for various publication options for both UIC Indigo and ProQuest. The Graduate College will arrange for your thesis to be published online through **UIC Indigo**, and for Doctoral dissertations, also through **ProQuest**. This is a Graduate College graduation requirement. See also the Library and Publishing Fees_section below.

2. Publication of Thesis After Graduation

Formal publication of the thesis post-graduation, either in its entirety or in a condensed form, is not required. However, students should consider the advantages to themselves, and to their professions, of publishing significant methods and findings. If published, the article or book should have a note indicating that the material is, or is based upon, a thesis in partial fulfillment of the requirements for the masters or doctoral degree at the Graduate College of the University of Illinois at Chicago.

The original records of thesis investigation are the property of the major department and are not to be removed without permission. The electronic version of the thesis submitted to the Graduate College belongs to the University of Illinois at Chicago.

Property rights are reserved to the author. Candidates in thesis research may find it desirable or expedient to publish, prior to the conferral of the degree, certain findings that later will be incorporated into the thesis. In this case, acknowledgment of the earlier publication should be included in the thesis.

3. Copyright (optional)

If a doctoral candidate believes his/her thesis should be copyrighted, (s)he may have it so registered by 1) checking "yes" on the **Publishing Agreement Form** found in the **Dissertation Publishing Agreement**, 2) depositing with the Graduate College at the same time a certified check or money order for \$55 (subject to change) payable to "PQIL," ProQuest Information and Learning Company (Note: this copyright fee is in addition to the mandatory \$37.50 or \$132.50 (subject to change) publishing fee, and 3) including a copyright notice immediately preceding the Title Page in the front of the thesis.

Preceding the Title Page, the copyright notice is a single, unnumbered sheet on which is centered (horizontally and vertically) the heading:

Copyright by

NAME OF STUDENT

year

The fees are subject to change without notice. Please check the relevant forms for the latest information. Before deciding to pay the extra optional copyright fee, **international students** should check with their country to see if a copyright agreement exists between the United States and the student's home country. **Master's degree students** who wish to copyright their thesis should contact the Copyright Office in Washington, DC; see <http://www.copyright.gov> for instructions and forms, or call the telephone hotline (202) 707-9100 or public information at (202) 707-3000.

* 4. **Final Defense (GC)**

The final thesis defense must be completed before the submission of the final version of the thesis to the Graduate College. At the defense, the **Examination Report** (original form) is signed by the committee. The completed and endorsed **Examination Report** must be sent by the student's program to the Graduate College within forty-eight business hours of the defense.

Following all corrections and revisions of the text resulting from the thesis defense, the thesis is submitted to the department for review of format. Format review is also the advisor's responsibility, but many programs designate a staff member for this function. Follow the protocol established within your program to ensure you receive clearance. Only after the thesis format is cleared should the document be electronically submitted to the Graduate College.

* 5. Library and **Publishing Fees (GC)**

Master's students who submit a thesis have to pay a library publishing fee of \$12.50 (fee is subject to change).

Doctoral students will need to choose publication type with ProQuest and the UIC Library.

Doctoral students who choose traditional publishing through ProQuest pay a total of \$37.50, which includes the \$25 ProQuest fee and a \$12.50 library publishing fee. These fees are subject to change. NOTE: The decision to choose traditional or open access through ProQuest is separate from open access for the UIC Library.

Doctoral students who choose open access publishing through ProQuest pay a total of \$132.50, which includes the \$120 ProQuest fee and a \$12.50 library publishing fee. These fees are subject to change. NOTE: The decision to choose traditional or open access through ProQuest is separate from open access for the UIC Library.

It is recommended that doctoral students choose traditional publication through ProQuest and open access through the UIC Library. The dissertation will be available, by default, as open access through the UIC Library, and the ProQuest traditional publication charge is much lower.

Go to https://quikpayasp.com/uillinois/commerce_manager/payer.do?orderType=UIC_Thesis to pay. The Graduate College will receive a report indicating that the fee has been paid. There is no need to submit a copy of the receipt, though it is recommended that a copy be printed for your personal records.

6. **Format Approval in the Graduate College**

A. **Masters thesis**

1. Defended thesis, one copy (final defended and corrected version, format approved by department) submitted electronically
2. Abstract (not part of thesis, but submitted electronically as part of the thesis upload process)
3. **Examination Report** (signed original, Graduate College copy only – academic program should send directly to the Graduate College within 2 business days of defense)
4. Verification of successful completion of any conditions the defense committee may have specified on the **Examination Report**
5. Library fee payment confirmation (Graduate College receives automatic confirmation electronically, when paid)
6. ***iThenticate Report Form***

B. **Doctoral dissertation**

1. Defended thesis, one copy (final defended and corrected version, format approved by department) submitted electronically
2. Abstract (not part of thesis, but submitted electronically as part of the thesis upload process)
3. **Examination Report** (signed original, Graduate College copy only - academic program should send directly to the Graduate College within 2 business days of defense)
4. Verification of successful completion of any conditions the defense committee may have specified on the **Examination Report**
5. **Thesis/Dissertation Student Information Label**, one (available from Graduate College)
6. 9" x 12" manila envelope, one (for the publishing agreement), with **Thesis/Dissertation Student Information Label** on front)
7. **Survey of Earned Doctorates Completion Form** (completed online, the Graduate College receives automatic confirmation of completion electronically)
8. **Dissertation Publishing Agreement (ProQuest)**
9. Publishing fee payment confirmation (Graduate College receives automatic confirmation electronically, when paid)
10. ***iThenticate Report Form***

SAMPLE FORMS AND EXAMPLES

The following pages contain sample copies of relevant forms, and examples of various sections of the thesis, which have been described previously. The examples should be used as a guide, allowing for variance by the practices of different disciplines. Various types of examples are given to highlight the possibilities. The student should consult with their advisor or Director of Graduate Studies to determine the desired approach of the thesis. Consistency of style throughout the thesis is the recommended goal.

FILING INTENT TO GRADUATE / PENDING DEGREE LIST

Students must declare for graduation on-line for the term of intended graduation. The procedure and deadlines are listed below. The deadline to file the electronic intent to graduate is much earlier than the deadline to submit your thesis or dissertation to the Graduate College.

Filing for Graduation

Filing for graduation is done on-line, using the electronic *Intent to Graduate* process. A paper request form does not exist. Complete instructions and the link to the on-line process are available at <http://grad.uic.edu/graduation-deadlines>.

The links above will take you to the university portal, <https://my.uic.edu>. Once there, login and choose the *Graduation Information* link. Carefully read all of the instructions and click on *Notify Intent to Graduate this Term*. Choose the term for which you wish to apply for graduation (usually there is only one term available) and choose the degree. Once submitted, your current program information will appear, including graduate concentration, if any. If you have been enrolled in more than one program while at UIC, all sought-degrees will be shown. You should submit only the degree(s) you are planning to complete for the term selected. Submit this information to complete the process. If any of the information is incorrect or missing (for example, it indicates that you are in the PhD program, but you are applying to receive the master's at this point), write any changes in the text box before you submit your request. Within the text box describe completely any discrepancies or missing information, and provide the correct information. This will allow the Graduate College to correct the data in order to accurately process the graduation request.

Availability and Deadline to File for Graduation

The intent to graduate application is available from the time course registration for a term begins through the third week of the term (second week for Summer Session). Note that the final deadline for declaring your intent to graduate is earlier than the deadline to submit your thesis to the Graduate College.

Diploma Mailing Address

Diplomas are mailed from the Records Office (Office of Admissions and Records, SSB) approximately three months after the end of the term. The address used is the mailing address that is in the student database system. You may change the mailing address, if appropriate, or provide a separate diploma mailing address if you know your location or want it mailed to somewhere specific other than to the mailing address. The diploma address can be updated up to two months after the end of the term of graduation. From *UIC Student Self-Serve*, choose *Personal Information*, then *Addresses and Phones*, and then select *Diploma Address*. See Current Students/Records/Diploma at http://www.uic.edu/depts/oar/student_records/diplomas.html for further information.

COMMITTEE RECOMMENDATION FORM

Access the form at <http://grad.uic.edu/exams-defense-forms> , save and then complete and print. NOTE TO STUDENT: Your name and the title of the thesis typed on this form will be used on the Examination Report, and also must be used on the title pages of your thesis. If your program will complete this form, consult with them to ensure that the desired name and thesis title are used. Mixed case must be used for the thesis title. **The completed form, including signatures and vita for proposed members from another institution, must arrive in the Graduate College at least three (3) weeks before the date of the defense.**

Graduate College (MC 192)
606 University Hall
601 S Morgan St
Chicago, IL 60607-7106

COMMITTEE RECOMMENDATION FORM



<http://grad.uic.edu>

Information should be typed online (except for signatures at bottom), and then printed

Name of Student _____ UIN _____
For defense, type name exactly as it will appear on thesis/dissertation title page *Nine-digit ID from I-Card*

Student's Graduate Program (e.g. History) _____ Program Code 20FS _____

Master's Thesis Defense* Preliminary Examination EDD Doctorate Project Defense* Doctoral Dissertation Defense*

Anticipated date of exam or defense (mm/dd/yyyy) _____ Email of Student _____

* Thesis, doctoral project or dissertation title (must not exceed 105 characters in length including spaces):

REGULATORY ISSUES Complete questions (1) - (4) for Master's or Doctoral Defense; complete only question (4) for Preliminary Examination.

- | | | |
|--|--|---|
| 1. Does the student's research involve human subjects?
If yes, has the Institutional Review Board approved the proposal? | Yes <input type="checkbox"/> No <input type="checkbox"/>
Yes <input type="checkbox"/> No <input type="checkbox"/> | 1. Approval # _____ |
| 2. Does the student's research involve animals in any way?
If yes, has the Animal Care Committee approved the proposal? | Yes <input type="checkbox"/> No <input type="checkbox"/>
Yes <input type="checkbox"/> No <input type="checkbox"/> | 2. Approval # _____ |
| 3. Does the student's research involve recombinant DNA?
If yes, has the Institutional Biosafety Committee approved the proposal? | Yes <input type="checkbox"/> No <input type="checkbox"/>
Yes <input type="checkbox"/> No <input type="checkbox"/> | 3. Approval # _____ |
| 4. Does the student have any financial, non-financial (including previous employment) affiliation, or personal/familial relationship with any member on the proposed committee outside of normal accepted academic activity, mentoring, and support? (If unsure a conflict exists, answer "Yes" and attach.) | Yes <input type="checkbox"/> No <input type="checkbox"/> | 4. If "Yes," attach a statement specifying the nature, length, and time period of the relationship, and rationale for having that member on the committee. |

Graduate College policy requires the minimum membership of committees as follows:

	Total Number	Full Membership	Tenure Requirement	Outside Member**
Master's thesis defense	Three	One	One	Not required
Preliminary exam	Five***	Three	Two	Recommended, but optional
Professional doctorate project defense (EDD only)	Three***	One	Not required	Not required
Dissertation defense	Five***	Two	Two	One mandatory

**Outside member is defined as outside of the program, although some programs may require outside of UIC
***Chairperson must have full membership (not necessarily tenured)

We recommend that the following be approved as members of the committee for the student named above:

Name of Committee Member	Department of Committee Member
_____ <i>Chairperson (type name on line above)</i>	_____
_____	_____
_____	_____
_____	_____

Name of outside member (type name on line above)** **Name of department (if UIC but outside of student's program), or curriculum vitae must be attached if not a member of Grad Coll faculty** **Name of institution, agency, etc. (if outside of UIC)**

_____ Advisor signature	_____ Print name	_____ Date
_____ Department head or director of graduate studies	_____ Print name	_____ Date
Approved <input type="checkbox"/>	_____ Graduate College signature	_____ Date

REQUEST CHANGE OF STUDENT NAME ON THESIS, THESIS TITLE, OR COMMITTEE MEMBER(S) FORM

Access the form at <http://grad.uic.edu/exams-defense-forms> , save and then complete and print. If you need to change information you previously submitted to the Graduate College on the Committee Recommendation Form such as your name, thesis title, or committee member(s) this form should be used. **Mixed case must be used for the thesis title. The completed form, including signatures and vita for proposed members from another institution, must arrive in the Graduate College at least three (3) weeks before the date of the defense.**

Graduate College (MC 192)
606 University Hall
601 S Morgan St
Chicago, IL 60607-7106

**REQUEST CHANGE OF STUDENT NAME ON
THESIS, THESIS TITLE, OR COMMITTEE MEMBER(S)**



<http://grad.uic.edu>

Save fillable pdf to your computer, type in information (except for signatures at bottom), and then print
Complete this form only for changes of student name on thesis, thesis title, or committee member(s)
previously approved by the Graduate College on a Committee Recommendation Form

Indicate **all** types of changes to an approved Committee Recommendation Form that are being requested:

- I. Student Name to Appear on Thesis or Dissertation Previously Submitted on a Committee Recommendation Form
- II. Thesis/Doctoral Project/Dissertation Title Change
- III. Committee Member(s) Change

I. Name of Student _____

Type your name. (If changing name for thesis, choose I. above and type name exactly as it will appear on thesis/dissertation title page)

UIN _____ Student's Graduate Program (e.g. History) _____ Program Code 20FS _____
Nine-digit ID

Indicate only one:

Master's Thesis Defense* Preliminary Examination Professional Doctorate Project Defense* Doctoral Dissertation Defense*

Anticipated date of exam or defense (mm/dd/yyyy) _____

II. For thesis/doctoral project/dissertation title change indicate new title below
(*must not exceed 105 characters in length including spaces)

III. For committee member(s) change indicate information below

Graduate College policy requires the minimum membership of committees as follows:

	Total Number	Full Membership	Tenure Requirement	Outside Member**
Master's thesis defense	Three	One	One	Not required
Preliminary exam	Five***	Three	Two	Recommended, but optional
Professional doctorate project defense (EDD only)	Three***	One	Not required	Not required
Dissertation defense	Five***	Two	Two	One mandatory

**Outside member is defined as outside of the program, although some programs may require outside of UIC
***Chairperson must have full membership (not necessarily tenured)

We recommend the following change of member(s) of the committee for the student named above:

Name of Committee Member to be Removed Department of Committee Member**** Type (indicate all that apply)

_____ Chair Full Tenured
Outside

_____ Chair Full Tenured
Outside

Name of Committee Member to be Added***** Department of Committee Member**** Type (indicate all that apply)

_____ Chair Full Tenured
Outside

_____ Chair Full Tenured
Outside

*****If member is from outside of UIC, indicate name of institution, agency, etc., under Department, and attach curriculum vitae.

*****If a potential Conflict of Interest may exist (see <http://grad.uic.edu/student-committee-conflict-interest-statement>) attach a statement specifying the nature, length, and time period of the relationship, and rationale for having that member on the committee.

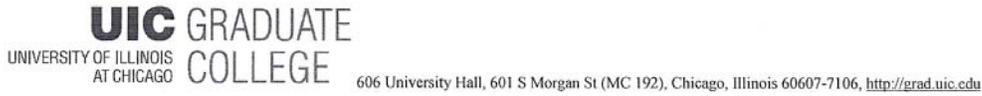
Advisor signature _____ Print name _____ Date _____

Department head or director of graduate studies signature _____ Print name _____ Date _____

Approved: _____ Graduate College signature _____ Date _____

EXAMINATION REPORT FORM

Once the Graduate College approves the thesis committee from the *Committee Recommendation Form*, the *Examination Report* is typed by the Graduate College and sent to the department. The result of the defense is indicated and the committee endorses the form. The white copy of the form is to be sent back to the Graduate College within forty-eight business hours of the defense. This form is NOT part of the thesis, but certifies the results of the defense, and must be received in the Graduate College in order for the student to graduate.



EXAMINATION REPORT TO THE GRADUATE COLLEGE

Student Name:
 Student UIN:
 Graduate program:
 Program code: 20FS
 Examination type:

Results of the examination and signatures are to be completed by each committee member

Examining Committee	Pass	Fail*	Signature
Chairperson:			

* More than one fail vote is a recorded examination failure.

The following section is to be completed by the chairperson. All questions must be answered.

Examination date: _____
Chairperson should write the date of the exam on this line

This is the: first examination attempt second examination attempt

If this is a first examination attempt and is failed, is a second examination recommended? Yes No

If the result is pass, does the committee require certain conditions to be met before the pass becomes effective? Yes No

If yes, specify conditions: _____

Name of examiner who will certify to the Graduate College that conditions have been met: _____
Print Name

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DEBORAH BROSSEAU McGUIRE

B.S., University of Pennsylvania, 1974

M.S., University of Illinois at Chicago, Chicago, 1981

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THESIS

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in the Graduate College of the
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This thesis is dedicated to my husband, (*his name*), without whom it would never have been accomplished.

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ACKNOWLEDGMENTS

I would like to thank my thesis committee--(*name your committee members*)--for their unwavering support and assistance. They provided guidance in all areas that helped me accomplish my research goals and enjoy myself in the process. I would also like to acknowledge Karin Teacher, who oversaw the development of the proposal and made contributions important to the conduct of the study.

A number of individuals in the data collection site were extremely helpful to me during data collection, and I would like to thank them as well -- at the University of Illinois Hospital, the nursing staff of Unit 4; at Rush Presbyterian-St. Luke's Medical Center, JoAnn Huang Eriksson, Susan Schreiber, Karen Swenson, and the nursing staffs of 8 Kellogg and 9 South; at the Westside VA Hospital, Patricia Hange; and at the Johns Hopkins Oncology Center, Vivian Sheidler and the nursing staff of 2 North, 3 North, and 3A. Others who were helpful were the attending staff and fellows in Medical Oncology at the University of Illinois and the John Hopkins Oncology Center.

DBM

An Acknowledgements Page is optional. If used, the next thesis Preliminary page number (*iv* in this example) is placed here.

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LIST OF ABBREVIATIONS

BDI	Beck Depression Inventory
BPQ	Brief Pain Questionnaire
CMI	Cornell Medical Index
CSQ	Coping Strategy Questionnaire
EPI	Eysenck Personality Inventory
ESS	Ego Strength Scale
HRSD	Hamilton Rating Scale for Depression
HSC	Health Self-Concept
I-E	Internal-External
KPSS	Karnofsky Performance Status Scale
LOC	Locus of Control
MANOVA	Multivariate Analysis of Variance
MMPI	Minnesota Multiphasic Personality Inventory
MPQ	McGill Pain Questionnaire
NWC	Number of Words Chosen
PDF	Patient Data Form
POMS	Profile of Mood Status
PPI	Present Pain Intensity

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SUMMARY

A study of the multidimensional experience of cancer-related pain was carried out using a descriptive, cross-sectional approach. Interviews were conducted with 40 cancer patients who had pain caused by their tumors and a comparison group of 40 cancer patients without pain. Information on demographics, disease and treatment characteristics, and psychosocial and physical problems was collected from both groups. In addition, descriptions of pain factors related to its occurrence, and coping strategies were obtained from the Pain Group.

The Pain-free Group had fewer, less severe, and more transient psychosocial and physical problems than the Pain Group. They were not clinically depressed, and were able to carry on normal activities with some effort and minimal signs or symptoms of disease. Their major worries centered around cancer and family.

The Pain Group rated their pain intensity and overall pain as low to moderate, frequently describing pain as throbbing, tender, sharp, aching, and tiring. Pain was either continuous or intermittent for most patients, with high variable and unpredictable onset and cessation, and intensity that showed no consistent daily pattern. Pain was aggravated by physical activity, and ameliorated by inactivity. The meaning of pain varied, with 40% considering it an indicator of disease status.

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INTRODUCTION
 Example (type) One

I. INTRODUCTION

A. **Background**

Cancer is a large group of diseases characterized by the development, uncontrolled growth, and spread of abnormal cells. Cancer affects all age groups, although it is more commonly seen with increasing age. About 73 million Americans (30%) now living will eventually develop cancer if present rates continue (American Cancer Society, 1986, p.3). In 1986, it was estimated that approximately 93,000 individuals would be diagnosed with cancer (excluding non-melanoma skin cancers and carcinoma in situ) (American Cancer Society, 1986, p.3).

The prevalence of cancer is significant. Over five million living Americans have a past history of cancer, three million of them diagnosed more than five years ago and probably cured (American Cancer Society, 1986, p.3). The definition of a cure varies widely with the type of cancer under consideration, but five years without evidence of disease is often considered the criterion. Although for many cancers, five years does constitute a cure, for others a cure may be achieved after one or two years without evidence of disease. For still other cancers, such as breast malignancies, complete cure may never be certain.

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INTRODUCTION

Example (type) Two

1. INTRODUCTION

1.1 The Problem of Electromagnetic Vector Inverse Scattering in the Physical Optics

Regimen

Inverse techniques cover a vast amount of literature (1) and they have been developed in many diverse fields of physical sciences where the characteristics of a medium are estimated from experimental data, obtained from measurements usually at a distance from the medium, utilizing the laws which relate these characteristics to the experimental data in a given situation. Solutions to inverse problems have become important in aeronomy, geophysical exploration, remote sensing, medical tomography, non-destructive testing, radar target mapping, etc. This thesis concerns itself with the problem of radar target mapping and imaging, which are closely related to the problem of electromagnetic inverse scattering. When electromagnetic radiation is impinging upon a material body, charges and currents will be induced on the surface or in the interior of the body, producing a secondary or scattered field which will combine with the primary or incident field, in such a way that all electromagnetic boundary conditions are satisfied at the surface of the body.

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In an earlier study (Al-Darazi, 1984), certain health practices of the lay Bahraini women were identified and rated by the investigator as beneficial, harmless, harmful, and questionable based on their probable effect on health of the women using them. The beneficial practices included rest, body massage, eating food high in calories, protein, and fiber during the postpartum period, breast-feeding, cold sponging to reduce fever, and massaging the infant's body with olive oil. The harmless practices included the use of incense known as elshabeh to cast off evil eye, el-ain; visiting the Quran reader; fright curing practices; and tadree, which literally means "measurement using the arm." Tadree is used to diagnosis and treat evil eye by the Bahraini women and is described by one of the participants as follows.

You take a piece of child's clothing, something that belongs to her, for example, her sheet or towel, and you take it to a woman called the fawaleh (the fortune teller) who knows how to do this. She measures the cloth and determines if an eye had been cast on the child, then she covers the child with that cloth, and reads verses from the Quran to cast off the eye from the child's body. Some people leave the cloth knotted and keep it outside facing the stars at night. In the morning they untie the knot while saying the Prophet's name and then the child is covered with the cloth (Al-Darazi, 1984, p. 50).

The harmful practices included restriction of water intake during the postpartum period, wrapping the infant, qomat;³ application of

³ Qomat is wrapping the baby in a small white sheet from the shoulders down to the toes, and tying a cloth rope around the sheet in which the baby is wrapped.

II. CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

A. Conceptual Framework

The descriptive-exploratory nature of this study required a conceptual framework that would encompass, rather than restrict, the multiple dimensions of cancer-related pain. The perception and interpretation of pain were viewed as a subjective experience, known only to the sufferer. Pain was also considered a multidimensional experience and response consisting of physiologic, sensory, affective, cognitive, and behavioral components. In addition, it was explored within the context of holism, which included the "essential unity of the mind and body" (Levine, 1971, p.255). In the following sections, pain as a subjective and multidimensional phenomenon and holism are explored and discussed as they pertained both to the individual with cancer-related pain to the study.

1. Pain as a subjective phenomenon

Livingston (1943) wrote that:

The chief difficulty encountered in a search for a satisfactory definition for pain, is the fact that it can be considered from either a physiologic or psychologic approach. Any consideration of pain, by one approach alone, without due regard to the other, is incomplete. (p.62)

Similarly, Melzack and Wall (1982) commented:

Pain is such a common experience that we rarely pause to define it in ordinary conversation. Yet no one who has worked on the problem of pain has ever been able to give it a definition which is satisfactory to all of his colleagues. (p. 9)

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lymphocyte functions as well as lymphocyte ontogeny, differentiation and the examination and the classification of lymphoid tumors, have been accomplished principally in the mouse but more recently in humans and rats.

The next actions will be devoted to a survey of murine lymphocyte surface antigens which have served as markers in the studies of lymphocyte function and lymphocyte ontogeny. Studies in the mouse have helped to point efforts to characterize lymphocyte antigens in the human and rabbit systems in promising directions. A brief look at cell surface markers in species other than the mouse, including human, rat, and rabbit is presented. Finally, the recent progress in many species, especially human, made in defining cell surface antigens with the use of monoclonal antibodies is outlined in the last section.

A. **Cell Surface Antigens of Lymphocytes**

1. **Murine antigens**

a. **Alloantigens**

Lymphocyte alloantigens are defined by alloantisera which are made by immunizing one member of a species with cells (or fractions of cells) from another genetically-different member of the same species. Alloantigens are, therefore, alternative products controlled by different forms (or alleles) of the same gene.

(. . .) direction) to which early time scattering is attributed will approach the boundary of the shadow region. Beyond this limit, (5.12) to (5.16) are not valid anymore.

On working in the frequency domain and repeating the algebra of Section 3.6, (5.13) to (5.16) can lead to a high frequency asymptotic relationship between the specular principal curvature difference $K_{ub}-K_{vb}$ and phase difference \varnothing_d of the co-polarized elements S_{HH} and S_{VV} .

$$\frac{K_{ub} - K_{vb}}{2k} = \frac{1}{\cos 2\psi_b} \tan \varnothing_d \quad (5.17)$$

where k is the wave number. This bistatic relation can be reduced to the monostatic relation in Section 3.6. For the simple case of the sphere, (5.17) is trivially satisfied.

5.4 **Numerical Verification**

5.4.1 **Prediction of the Leading Edge in the Impulse Response**

Equations (5.10) and (5.11) reveal that once the area function is known, the impulse response can be found by double differentiation, which implies that the initial part of the leading edge is an impulse. To see how well physical optics approximates the leading edge of the bistatic impulse response, the sphere of unit radius is taken as a test case. The physical optics impulse response for the sphere is convolved with a short incident Gaussian pulse (shown in Figure 27).

Example of a table oriented landscape on the page.
Note the position of the page should remain as if the page were portrait.

TABLE I
PRODUCTION OF HYBRIDOMAS FROM FUSION 1^a

Microtiter plates ^b	Parental myeloma ^c	Fusion treatment	Wells with hybrid clones (total wells)	
			Nos.	%
1A, 1B	4T00	35% PEG (5 min)	3/192	2
2A, 2B	4T00	35% PEG (5 min)	9/192	0
3A, 3B	P3	30% PEG (10 min)	47/192	24
4A, 4B	P3	30% PEG (10 min)	61/192	32
5A, 5B	P3	30% PEG (10 min)	54/192	28
6A, 6B	P3	35% PEG (5 min)	58/192	30
7A, 7B	P3	35% PEG (5 min)	77/192	40
8A, 8B	P3	35% PEG (5 min)	86/192	45
9A, 9B	P3	40% PEG (3 min)	22/192	11
10A, 10B	P3	40% PEG (3 min)	20/192	10

^a BALB/c mice were hyperimmunized with the IgM-enriched fraction isolated from rabbit serum.

^b Approximately 1×10^5 cells in 0.15 mL were seeded into each well of two, 96 well flat bottom microtiter plates.

^c Meyers et al., 1980.

TABLE IV

PAIN AND ANALGESIC PROFILE OF GROUP^a

Characteristics	Category	Frequency/ percent
Etiology of pain	Infiltration of bone	21/52.5
	Infiltration of soft tissue ^b	18/45.0
	Infiltration of hollow viscus	2/5.0
	Infiltration of nerve	2/5.0
	Other	2/5.0
Current analgesic	Hydromorphone ^c	10/25.0
	Acetaminophen/codeine	8/20.0
	Oxycodone/codeine	8/20.0
	Other narcotics ^d	12/30.0
	Non-narcotics ^e	8/20.0
	None	1/2.5
Reason for taking analgesic ^f	Actual pain	24/63.2
	Regular schedule	12/31.6
	Anticipated pain	1/2.6
	To aid sleep	1/2.6
Relief achieved ^f	Complete	10/26.3
	Almost complete	16/42.1
	Partial	9/23.7
	Very little	3/7.9

^a n=40.

^b Five patients had a second site of pain caused by infiltration of soft tissue.

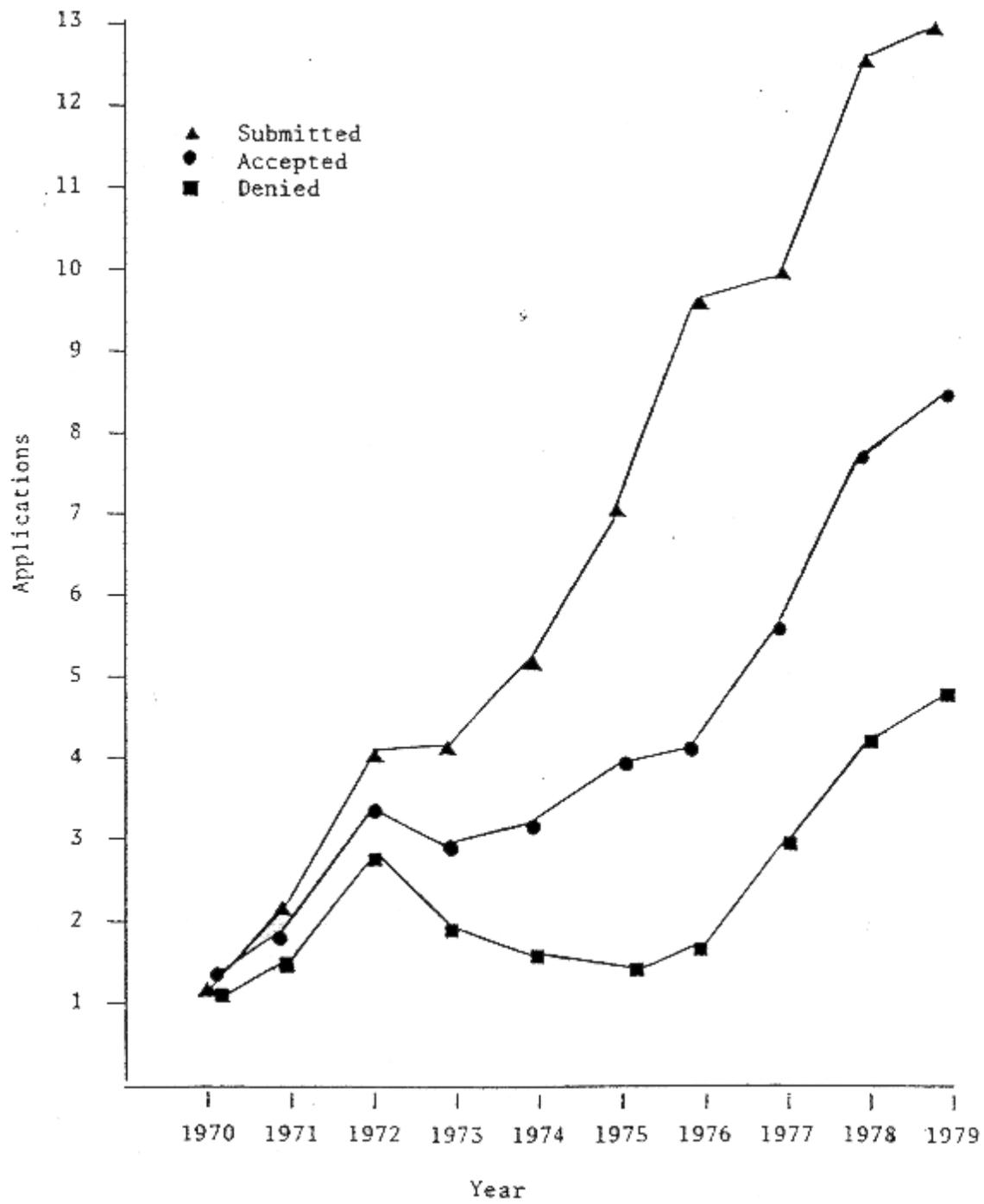
^c One patient used hydromorphone as a second drug.

^d Two patients used other narcotics as a second drug.

^e Four patients used non-narcotics as a second drug.

^f n=38.

Figure 13. Total number of applications submitted, accepted, and denied from 1970 through 1979. Sample data were obtained from the Jiffy Baby-Sitting Agency.



Example of a figure with the label and the description positioned on the same page as the figure.

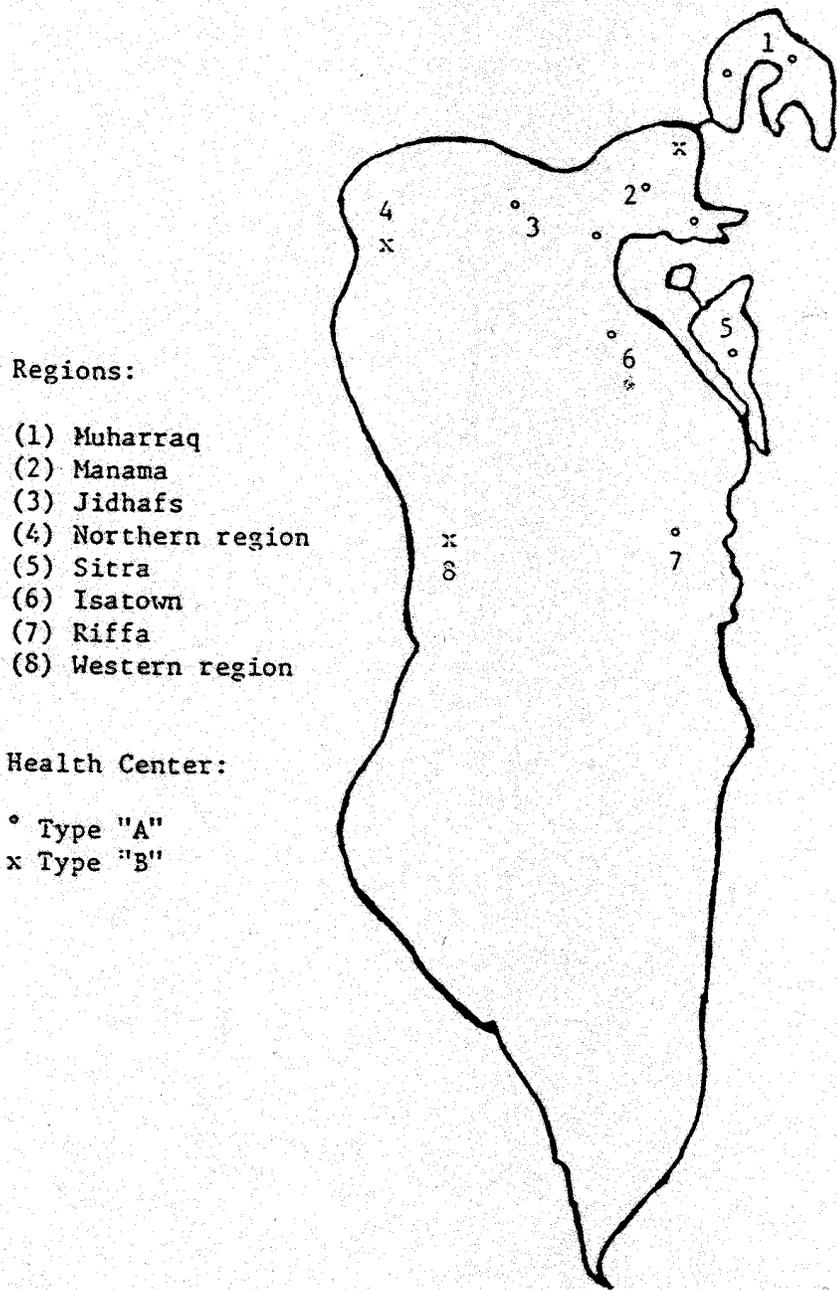


Figure 2. Regions and health centers used for the study.

Example of a figure oriented landscape on the page.
Note the position of the page number.

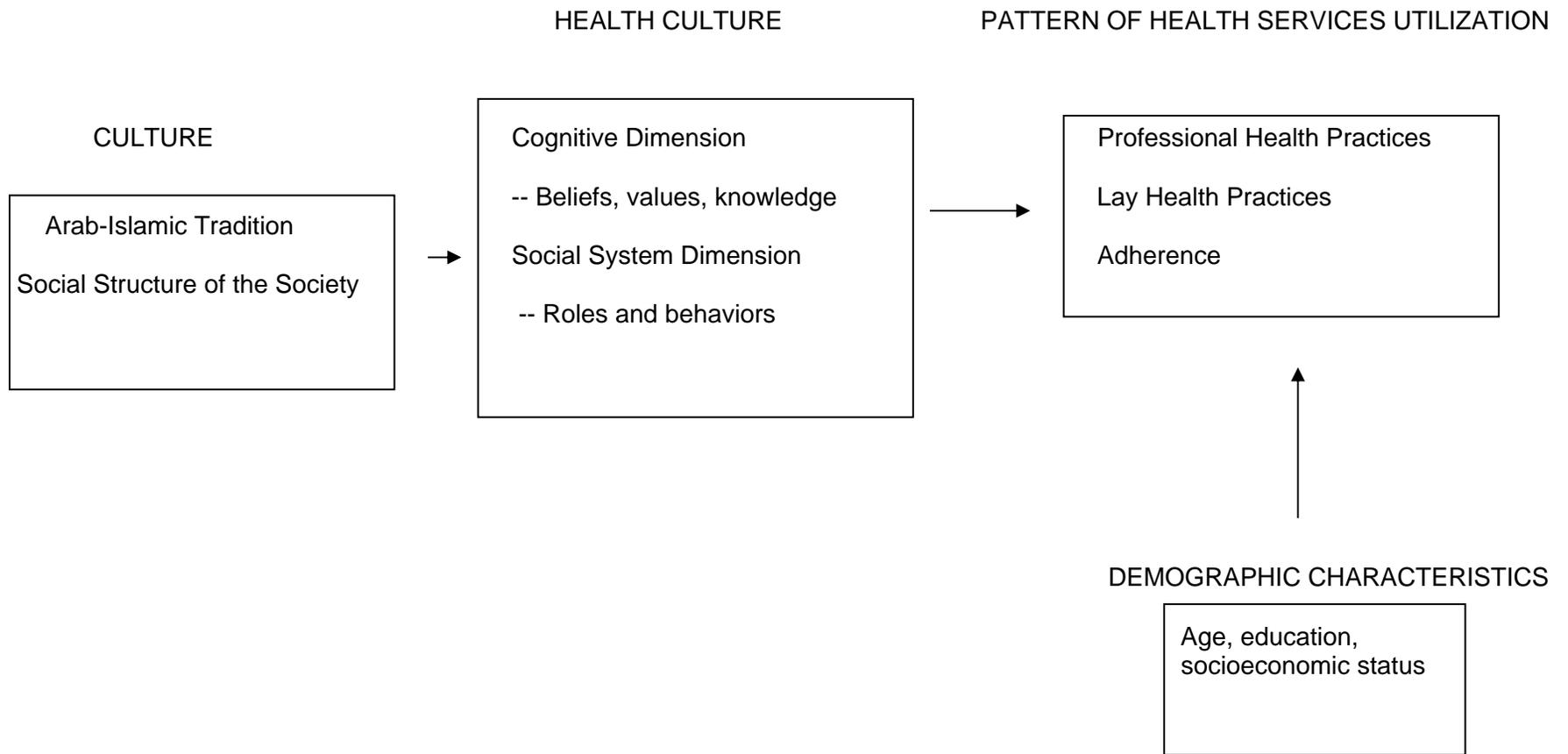


Figure 1. The conceptualization underlying the study of health and illness cognition of Bahraini women.

CITED LITERATURE
EXAMPLE (type) ONE

CITED LITERATURE

- Abney, E.R., Parkhouse, R.M.E: Candidate for IgD present on murine B lymphocytes. Nature 252;600-602:1974.
- Ades, E.W., Bukacek, A., Zwerner, R.K., Dougherty, P.A., Balch, C.A.: Human T cells. J. Immunol. 121;513-519:1978.
- Ades, E.W., Zwerner, R.K., Action, R.T., Balch, C.A.: Isolation and partial characterization of the human homologue of Thy-1. J. Exp. Med. 151;400-406:1980.
- Ahmed, A., Scher, I., Sharrow, S.O., Smith, A.H., Paul, W.E., Sachs, D.H., Sell, K.W.: B-lymphocyte heterogeneity: development and characterization of an alloantiserum which distinguishes B-lymphocyte differentiation alloantigens. J. Exp. Med. 145;101- 109:1977.
- Ahmed, A., Smith, A.H., Kessler, S.W., Scher, I.: Ontogeny of murine B cell surface antigens and function. In: Animal Models of Comparative and Developmental Aspects of Immunity and Disease. M.E. Gershwin, E.L. Cooper (eds.), pp. 175-200. New York, Pergamon Press, 1978.
- Aiuti, F., Wigzell, H.: Function and distribution pattern of human T lymphocytes. 1. Production of anti-T lymphocyte specific sera as estimated by cytotoxicity and elimination of function of lymphocytes. Clin. Exp. Immunol. 13;171-181:1973.
- Anundi, H., Rask, L., Ostberg, L., Peterson, P.A.: The subunit structure of thymus leukemia antigens. Biochemistry 14;6046-6054:1975.
- Axelsson, B., Kimura, A., Hammerstrom, S., Wigzell, H., Nilsson, H., Mellstedt, H.: Helix Pomatia A hemagglutinin: selectivity of binding to lymphocyte surface glycoproteins on T cells and certain B cells. Eur. J. Immunol. 8;757-764:1978.
- Axen, R., Parath, J., Ernback, S.: Chemical coupling of peptides and proteins to polysaccharides by means of cyanogen halides. Nature 214;1032:1967.

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CITED LITERATURE
EXAMPLE (type) TWO

CITED LITERATURE

1. Billingham, R.E., and Silvers, W.K.: Melanocytes of mammals. *Quart. Rev. Biol.*, 35: 1-40, 1960.
2. Szabo, G.: The regional anatomy of the human integument with special reference to the distribution of hair follicles, sweat glands and melanocytes. *Phil. Trans. R. Soc. London Ser.B.*, 252:449-485, 1967.
3. Rosdahl, I., and Szabo, G.: Ultrastructure of the human melanocyte system in the newborn, with special references to 'racial' differences. *Pigment Cell*, 3:1-12, 1976.
4. Toda, K., Pathak, M.A., Fitzpatrick, T.B., Quevedo, W.C., Jr., Morikawa, F., and Nakayama, Y.: Skin color: its ultrastructure and its determining mechanism. *Pigment Cell*, 1:66-81, 1973.
5. Szabo, G., Gerald, A.B., Pathak, M.A., and Fitzpatrick, T.B.: The ultrastructure of racial color differences in man. In: *Pigmentation: its Genesis and Biologic Control*. Riley, V. (ed.), pp. 23-41, New York, Appelton Century Crofts, 1972.
6. Fitzpatrick, T.B., and Breathnach, A.S.: Das Epidermal Melanin-Einheit System. *Derm. Wschr.*, 147:481-489, 1963.
7. Quevedo, W.C., Jr.: Epidermal-melanin unit: melanocyte-keratinocyte interactions. *Am. Zoologist*, 12:35-41, 1972.
8. Blois, M.S.: Phagocytosis of melanin particles by human epidermal cells in vitro. *J. Invest. Derm.*, 50:336-337, 1968.
9. Mattaz, J.H., and Zelickson, A.S.: Melanin transfer: a possible phagocytic process. *J. Invest. Derm.*, 49:605-610, 1967.
10. Charles, A., and Ingram, J.T.: Electron microscope observations of the melanocyte of the human epidermis. *J. Biophys. Biochem. Cytol.*, 6:41-44, 1959.

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ABSTRACTS: McNicholas-Simons, J., and Hulett, F.M.: Electron microscopic localization of the alkaline phosphatase(s) in Bacillus licheniformis. Abstr. Annu. Meet. Am. Soc. Microbiol. J1, p. 143, 1975.

McNicholas, J.M., Eskinazi, D., Leary, A., and Knight, K.L.: Immunoglobulins of rabbit lymphoid cells. Fed. Proc. 37: 1538(#1726), 1978.

PUBLICATIONS: McNicholas, J.M., and Hulett, F.M.: Electron microscope localization of alkaline phosphatase(s) in Bacillus licheniformis. J. Bacteriol. 129: 501-515, 1977.

McNicholas, J.M., Watkins, J.R., and Knight, K.L.: Functional studies of rabbit lymphoid cells with a monoclonal anti-T antibody. J. Immunol. 122: 469-474, 1979.

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A copy of this letter is included for your records. Thank you for your kind consideration of this request.

Sincerely,

[Your name]

[Your address]

The above request is approved.

Approved by: _____ Date: _____

HELPFUL INFORMATION FOR COMPLETION OF GRADUATION

The last few terms before graduation are extremely busy and hectic for graduate students. Typically, you are finalizing research on the thesis, writing and formatting the thesis, and encountering a maze of bureaucratic forms, policies and procedures. This page is meant to lessen some of the anxiety by summarizing the major events of which you need to be aware. You will also need to contact your program for any additional requirements they may have. The order is somewhat chronological, although there may be differences in individual cases. It is assumed that you are at the stage where all or most of your course hours are completed, you have had your thesis proposal approved, and, for doctoral students, have passed the Doctoral Preliminary Examination.

Committee Approval

The **Committee Recommendation Form** should be completed and submitted to the Graduate College at least three weeks in advance of proposed defense date. Typically, your program will complete this form and send it to the Graduate College for approval; therefore, you must verify with your program your name and title of the thesis as it is to appear on the thesis. The Graduate College will use this information to prepare your **Examination Report**, after approval of your committee is finalized. The title on the title page of your thesis must match the information exactly (name and thesis title). See pages 1, 2, 4, 19,20, 21 and 24.

Apply for Graduation

The **Intent to Graduate** is an online process and must be submitted by the end of Friday of third week (second week in summer) of the term of graduation. The **Intent to Graduate** can be accessed through <http://grad.uic.edu/graduation-deadlines>. Note that the deadline to apply for graduation is earlier than the deadline to submit your thesis to the Graduate College. See pages 3 and 18.

iThenticate Review

All students submitting a thesis or dissertation must use *iThenticate* to review for critical word overlaps. Tutorials and other information are at <http://grad.uic.edu/ithenticate-review-procedures>. Note that you must complete your reviews before your defense occurs, and complete the **iThenticate Report Form** as you proceed. The reviews and form are to be shared, using UIC Box, with your advisor/chair, and the form should be shared with your whole committee before the defense occurs. See pages 2 and 22.

Defense of Thesis

After successfully defending the thesis, the **Examination Report** form must be sent from your program to the Graduate College within forty-eight business hours of the defense. If the student is given the **Examination Report** to bring to the Graduate College, do not include within the body of the thesis. After the successfully defended final thesis is complete, the format is approved by the advisor/department.

Submission of Final Thesis to Graduate College

After you have successfully defended and your department has approved the format of your final version, one copy of the thesis must be submitted electronically to the Graduate College by the deadline (see <http://grad.uic.edu/academic-calendar-0>). See pages 1, 2, 3, 14, and 17.

Master's candidates should have paid their library fee at https://quikpayasp.com/uillinois/commerce_manager/payer.do?orderType=UIC_Thesis by the time they submit their thesis electronically as well. The Graduate College receives confirmation of this payment. See pages 1, 2, 3, 4, 16, 17, 21, and 22.

Doctoral candidates should have paid their library fee and publishing fee at https://quikpayasp.com/uillinois/commerce_manager/payer.do?orderType=UIC_Thesis by the time they submit their thesis electronically (pay \$37.50 for traditional or \$132.50 for open access publication, subject to change), the **Dissertation Publishing Agreement** (including any optional payments for copyright of the dissertation - note that the information in pages 4 and 5 must be completed even if not copyrighting – see page 15) must be submitted at the time of electronic submission of the dissertation. The **Survey of Earned Doctorates** is required, but you may write “refused” next to a specific question that you do not wish to answer. The information is confidential and aids with developing policy, programs and placement. The Graduate College receives confirmation of the online completion of the Survey. The Publishing Agreement is put in the manila envelope required for doctoral candidates. The **Dissertation Publishing Agreement** is at <http://grad.uic.edu/publishing-agreement-form> and the **Survey of Earned Doctorates** is at <http://grad.uic.edu/survey-earned-doctorates>. When you submit the material to the Graduate College you will be asked to complete one self-adhesive **Thesis/Dissertation Student Information Label**, which you will put on the front of the manila envelope holding your thesis material, or you may pick-up the labels earlier. See pages 1, 2, 3, 4, 14, 15, 16, 17, 21, 22, and 23.

You will be contacted with a deadline to submit any corrections to format or missing items. See pages 1 and 17.

CHECKLIST (T) FOR COMPLETION OF GRADUATION - Masters Candidates (thesis option)

- _____ Apply for graduation for term during the term registration period, through the third week (second week in summer) of the term. The **Intent to Graduate** is online and available at <http://grad.uic.edu/graduation-deadlines>, or <https://my.uic.edu>.
- _____ Finalize any issues with the formation of Defense Committee with department
- _____ Verify with department that my preference for name and thesis title are correctly typed on the **Committee Recommendation Form**
- _____ Verify with department that they submit the **Committee Recommendation Form** to the Graduate College a minimum three weeks before proposed defense date
- _____ Write an abstract of the thesis (see page 6) – do not include within body of thesis. It will be submitted electronically as part of the online submission process.
- _____ After receiving the email providing access to *iThenticate* (you will receive after the **Committee Recommendation Form** is processed in the Graduate College) follow directions to achieve a 0% word overlap, completing the **iThenticate Report Form** as you proceed. The *iThenticate* reports should be made available in your box account you set up and share with your advisor. The **iThenticate Report Form** is shared with the whole committee before and/or at the defense.
- _____ After successful defense, verify that the **Examination Report** is endorsed by the Chairperson and members of the committee
- _____ Submit final defended thesis to thesis advisor or departmental designee for format approval, making any corrections as they may indicate
- _____ Submit one copy of completed, final thesis to the electronic thesis/dissertation submission system, etd.uic.edu
- _____ Pay library fee at https://quikpayasp.com/uillinois/commerce_manager/payer.do?orderType=UIC_Thesis. The Graduate College will receive confirmation of your payment.
- _____ If contacted for corrections to thesis, upload a new version of your thesis to your original submission site by deadline given by reviewer
- _____ A few weeks after the term ends and grades are posted a congratulatory letter will be received, assuming all requirements are completed, or notification of a problem

CHECKLIST (T) FOR COMPLETION OF GRADUATION - Doctoral Candidates

- _____ Apply for graduation for term during the term registration period, through the third week (second week in summer) of the term. The **Intent to Graduate** is online and available at <http://grad.uic.edu/graduation-deadlines>, or <https://my.uic.edu>.
- _____ Finalize any issues with formation of Defense Committee with department
- _____ Verify with department that my preference for name and thesis title are correctly typed on the **Committee Recommendation Form**
- _____ Verify with department that they submit the **Committee Recommendation Form** to the Graduate College a minimum three weeks before proposed defense date
- _____ Write an abstract of the dissertation (see page 6) – do not include within body of dissertation. It will be submitted electronically as part of the online submission process.
- _____ After receiving the email providing access to *iThenticate* (you will receive after the **Committee Recommendation Form** is processed in the Graduate College) follow directions to achieve a 0% word overlap, completing the **iThenticate Report Form** as you proceed. The *iThenticate* reports should be made available in your box account you set up and share with your advisor. The **iThenticate Report Form** is shared with the whole committee before and/or at the defense.
- _____ After successful defense, verify that the **Examination Report** is endorsed by the Chairperson and members of the committee
- _____ Submit final defended dissertation to thesis advisor or departmental designee for format approval, making any corrections as they may indicate
- _____ Pay the \$37.50 (for traditional) or \$132.50 (for open access) publishing and library fee, subject to change, at https://quikpayasp.com/illinois/commerce_manager/payer.do?orderType=UIC_Thesis. The Graduate College will receive confirmation of your payment.
- _____ Access the **Dissertation Publishing Agreement** at <http://grad.uic.edu/publishing-agreement-form> and **Survey of Earned Doctorates** at <http://grad.uic.edu/survey-earned-doctorates>.
- _____ Complete **Dissertation Publishing Agreement** (mandatory) and **Survey of Earned Doctorates** (mandatory, but may write “refused” next to a specific question you do not wish to answer)
- _____ Obtain certified check or money-order for copyright (optional – see **Dissertation Publishing Agreement**)
- _____ Submit one copy of completed, final thesis to the electronic thesis/dissertation submission system, etd.uic.edu. Submit one manila envelope with a **Thesis/Dissertation Information Label** attached containing the **Dissertation Publishing Agreement** with a certified check or money order for copyright (optional) of the dissertation
- _____ If contacted for corrections to the dissertation, upload a new version of your thesis to your original submission site by deadline given by reviewer
- _____ A few weeks after the term ends and grades are posted a congratulatory letter will be received, assuming all requirements are completed, or notification of a problem

NOTES