

UNIVERSITY OF TENNESSEE AT CHATTANOOGA
THESIS AND DISSERTATION STANDARDS

First Edition

June 1, 2011

OFFICE OF THE GRADUATE SCHOOL

Web: <http://www.utc.edu/Administration/GraduateSchool>

Telephone: 423-425-4478

TABLE OF CONTENTS

CHAPTER

I. INTRODUCTION.....	1
Student Integrity.....	2
Proper Acknowledgement of Cited Works.....	2
The Use of Internet Links (Embedding).....	2
The Use of Copyrighted Material.....	3
Internet Sources.....	3
Multi-Part Theses and Dissertations (or “Manuscript” Theses and Dissertations)	4
Parts of a multi-part thesis or dissertation.....	4
Reporting of Work Subject to Compliance Regulations.....	5
General Policies.....	5
II. FORMAT AND APPEARANCE.....	6
General Format.....	6
Recommended Style.....	6
Type Fonts and Print Quality.....	6
Line Spacing.....	7
Margins.....	7
Pagination.....	7
Headers and Footers.....	8
Tables and Figures.....	8
Footnotes, Endnotes, and References.....	9
III. PRELIMINARY AND BODY/TEXT PAGES.....	10
Committee Approval Page.....	10
Title Page.....	11
Copyright Page.....	12
Abstract Page(s).....	12
Dedication Page (optional).....	13
Acknowledgements Page (optional).....	13
Table of Contents.....	13
List of Tables.....	15
List of Figures.....	15

List of Abbreviations	16
List of Symbols	16
Body or Text	17
Division into Chapters	17
Division of Chapters into Sections	17
Introduction	17
Conclusion	18
Other Formatting Pages	18
First Page of Chapter	18
Pages with Subheadings	19
Pages with Equations	20
Pages with Tables	20
Pages with Figures	21
Pages with Footnotes	22
References, List of References, etc	22
Reference List at End of Document	22
Reference List at End of Chapter	23
Appendices	23
Vita	24

IV. SUBMISSION OF THE THESIS OR DISSERTATION25

APPENDICES

A. EXAMPLE PAGES OF REQUIRED FORMAT26

Committee Approval Page	27
Title Page	28
Copyright Page	29
Abstract Page	30
Dedication	31
Acknowledgements	32
Table of Contents (Standard format)	33
Table of Contents (Creative Writing format)	34
List of Tables	38
List of Figures	39
List of Abbreviations	40
List of Symbols	41
First Page of a Chapter	42
Sub-headings	43
Examples of Acceptable Table Formats	44
Examples of Acceptable Figure Formats	49
Endnotes, Footnotes	52
Example formats for References	53
Example format for Appendix	58
Example of Vita	59

CHAPTER I

INTRODUCTION

A thesis or dissertation is a formal research paper that is the culmination of months and even years of diligent research effort on behalf of a graduate student. As such the work must be presented (published) using scholarly standards. The purpose of this manual, *Thesis and Dissertation Standards*, is to provide those standards to assist the student in organizing and presenting the results of his/her research in a scholarly manner. A student should consult with the major professor or chairperson to learn of specific department and program guidelines for the thesis or dissertation also.

The University of Tennessee at Chattanooga requires students to submit theses and dissertations to ProQuest, an entity that provides electronic publication of theses and dissertations. As such your thesis or dissertation will reach a national audience, therefore meeting the standards in all aspects as prescribed in this document are necessary. Students should remember that theses and dissertations are checked by personnel in the Graduate School to ensure conformity with this manual prior to final approval and publishing.

In addition, all theses and dissertations must meet the highest standards of English grammar and punctuation. Students may be required to secure the services of a competent editor for English grammar and punctuation.

Because master's theses and doctoral dissertations reach a national audience, special attention to formatting standards, publication styles, and ethical standards are paramount. The thesis and dissertation represent the degree-granting standards of a college and of the University of Tennessee at Chattanooga and the documents should be a source of pride for all involved. A student's advisory committee is responsible for judging the technical and professional competency, writing quality, and professional appearance of these documents. An editor competent in English grammar and punctuation must review the thesis or dissertation. It is the responsibility of the student to ensure that the thesis or dissertation has proper English grammar and punctuation.

All theses and dissertations must adhere to certain general standards and therefore must:

1. Be prepared in accordance with the ethical standards of scholarship and publishing.
2. Be a document with a coherent theme solving a well-defined problem.

3. Provide evidence that the candidate is competent in the discipline of study and is familiar with literature of the discipline.
4. Be written in standard English, unless the candidate's program focuses on mastery of a foreign language.

These standards are modeled after the guidelines in place at other institutions with graduate programs; therefore, the wording in this document may be similar to that used in the guidelines of other institutions.

Student Integrity

Conferral of a degree implies in part the graduate's personal integrity and ability to perform within the framework of scholarly methods. There are three areas in which graduate students should be particularly cautious: the proper acknowledgment of cited works; the use of others' copyrighted material; and proper reporting of work subject to federal compliance regulations (e.g., use of human subjects, animal care, radiation, legend drugs, recombinant DNA, or the handling of hazardous materials).

Proper Acknowledgment of Cited Works

Students must take care not to plagiarize. The Graduate School defines plagiarism as "using the intellectual property or product of someone else without giving proper credit" (The University of Tennessee, 2008, 25). Any material taken from another source must be fully acknowledged, and in no case should one present another person's work as one's own. Extreme caution should be exercised by students involved in collaborative research to avoid questions of plagiarism. Appropriate acknowledgment of the work of any contributors is essential. Further, if the submitted thesis or dissertation has been published previously, or has been submitted for publication, this fact should be disclosed. If in doubt, students should check with their major professor or the thesis/dissertation chairperson about such matters. Suspected plagiarism will be investigated and appropriate action taken if necessary, including removal of the thesis or dissertation in question from the library, and rescinding of degrees.

The Use of Internet Links (Embedding)

Students may use hyperlinks in their document, as long as students take steps to ensure they do not give the impression that the material linked to is their own (if it is not.) Students may also provide an address (URL) to a site without providing an active link. Students should use discretion in including links because, unlike material published in paper journals and books, the content and location of websites changes frequently. For this and other reasons, students should not link to material that is integral to their thesis or dissertation. Instead, they should seek permission to include that material in their thesis or dissertation.

The Use of Copyrighted Material

The law governing copyright infringement is based on a principle called “fair use.” If copyrighted material is used in a limited way for non-commercial purposes (e.g., scholarly work), permission to quote usually need not be sought. The 2003 Chicago Manual of Style (2003. Chicago: University of Chicago Press) states:

For example, the [fair use doctrine] allows authors to quote from other authors’ “work or to reproduce small amounts of graphic or pictorial material for purposes of review or criticism or to illustrate or buttress their own points. Authors invoking fair use should transcribe accurately and give credit to their sources. They should not quote out of context, making the author of the quoted passage seem to saying something opposite to, or different from, what was intended (135).”

Further, “[n]o permission is required to quote from works of the United States government or works in which copyright has expired” (132). In determining whether a work is still under copyright, students should consult the U.S. Copyright Office’s guidelines (see, for instance, the “Copyright Office Basics,” available at <http://www.copyright.gov/circs/circ01.pdf>.)

Even when permission is not needed, students must cite the owner’s works fully. If extensive material from a copyrighted work is used in such a way that the rights of the copyright owner may be violated, permission from the owner must be obtained in writing. In determining the extent of a written work that may be quoted without permission, the student should consider the proportion of the material to be quoted in relation to the substance of the entire work. According to *The Chicago Manual of Style*, Use of any literary work in its entirety – a poem, an essay, a chapter of a book – is hardly ever acceptable. Quotations or graphic reproductions should not be so long that they substitute for, or diminish the value of, the copyright owner’s own publication. Proportion is more important than the absolute length of a quotation: quoting five hundred words from an essay of five thousand is likely to be riskier than quoting that amount from a work of fifty thousand. But an even smaller percentage can be an infringement if it constitutes the heart of the work being quoted (136).

The publisher usually has the authority to grant permission to quote excerpts from the copyrighted work or can refer requests to the copyright owner or designated representative. The copyright owner may charge for permission to quote. Permissions should be credited on the acknowledgments page, and the source should appear in the list of references or bibliography section.

Internet Sources

Internet and other electronic sources must be cited as fully as print materials. At the very least, such works will have a title and a date, as well as the address or URL for

internet materials. The date is normally the date consulted or date accessed. Professional journals and organizations (such as the APA) normally have specific suggestions for citing electronic materials.

Multi-Part Theses and Dissertations (or “Manuscript” Theses and Dissertations)

With committee approval, the primary division of a thesis/dissertation may consist of parts rather than sections or chapters. This is sometimes called a “manuscript” thesis or dissertation. The use of parts is an effective method of organization when research has been performed in two or more areas that cannot be combined into a single presentation, or to assist in maintaining consistent format, i.e., sequence of topics or divisions, for journal articles.

Students should note that a multi-part or manuscript format is only appropriate if the thesis or dissertation will contain two or more separate but related essays. Students with a single “content” chapter, conceived as a journal article, should not treat their document as a “multi-part” thesis or dissertation.

Parts of a multi-part thesis or dissertation

Each part may be treated as a separate unit, with its own chapters, figures and tables, bibliography and appendix (if needed), or the bibliography and appendix may be combined at the end of the document. The student must exercise caution to ensure that formatting is consistent throughout, that all tables/figures have unique numbers, and that, in general, the organization into parts is logically arranged and consistently applied.

In all cases, the multi-part thesis or dissertation must include the following elements:

- Introduction and conclusion, which provide an overview and summary of the project
- Table of contents for the entire document
- List of tables for the entire document
- List of figures for the entire document
- Abstract for the entire document (of 350 or fewer words)
- Separation sheet (title page) for each part
- Abstract for each part (abstracts for individual essays do not need to adhere to the requirements of length and format).

Consecutive pagination should be used throughout the document, including numbering of the required separation sheets listing the part number and title. These separation sheets must be placed immediately in front of the first page of text for each part.

Reporting of Work Subject to Compliance Regulations

Compliance with federal regulations governing the use of human subjects, animal care, radiation, legend drugs, recombinant DNA, or the handling of hazardous materials in research, is monitored by a number of federal agencies. Because of these regulations, research compliance is another area of importance to graduate students and to the conduct of their research. The Graduate School requires verification from the student's committee that the student has complied with the appropriate approval procedures prior to initiation of the thesis or dissertation related research, if approval is relevant to the research. Forms and/or approval letters for regulated research activities must be included in the appendix of a thesis or dissertation as a means to acknowledge that proper compliance has been obtained. The Officer of Research Integrity in the university's Office of Research Integrity (<http://www.utc.edu/Administration/OfficeOfResearchIntegrity/PAM.php>) will answer questions regarding the required approvals for research projects. If approvals are needed, the Compliance Officer will provide guidance in helping students complete the appropriate forms. Compliance must be obtained before students begin research.

General Policies

Students should refer to the latest edition of the *Graduate Catalog* (<http://www.utc.edu/Administration/Records/Catalogs/>) for policies concerning registration for thesis/dissertation hours, restricted, classified, or proprietary research, and other requirements for completion of the graduate program.

The goal of The Graduate School, as well as the student's thesis/dissertation committee, is to ensure that a document has been produced that will properly represent and reflect well on the student, the student's committee, the department and the university.

CHAPTER II

FORMAT AND APPEARANCE

General Format

These standards endorsed by the Graduate Council are to ensure that the University of Tennessee at Chattanooga theses and dissertations will have a consistently professional and scholarly appearance. Close attention to these standards during document preparation will save time during the review process conducted by personnel in the Graduate School. The standards must be followed as presented in this publication.

Recommended Style

Degree-granting units select an acceptable style (APA, MLA, etc.). Do not confuse style with formatting; these standards refer to formatting. The degree-granting unit is responsible for ensuring that documents conform to the chosen style. If the style differs from the specific formatting established in these standards, a letter from the major advisor indicating the acceptability of the differences must be submitted to the Dean of the Graduate School for approval of the format variation before writing of the thesis or dissertation begins. Failure to gain approval of any deviation to these standards may delay review and approval of the final document. Punctuation, spelling, and general format should be accurate and consistent.

Type Fonts and Print Quality

1. Ten, eleven, or twelve point type size should be used consistently throughout the document. Any standard font such as Times New Roman 12 point or Arial 11 point is acceptable; TrueFont types should always be used. Questions regarding the use of a particular font should be addressed to Dean of the Graduate School, who will make the final decision on the acceptability of the font used. Exceptions may be made for extensive tables, formulas, Greek symbols, subscripts and superscripts and footnotes.
2. Italics or underlining may be used for non-English words and in the citation of titles.
3. Chapter numbers, chapter titles, and subheading may be boldface.

4. Italics, boldface, or underlining printing may be used for special symbols or names, e.g., mathematical symbols, scientific names or organisms.

Line Spacing

Standard spacing should be used throughout the thesis or dissertation as dictated by these guidelines. The following definitions should be followed: single space = no blank lines between text, double space = 1 blank line between lines of text, and triple space = 2 blank lines between lines of text. Theses and dissertations are required to be double spaced with the exception of the following items: Single spacing is used within quotations three lines or longer, tables exceeding ½ page or more, footnotes, multi-line captions, and bibliographic entries.

Double spacing (a blank line) should be used between footnotes and bibliographic entries (see examples on pages 50 and 53-56). Separate tables and figures from text with two blank lines before and after the item (see examples on pages 42 & 46). Ensure that headings are separated from text above by two blank lines and below by double spacing (see example on page 38). Lists may be single spaced with one blank line before and after the list. Bullets may be used in lists as long as they are not oversized.

Margins

1. Justification of text may be dictated by a particular style. As for these formatting standards text may be left-justified or full-justified and must be consistent throughout the document.
2. The left, right, and top margins must be 1 inch at a minimum except where otherwise noted. The bottom margin is 1 inch of white space from the bottom of the page number to the end of the page.
3. All paragraphs must be indented 0.5 inches.
4. Widow or orphan lines at either the bottom or the top of a page are not permitted.
5. Photocopies should be made only from the original with margins on all copies accurate and consistent.

Pagination

1. All pages in the document are numbered, although in a couple of cases the number is not placed on the page. These guidelines will indicate the pages that do not have the number placed on them.
2. Small Roman numerals are used for the preliminary pages. Arrange preliminary pages in the sequence noted on page 10. Center page numbers for other preliminary pages, leaving 1 inch of white space from the bottom of the page

number to the bottom of the page. See examples of preliminary page numbers at pages 16-32.

3. Arabic numerals are used for paginating the remainder of the document, including the text and reference material. Begin numbering pages with 1 and continue consecutively to the end of the document. The title page is assigned Arabic numeral 1, but the number does not appear on the page. Using other number schemes, such as 2a, 2b, etc., will not be acceptable.
4. All page numbers are placed at the bottom center position with 1 inch of white space from the bottom of the numeral to the page bottom.

Headers and Footers

Regardless of the convention in the students' field of study, running headers or footers are NOT permitted in the thesis or dissertation.

Tables and Figures

A table consists of columns of information, often in the form of numbers, although a table may contain listings of words or phrases. A figure is any kind of graphic illustration other than a table.

1. Use Arabic numerals for numbering tables and figures. Depending on how the document is arranged tables and figures may be numbered consecutively throughout the document (1, 2, 3, etc.) or consecutively within chapters (1.1, 1.2, 1.3, 2.1, 2.2, 2.3, etc.). Do not number tables with 1.4.2, 1.4.3, etc. Do not use boldface, italics or underline for titles; italics or underline may be used for scientific names in titles. The document should be consistent throughout.
2. Format of table and figure titles and numbers:
 - Table titles – two blank lines above the top line of the table title
 - Table number – may be placed to the left of the table title or centered and double spaced above the table title (may depend on the style chosen)
 - Figure numbers and titles – Figure numbers and titles are placed below the figure and should have one blank line below the last line or bottom of the illustration.
 - Spacing – single space table and figure titles and endnotes to the table or figure.
 - The style chosen for title placement and capitalization conventions for tables and figures must be used consistently throughout the document.
3. Table body and figures format:
 - Follow the example on page 44 and 48 when the size or format of a table or figure requires horizontal placement.

- Tables that will not fit on 1 page may be continued onto subsequent pages with continuation noted on the next page and double spaced above the table (e.g., Table 5 continued).
 - Data within tables is double spaced except when tables are over ½ page in length, in which case the data should be single spaced. Latitude is given when formatting tables to ensure that the table is read easily and aesthetically pleasing.
 - Tables and figures must not be placed in paragraphs.
 - Tables and figures should be mentioned in the text before being presented and should be placed as close as possible to the text describing it.
 - Text and tables or figures may appear on the same page. Two blank lines should separate the top and bottom of tables and figures from the text.
 - More than one table may be placed on a single page.
 - Text must not “wrap around” tables or figures.
4. Color images do not reproduce consistently or microfilm well; therefore, black and white or gray tone images are preferred. All images and photographs must be scanned into an electronic format for submission of the theses and dissertations.
 5. Any material to be included in appendices must conform to margin and page number specifications.
 6. Important equations (typically those referred to in the text) should have numerical identification and should be numbered consecutively (e.g., 1, 2, 3, etc.; or within chapters, e.g., 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, etc.).

Footnotes, Endnotes, and References

Candidates should confer with their advisors regarding citation styles acceptable to their discipline and use the designated style manual. See examples on page 50, 53-56.

- References may be numbered consecutively throughout the entire document or consecutively within each chapter.
- References are placed at the end of the document. The reference position must be consistent throughout the document.
- A reference to information within tables should be placed directly below the pertinent table.
- Regardless of the style used, references must be single-spaced with double spaces separating each reference.

CHAPTER III

PRELIMINARY AND BODY/TEXT PAGES

The preliminary pages must conform to the format specified in the following instructions, unless otherwise indicated and must be arranged in the sequence provided in this publication. Each set of instructions cites an example page found in the appendix.

Sequence

Committee Approval Page

Title page

Copyright page (optional)

Abstract Page(s)

Dedication Page (optional)

Acknowledgements Page (optional)

Table of Contents

List of Tables (if applicable)

List of Figures (if applicable)

List of Abbreviations (if applicable)

List of Symbols (if applicable)

Committee Approval Page (example on page 27)

1. All information elements must fit on the page in a visually appealing way. The actual distances between the elements will vary slightly depending on the length of the information:
 - a. The distance from the top of the page to the first line of the title will be 2 inches.
 - b. The distance from the last line of the title to the word “By” is (5 line spaces).
 - c. Insert a single blank line space between the word “By” and the name.

2. The full title is typed in all capital letters. If the title is longer than 1 line, leave a single space between each line. The lines of the title are arranged in inverted-pyramid style.
3. The formatting of the title on the committee approval page must match the title page.
4. The author's full name is centered on the page. The author's name must match the name on the title, copyright, and abstract pages.
5. Signature lines are provided for the thesis or dissertation chairperson/director, committee members, dean of the particular academic college, and Dean of the Graduate School. Beneath each signature line, the person's name, title, and role(s) in approving the thesis or dissertation are listed; however, the person's degree designations are not included. Signatures lines should begin on the fourth line below previous lines of type. Only include signature lines for the individuals mentioned above.
6. **ALL signatures of the thesis or dissertation committee must be present before the Graduate School will accept the document for format review.**
7. The approval page is numbered with a Roman numeral i; however, no page number is printed on the Committee Approval page.

Title Page (example on page 28)

1. Title page information should be centered vertically and horizontally. Spacing within the title page is specified below.
2. A standard font must be used through the document. Do not use boldface, italicize or underline on the title page; italics or underline may be used for scientific names.
3. All text on the title page is centered horizontally.
4. The full title is typed in all capital letters. If the title is longer than 1 line, double space between the lines of the title. The lines of the title are arranged in inverted-pyramid style.
5. The author's full name must be used. The author's name must match the name on the copyright, approval, and abstract pages.
6. All information elements must fit on the page in a visually appealing way and be centered horizontally and vertically on the page. The actual distances between the elements will vary slightly depending on the length of the information. Minimum distance requirements are listed below:

- a. The distance from the last line of the title to the word “By” and from the named individual to the following element should both be approximately equal.
 - b. There should be a single blank line between the word “By” and the name.
 - c. Two blank lines are left between the name of the discipline and the place.
 - d. One blank line is left between the place and the date.
7. The degree statement must match the example, with the following exceptions:
 - a. Doctoral candidates should replace “Thesis” with “Dissertation.”
 - b. The correct degree and major.
 8. The date is the month and year in which the degree is awarded. Acceptable months are May, August and December. There should be no comma between month and year.
 9. The title page is number with a Roman numeral ii. Roman numeral ii is typed in the bottom center of the page, leaving a 1 inch margin from the bottom.

Copyright Page (example on page 29)

1. The copyright page is optional; even if the student includes this page, the student is not required to formally register the copyright through ProQuest.
2. The text should be page centered (vertically and horizontally).
3. Double spacing (one blank line) is used between lines of text.
4. There should be three lines of text, with the first line reading “Copyright © year”, the second line “By Student’s Full Name” (no initials), and the third line “All Rights Reserved”.
5. The copyright page is numbered with a Roman numeral iii. Roman numeral iii is typed in the bottom center of the page, leaving 1 inch of white space (margin) from the bottom of the number and the bottom of the page.

Abstract Page(s) (example on page 30)

1. The margin at the top of the first page is 2 inches.
2. The word ABSTRACT is typed in all capital letters and centered horizontally on the page. Do not use boldface, italics or underline.
3. Two blank lines are left between the word ABSTRACT and the text. Double space between the lines of the abstract.
4. The maximum length for a dissertation abstract is 350 words. The maximum length for a thesis abstract is 150 words.

5. The pages of the abstract pages numbered with Roman numerals iv and v. Roman numeral iv and v are typed in the bottom center of the page, leaving a 1 inch margin from the bottom.

Dedication Page (optional) (example on page 31)

1. A 2 inch margin is left between the top of the page and the first line of text.
2. The word DEDICATION is typed in all capital letters and centered horizontally on the page. Do not use boldface, italics or underline.
3. Two blank lines are left between DEDICATION and the next line of text.
4. If included, the dedication will be page vi. Roman numeral vi is typed in the bottom center of the page, leaving a 1 inch margin from the bottom.

Acknowledgements Page (optional) (example on page 32)

1. A 2 inch margin is left between the top of the page and the first line of text.
2. The word ACKNOWLEDGEMENTS is typed in all capital letters and centered horizontally on the page. Do not use boldface, italics or underline.
3. Two blank lines are left between ACKNOWLEDGEMENTS and the next line of text.
4. The page number is centered 1 inch from the bottom of the page, and a small Roman numeral is used. If the dedication page is included, this page will be vii. If the dedication page is omitted, this will be page vi.

Table of Contents (examples on page 33 - 37)

The Table of Contents must conform to the format specified, unless otherwise indicated. Do not use a table of contents wizard or other tool that makes the table of contents automatically because the formatting will be incorrect in most cases. Examples of the standard method for formatting the table of contents along with acceptable variances in formatting for creative writing theses are provided in the appendix.

1. A 2 inch margin is placed between the top of the page and the first line of text.
2. The words “TABLE OF CONTENTS” are typed in all capital letters and centered horizontally on the page. Do not use boldface, italics or underline for the words “TABLE OF CONTENTS” or other information in the contents.
3. One blank line is between TABLE OF CONTENTS and the next line of text.
4. Major divisions should be in all capital letters and aligned with the left margin.

5. Page numbers in the table of contents must match page numbers in the document. Page numbers should be aligned with the right margin. A right tab stop should be set at 6.0 with a dot leader.
6. Leave one blank line between the word Chapter and the title of the first chapter.
7. Chapter titles and headings must match the capitalization, wording, and punctuation of the titles and headings in the body.
8. The second line of titles and headings is indented 0.5 inches. Second-level (and subsequent headings) are indented at least 3 spaces.
9. A right tab stop is centered below the word CHAPTER. At this tab stop, the chapter number is typed followed by a period. The right tab will automatically align the chapter numbers properly. The chapter numbers may be either Arabic or Roman numerals.
10. On contents pages other than the first page, 1 inch of white space is left at the top.
11. To align appendix designations properly, a decimal tab stop is centered under the word APPENDIX. At this tab stop, the appendix designation is typed. The decimal tab will automatically align the appendix designations properly. Alphabetical outline format can also be used.
12. Appendix designations, titles, and page numbers must exactly match the document.
13. The page number is centered at the bottom leaving 1 inch of white space; small Roman numerals are used.

Special note regarding creative writing theses

Creative Writing theses are not divided by conventional chapters (since novels and extended non-fiction works are not accepted), and thus will not set up their Table of Contents and section divisions according to the standard guidelines supplied by the Graduate School Office. Instead, Creative Writing theses will provide a basic numbering of elements for their Table of Contents. Subordinate elements (such as scenes within a one-act play, poems that are part of a sequence, divisions within a long story) may be listed in the Table of Contents by name and page number under the appropriate section but not numbered. On title pages for individual elements corresponding numbers should appear above the title. Other elements, (artist's statement or theoretical introduction, works cited) may be included in the thesis and presented in the Table of Contents in standard format. Creative works must have an abstract that adheres to the same formatting as typical theses..

List of Tables (example on page 38)

The list of tables must conform to the format specified, unless otherwise indicated. An example is provided in the appendix.

1. A 2 inch margin is placed between the top of the page and the first line of text.
2. The words LIST OF TABLES are typed in all capital letters and centered horizontally on the page. Do not use boldface, italics, or underline for information in this list; italics or underline maybe used for scientific names.
3. Two blank spaces are left between LIST OF TABLES and the next line of text.
4. Table numbers, titles, and page numbers in the LIST OF TABLES must exactly match those in the document.
5. A decimal tab stop is centered below the word TABLE. At this tab stop the table number is typed. The decimal tab will automatically align the numbers properly. To insert the ellipses, highlight the area/space where the ellipses is to be inserted, use the “ctrl d” function in Word, choose in the underline option the “.....” pattern and okay.
6. The second line of table titles is indented 0.5 inches.
7. Page numbers should be aligned with the right margin. A right tab stop is set at 6.0 with a dot leader. Table titles must not overlap page numbers on the right margin.
8. Single space titles longer than one line and insert one blank line between table titles.
9. On LIST OF TABLES pages other than the first page, a 1 inch margin is left at the top.
10. The page number is centered at the bottom with a 1 inch margin from the bottom of the page; small Roman numerals are used.

List of Figures (example on page 39)

The List of Figures must conform to the format specified, unless otherwise indicated. An example is provided in the appendix.

1. There are 2 inches of white space between the top of the page and the first line of text.
2. The words LIST OF FIGURES are typed in all capital letters and centered horizontally on the page.
3. Two blank lines are left between LIST OF FIGURES and the next line of text.

4. Figure numbers, titles, and page numbers in the LIST OF FIGURES must exactly match those in the document.
5. A decimal tab stop is centered below the word FIGURE. At this tab stop the figure number is typed. The decimal tab will automatically align the numbers properly.
6. The second line of figure titles is indented 0.5 inches.
7. Page numbers should be aligned with the right margin. A right tab stop is set at 6.0 with a dot leader. Figure titles must not overlap page numbers on the right margin.
8. Figure titles longer than one line are single spaced and one blank line is left between figure titles.
9. On LIST OF FIGURES pages other than the first page, a 1 inch margin is left at the top.
10. The page number is centered at the bottom leaving 1 inch of white space; small Roman numerals are used.

List of Abbreviations (example on page 40)

The List of Abbreviations must conform to the format specified, unless otherwise indicated. An example is provided in the appendix.

1. There are 2 inches of white space between the top of the page and the first line of text.
2. The words LIST OF ABBREVIATIONS are typed in all capital letters and centered horizontally on the page.
3. Two blank lines are left between LIST OF ABBREVIATIONS and the next line of text.
4. The LIST OF ABBREVIATIONS must exactly match those in the document.
5. The abbreviation is listed first with the word or phrase following.
6. On the LIST OF ABBREVIATIONS pages (if there are multiple pages) other than the first page, a 1-inch margin is left at the top.
7. The page number is centered at the bottom leaving 1 inch of white space; small Roman numerals are used.

List of Symbols (example on page 41)

The List of Symbols must conform to the format specified, unless otherwise indicated. An example is provided in the appendix.

1. There are 2 inches of white space between the top of the page and the first line of text.
2. The words LIST OF SYMBOLS are typed in all capital letters and centered horizontally on the page.
3. Two blank lines are left between LIST OF SYMBOLS and the next line of text.
4. The LIST OF SYMBOLS must exactly match those in the document.
5. The symbol is listed first and is followed by an explanation or definition.
6. The second line of symbol definitions is indented 0.5 inches.
7. On LIST OF SYMBOLS pages (if there are multiple pages) other than the first page, a 1 inch margin is left at the top.
8. The page number is centered at the bottom leaving 1 inch of white space; small Roman numerals are used.

Body or Text

The text is divided into chapters including, at a minimum:

1. An introduction, which is considered the first chapter
2. Discussion of the research, which may be presented in one or more chapters
3. A conclusion, and
4. A list of references presented at the end of the document

Division into Chapters

Each chapter must be labeled with the word CHAPTER followed by either an Arabic or Roman numeral. Numeral style should be consistent throughout the document. Following the CHAPTER and on a different line should be a descriptive title. The descriptive title indicates the subject content of the chapter and should readily communicate what is being presented. Instructions and an example are provided on pages 35 and 36, respectively. All other chapters should follow this same format. Chapters may be materials that will be standalone publications; however, the format must adhere to the standards presented in this manual.

Division of Chapters into Sections

Chapters may be divided with headings and subheadings. Each level of heading must be formatted differently and applied consistently throughout the document.

Introduction

A preface may precede the introduction; however, there typically is no need to include one. An overall introduction is required even if subsequent chapters have their

own introductions. The overall introduction should not be a recapitulation of individual chapter introductions. Its function is to explain how the individual chapters work together to form the cohesive document described in the publications policy statement.

The introduction must be the first chapter. The general chapter title (such as CHAPTER 1) in all capitals must be at the top of the page and centered beneath a 2 inch margin (white space); the word INTRODUCTION is one blank spaced below the CHAPTER. The text begins below the INTRODUCTION after two blank lines.

Conclusion

The conclusion explains how the preceding chapters work together to solve the problem outlined in the introduction. The general chapter title in all capitals, e.g., CHAPTER IV, must be at the top of the page and centered beneath a 2 inch margin; the word CONCLUSION, or similar descriptive title, is placed one blank line of space below CONCLUSION. The text begins below the word CONCLUSION after two blank lines of space.

Other formatting examples

Instructions for subheadings, equations, tables, figures and footnotes in the body of the text are provided on the following pages.

First Page of Chapter (example on page 42)

1. The left margin is 1 inch. The top, right, and bottom margins must be at least 1 inch. The 1 inch margin at the bottom of the page must include the page number when a number is present.
2. The general title, i.e., CHAPTER, should be centered and 2 inches from the top edge of the page. The chapter number is placed on the same line immediately after CHAPTER. All capital Roman or Arabic numerals are used.
3. Double space (one blank line) between the CHAPTER number and the descriptive title.
4. The descriptive title is centered, and all capitals are used. If the title is longer than 1 line, double space the title. The lines of the title are arranged in the inverted-pyramid style.
5. Chapter numbers and titles may be boldfaced; however, students should follow the style requirements for their department.
6. Two blank lines are left after the descriptive title and the text.

7. The page number is centered at the bottom center. A 1 inch margin is left below the page number. The first page of CHAPTER 1 begins using Arabic numbers and is numbered as page “1”.

Pages with Subheadings (example on page 43)

1. Chapters may be divided into sections with descriptive headings.
2. Two blank lines are used before each heading.
3. Departmental style guidelines must be used in selecting heading formats. The sample pages show some acceptable methods of formatting headings. Other formats are acceptable if applied consistently.
4. Detailed outline numbering may be used as a method of varying the format of each heading. In detailed outline numbering, a section number is formed by an Arabic chapter numeral, a period, higher-level section numbers separated by periods, and finally the current subsection number. For example 3.2.4 denotes Chapter III, the 2nd section within Chapter III, and the 4th subsection within section 3.2.
5. Each level of heading must have a different format and the format of a particular level heading must be consistent (match) throughout the document. For example, 2nd level headings must match all other 2nd level headings but must be different from other level or sublevel headings. Headings may be centered or aligned with the left margin. They may be plain text, boldfaced, italicized, underlined, or any combination of those 3 options. They may not be in a different font or font size or all capitals.
6. If the style guide requires it, headings may begin the first line of a paragraph instead of being on a separate line. Headings on the first line of a paragraph must be boldfaced, italicized, underlined, or some combination of the 3 in order to differentiate from the beginning of the paragraph.
7. Three levels of heading are shown on the sample pages. The word CHAPTER is considered the first level heading. All other headings within a chapter are considered subheadings. Each level has a different format:
 - a. First level subheading – Chapter Title (not shown on example page, all capital letters)
 - b. Second level subheading – example page: Methodology and Approvals
 - c. Third level subheading – example page: Mitogens
 - d. Fourth level subheadings – example page: Phytohemagglutinin (PHA), Concanavalin-A (Con-A)

Pages with Equations

1. Equal line spacing is maintained on pages with equations or symbols.
2. An equation editor should be used for more complex equations.
3. Equal signs should be vertically aligned when several equations appear on the page.
4. Important equations should be numbered consecutively throughout the document. Equation numbers should be right-justified. Equation numbers should be the chapter number and the sequential number of the equation, e.g., (4-1), (4-2), (4-3), etc.

Pages with Tables (examples on pages 44 - 48)

1. A standard font must be used throughout the document. Smaller fonts may be used within tables if needed. Boldface and italics may be used within tables (examples on page 44 and 45). Students should follow departmental requirements regarding the use of boldface and italics.
2. Tables may be numbered consecutively throughout the document (1, 2, 3, etc.) or consecutively within chapters (1.1, 1.2, 1.3, 2.1, 2.2, 2.3, etc.). Do not include a period after the table number and before the table title.
3. Table numbers and titles appear above tables. Table numbers and titles may be centered (examples on pages 44, 45 and 46) or left-aligned and blocked (example on page 47). Table numbers and titles may not be boldfaced, italics, underlined or in all capital letters. All table titles must be formatted consistently throughout the document. Table must have at least three horizontal lines; a line separating the table from the text above and from the text below and a line separating the table headings from the table data (example on page 45).
4. Tables more than $\frac{1}{2}$ page long may be placed on a separate page (example on page 44 and 45). Unnecessary white space should be avoided where possible.
5. Tables less than $\frac{1}{2}$ page long may be placed on the same page as text. Two blank lines are left between the table number and text above. Two blank lines are left between the table and text below (example on page 46).
6. Two or more short tables should appear on the same page to avoid unnecessary white space (example on page 47). Three blank lines are left between two tables on the same page. A line centered between the tables (on the second blank line) and 4 inches in length may be added to aid in distinguishing between tables.
7. Tables may be placed in landscape orientation. The page number must be placed at the bottom center as the page would be read (example on page 48). The table

- number and title are oriented to what would normally be the binding side of the document (see example on page 48).
8. Tables may have superscript numerals or alphabetic symbols to designate footnotes. Superscript symbols may be smaller than the font size used in the document if they are easily readable (examples on pages 44, 45, 46 and 48). All information footnoted to a table must be designated with a superscript number or alphabetic symbol. The actual footnotes may be in a smaller font size if they are easily readable.
 9. The page number is centered at the bottom. A 1 inch margin is left below the page number

Pages with Figures (examples on pages 49 - 51)

1. A standard font must be used throughout the document. Boldface and smaller fonts may be used within figures if needed (example on page 49). Students should follow departmental requirements regarding the use of boldface and italics.
2. Figures may be numbered consecutively throughout the document (1, 2, 3, etc.; see page 49) or consecutively within chapters (1.1, 1.2, 1.3, etc.; see page 50). Do not include a period after the figure number and before the figure title.
3. Figure numbers and titles appear below figures. Figure numbers and titles may be left-aligned and blocked (example on page 49) or centered (example on page 50). Figure numbers and titles may not be boldfaced, italics, underlined or in all capitals. All figures titles must be formatted consistently throughout the document.
4. Figures less than ½ page long may be placed on the same page as text (example on page 49). Two blank lines are between the figure and text above. Two blank lines are between the figure title and text below.
5. Figures more than ½ page long may be placed on a separate page (examples on pages 50 and 51).
6. Two or more small figures should appear on the same page to avoid unnecessary white space.
7. Figures may be placed in landscape orientation. The page number must be placed at the bottom center as the figure would be viewed (example on page 51).
8. The page number is centered at the bottom. A 1 inch margin is left below the page number.

Pages with Footnotes (example on page 52)

1. Footnotes may be smaller font size than the standard size used in the document. The font size used for footnotes must be consistent throughout the document.
2. To maintain equal line spacing, superscripts may be in a smaller font size.
3. A line 1.25 inches in length using the underline function is used to separate the text from the footnotes.

References, List of References, etc. (examples on pages 53 - 57)

Whether directly quoting a work or reference, a listing of the sources must be included in the document. The style of the discipline will dictate how citations are listed. The listing may appear at the end of each individual chapter and/or as a general listing at the end of the document. When a chapter is planned to be published as a stand-alone manuscript, the listing of references is usually located at the end of the chapter, for ease of future publication. Listing references at the end of the entire document is preferred if it does not conflict with discipline requirements.

Select one method and follow the appropriate instructions.

Reference Lists at End of Document

1. The first page should have a 2 inch top margin, a 1 inch left margin, a 1 inch right margin, and 1 inch bottom margin. All other pages should have a 1 inch left margin and 1 inch top, right, and bottom margins.
2. The page heading must be in all capitals and centered. Two blank lines are between the heading and the first entry. The wording of the heading (BIBLIOGRAPHY, REFERENCES, WORKS CITED, etc) is determined by the style used by the department. Common examples are shown on the sample pages.
3. Citation formatting is determined by the style used by the program or department; the appropriate style guide should be consulted. Some common citation styles are shown on pages 53 – 56.
4. Double space between each entry. Single-spacing is used within entries.
5. Page numbers are centered at the bottom with a 1 inch margin below the page number.

Reference Lists at End of Each Chapter

1. The first page should have a 2 inch top margin, a 1 inch left margin, a 1 inch right margin, and 1 inch bottom margin. All other pages should have a 1 inch left margin and 1 inch top, right, and bottom margins.

2. Start the reference materials on a new page rather than on the same pages as the last line of the chapter.
3. The format and wording of the heading is determined by the style used by the department.
4. Citation style is determined by the style used by the department. The appropriate style guide should be consulted.
5. Double space between each entry. Single-spacing is used within entries.
6. Page numbers are centered at the bottom with a 1 inch margin below the page number.

Appendices (example on page 58)

Reference materials that are not absolutely necessary to the text are often grouped in an appendix or in appendices. If used, an appendix generally follows immediately after the last chapter of the text. However, the bibliography or references may precede the appendix.

Each appendix is preceded by a divider sheet identifying the appendix by letter and including the title of the appendix. All text should be centered horizontally and vertically on the page. If the title requires more than 1 line, the title should appear in inverted-pyramid order.

If the information to be appended dictates more than 1 appendix, the multiple appendices are designated APPENDIX A, APPENDIX B, etc. Each appendix with its title must be listed separately in the table of contents as a subdivision under the heading APPENDIX or APPENDICES.

Tables or figures appearing in an appendix are identified as tables or figures, are numbered consecutively, and appear in the list of tables or figures in the preliminary pages. Appendix tables or figures may be identified by the letter of the appendix and respective table or figure number. For example, a table in Appendix C may be identified as Table C.1.

Each appendix must have an appendix divider (title) page formatted as follows:

1. All text on the appendix divider (title) page is page centered (both vertically and horizontally). The left margin should be 1 inches. The right margin should be 1 inch.
2. The word APPENDIX in all capital letters appears on the first line. If more than one appendix is used, they should be designated as APPENDIX A, APPENDIX B, etc.
3. One blank line is left between the word APPENDIX and the appendix title.

4. The appendix title is typed in all capital letters. If the title is longer than 1 line, double space between the lines of the title and the lines are arranged in inverted-pyramid style.
5. The page number is centered at the bottom with a 1 inch margin below.

The appendix contents are formatted as follows:

1. Margins for appendix pages should be identical to text pages, i.e., 1 inch left, top, right, and bottom.
2. Tables and figures must be numbered. Tables and figures must be included in the List of Tables and List of Figures.
3. Appendices will include material such as IRB letters, computer code, or surveys that cannot be reformatted. Such material may be single spaced and may use a different font than the rest of the document.
4. The page number is centered at the bottom with a 1 inch margin below.

Vita (examples on pages 59 - 60)

The vita should be written in narrative form, not resume or *curriculum vitae* form, and a maximum of one page in length. It should contain appropriate academic and professional information about the author/student. Because copies of the manuscript will be available to the public, personal information, such as the students address or phone number, should not be included.

CHAPTER IV

SUBMISSION OF THE THESIS OR DISSERTATION

Deadlines for submission of documents for review by Graduate School staff are published on the Graduate School web site and the Graduate School Academic Calendar; these deadlines cannot be waived. However, if the deadline falls on a weekend, the thesis or dissertation must be submitted no later than 4:30 p.m. on the following Monday. To meet the first submission deadline (the first review of the document), the student must submit one *complete* paper copy of the document with the required signatures on the committee approval page. The committee approval page must be printed on cotton, acid-free paper. Partial documents will not be accepted. To meet the final submission deadline (a document that has been reviewed and given approval pending all corrections are made), the student must have made all corrections, completed all forms, and paid any thesis or dissertation fees. Upon approval of the document by the Graduate School, the student must submit an electronic copy to ProQuest. ProQuest notifies the UTC Graduate School of thesis and dissertation submissions. The graduate degree will not be conferred until the thesis or dissertation is submitted to ProQuest and subsequently acknowledged by the UTC Graduate School.

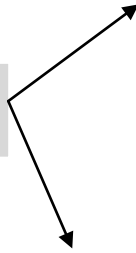
Points to note for the example pages:

- *the actual page number of the example page in this document is displayed in the bottom right corner of the page in a grey shaded box; this page number will match the TOC.*
- *all pages in the thesis or dissertation are numbered except the Committee Approval Page,*
- *the following example pages only demonstrate format, not style, length of a given section, or coverage of topic, etc.*

APPENDICES

EXAMPLE PAGES OF REQUIRED FORMAT

*2 inches of white space
from top of page to title*



1 blank line



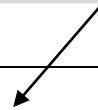
EFFECT OF ORGANOPHOSPHATE EXPOSURE ON
CHOLESTERYL ESTER HYDROLASE

By

Matthew Allen Wilder

Approved:

*A committee member may be listed as
“Professor of the College of.....”
using faculty rank and college
designation.*



Peter F. Strauss
Professor of Biological Sciences
(Director of Thesis)

Bailey R. Keenan
Associate Professor of Biological Sciences
(Committee Member)

Taylor M. O’Leary
Associate Professor of Chemistry
(Committee Member)

Kelly C. Varder
Professor of Nursing
(Committee Member)

Russell H. Sorensen
Dean of the College of Arts and
Sciences

Stewart Creamer
Dean of the Graduate School

*The Committee Approval
Page is page number ‘i’
but the number is not
placed on the page.*

Sample “Committee Approval Page” TOC p.27

*2 inches of white space
from top of page to title*

EFFECT OF ORGANOPHOSPHATE EXPOSURE ON
CHOLESTERYL ESTER HYDROLASE

1 blank line

*Title longer than one
line is formatted as
inverted pyramid.*

By
Matthew Allen Wilder

A Thesis
Submitted to the Faculty of the
University of Tennessee at Chattanooga
in Partial Fulfillment of the Requirements
for the Degree of Master of Science
in Biology

The University of Tennessee at Chattanooga
Chattanooga, Tennessee

December 2010

The copyright page is optional.

Copyright © 2007

By Matthew Allen Wilder

All Rights Reserved

*The copyright page is page iii
(Roman numeral).*

iii

Sample Page "Copyright" TOC p.29

2 inch of white space is left between the top of the page and the word ABSTRACT.

ABSTRACT

2 blank lines are inserted between the word ABSTRACT and the text.

Studies recently and currently in progress are providing insight into the influence of protein deficiency on cell-mediated mechanisms of immunity. One of the ways in which these mechanisms can be assayed is the lymphocyte blastogenesis procedure.

The present investigation was designed to demonstrate the effects of high fat, high carbohydrate and low protein (G-2) diet with concurrent administration of either testosterone or methylandrostenediol on hematocrit and weight determinations and splenic lymphocyte stimulation in Taconic Swiss mice. Results of this study indicate that testosterone and methylandrostenediol may prevent perivascular cuffing of coronary arteries.

A positive correlation was found between activation of splenic lymphocyte cultures by phytohemagglutinin and the occurrence of coronary arterial perivascular cuffing. The experimental groups (ovariectomized, hormone treated, and/or diet) receiving hormones with the G-2 diets revealed “protection” of coronary arteries from perivascular cuffing based on stimulation indices that approximated those of normal mice. Testosterone had a greater tendency to prevent perivascular cuffing.

The dedication page is optional.

2 inches of white space between top of page and the word "DEDICATION"

DEDICATION

2 blank lines of white space

I would like to dedicate this research to my parents, Frederick and Hanna Wilder, and my brother Jason.

The acknowledgement page is optional.

2 inches of white space between top of page and the word “ACKNOWLEDGEMENTS”

2 blank lines of white space

ACKNOWLEDGEMENTS

The author expresses his sincere gratitude to the many people without whose assistance this dissertation could not have been completed. First of all, sincere thanks are due to Dr. Peter F. Strauss, my committee chairman, for his magnanimity in expending time and effort to guide and assist me throughout the intricacies of the master’s program and the thesis process. Expressed appreciation is also due to the other members of my thesis committee, namely, Dr. Bailey R. Keenan, Dr. Taylor M. O’Leary, and Dr. Kelly C. Darden, for the invaluable aid and direction provided by them. Finally, the author would like to thank Dr. Herbert Hubbell of the Big University for making available the specially formulated G-2 diet used in this study.

2 inches of white space

2 blank lines

1 blank line

TABLE OF CONTENTS

DEDICATION v

ACKNOWLEDGMENTS vi

LIST OF TABLES ix

LIST OF FIGURES x

CHAPTER

I. INTRODUCTION 1

 Background 2

 Cell-mediated immunity 3

 G-2 Diets 4

 Statement of the Problem 5

 Objectives of the Study 8

 Justification and Usefulness of the Study 12

 Scope and Limitations of the Study 13

 Summary and Plan of Presentation 14

II. LITERATURE REVIEW 16

 Review of Cell-Mediated Immunity and Disease 16

 A Brief History of Cell-Mediated Immunity 17

 Diseases with Cell-Mediated Associations 24

 Cardiovascular Disease and Cell-Mediated Immunity 30

 Review of Diets and Disease 31

 Low Fat, High Carbohydrate, Low Protein Diets 31

 Neural Networks Background 32

 Types of Neural Network Models 33

 The Use of Neural Networks in Forecasting 35

 Penalty Costs 36

 Conclusion 37

III. METHODOLOGY 38

The actual page number for the TOC page will depend on whether the optional copyright, dedication and acknowledgement pages are included. → vii

Animals	39
Experimental Diet	41
Ovariectomies	44
Animal Groups and Hormone Injections.....	47
Testosterone and Methylandrostenediol.....	47
Media and Other Biological Reagents.....	51
Lymphocyte Transformation Assay.....	52
Hematocrit Determinations.....	59
 IV. RESULTS.....	 60
 V. DISCUSSION AND CONCLUSIONS.....	 64
 REFERENCES *.....	 71
 APPENDIX	
A. PRELIMINARY EXPERIMENTS TO DETERMINE ASSAY CONDITIONS.....	75
B. ALTERNATE METHODS FOR DETERMINE CELL-MEDIATED FUNCTION.....	76

Note that the page number comes at the end of the title.

*The term REFERENCES, REFERENCES CITED or CITED LITERATURE can be used

Example: poems, stories, or plays without subdivisions. Elements such as a dedication, acknowledgements, introduction, afterword, and works cited are optional for creative works theses.

TABLE OF CONTENTS

DEDICATION	iv
ACKNOWLEDGEMENTS	v
I. INTRODUCTION	2
II. TEA LEAVES	3
III. KNOTS	4
IV. METAL WORKING	5
V. BIRTHDAY CARD	7
VI. CAFÉ BLUES	9
VII. STREET LAMP	10
VIII. SOGGY HOMES	13
IX. GO AHEAD	17
X. ELEGANT DANCE	19
XI. WHEN SPLITTING OAK	22
XII. SPIDERS AND DRAGONS	25
XIII. THINKING OF YOU—A CONFESSIONAL	29
XIV. WHILE STANDING IN LINE FOR PIZZA	33
XV. ASTROLOGICAL RUST	36
WORKS CITED	42

Example: poems, stories, or plays without subdivisions. Elements such as a dedication, acknowledgements, introduction, afterword, and works cited are optional for creative works theses.

TABLE OF CONTENTS

DEDICATION.....	iv
ACKNOWLEDGEMENTS.....	v
I. INTRODUCTION.....	2
II. AMID THE CHAOS AND THE STILL.....	3
Tea Leaves.....	4
Knots.....	5
Metal Working.....	6
Birthday Card.....	7
Café Blues.....	9
Street Lamp.....	10
Soggy Homes.....	13
Go Ahead.....	17
Elegant Dance.....	19
When Splitting Oak.....	22
Spiders and Dragons.....	25
Thinking of You—A Confessional.....	29
While Standing in Line for Pizza.....	33
Astrological Rust.....	36
III. THE <i>CHILDREN’S CORNER SUITE</i> FOR PIANO AND PLAY DOUGH.....	38
Happy Birthday.....	39
Root Beer.....	41
Queen of the Trees.....	43
Politics.....	45
Gaming.....	46
Electrons.....	48
Blueberries.....	50
The Fair.....	52

Example: poems, stories, or plays without subdivisions. Elements such as a dedication, acknowledgements, introduction, afterword, and works cited are optional for creative works theses.

TABLE OF CONTENTS

DEDICATION	iv
ACKNOWLEDGEMENTS	v
I. AMID THE CHOS AND THE STILL	2
Scene 1	3
Scene 2	7
Scene 3	11
Scene 4	15
II. THE <i>CHILDREN'S CORNER SUITE</i> FOR PIANO AND PLAY DOUGH	18
Scene 1	19
Scene 2	22
Scene 3	28
Scene 4	32
III. STRANGELY WELCOME THUNDER	35
Scene 1	36
Scene 2	37
Scene 3	42
Scene 4	45

Tables may be numbered consecutively throughout the entire document or sequentially within individual chapters as depicted here.



LIST OF TABLES

3.1	Experimental and Normal Mice	42
3.2	Experimental Diet.....	40
4.1	Lymphocyte Stimulation Means for Controls and Experimental Mice After One Week of Protein Repletion.....	81
4.2	Comparison of Weight Changes of Normal and Experimental Mice in Experiment One.....	82
4.3	Comparison of Hematocrit Values of Normal and Experimental Mice in Experiment One.....	83
4.4	Lymphocyte Stimulation Means for Controls and Experimental Mice After Three Week of Protein Repletion (Experiment Two).....	84
4.5	Comparison of Weight Changes of Normal and Experimental Mice in Experiment Two	85
4.6	Comparison of Hematocrit Values of Normal and Experimental Mice in Experiment Two	86
4.7	Comparison of Lymphocyte Stimulation Means for Controls and Experimental Mice in Experiment One and Two	89
4.8	Weight Data of Mice Before and After Diet and One and Three Weeks of Protein Repletion.....	90
4.9	Hematocrit Data of Mice Before and After Diet and One and Three Weeks of Protein Repletion.....	91

Figures may be numbered consecutively throughout the entire document or sequentially within individual chapters as depicted here.



LIST OF FIGURES

2.1	Stimulation indices of lymphocytes from 10- and 20-week old BXSB mice	58
2.2	BXSB mice PHA stimulation indices	59
2.3	BXSB mice Con A stimulation indices	60
2.4	BXSB mice PWM stimulation indices	61
2.5	BXSB mice microtiter plate co-cultures (mean cpm)	65
3.1	Stimulation indices of lymphocytes from 10- and 20-week old (NZB X BXSB) F ₁ hybrid mice	73
3.2	(NZB X BXSB) F ₁ hybrid mice PHA stimulation indices	74
3.3	(NZB X BXSB) F ₁ hybrid mice Con A stimulation indices	75
3.4	(NZB X BXSB) F ₁ hybrid mice PWM stimulation indices	76
3.5	(NZB X BXSB) F ₁ hybrid mice microtiter plate co-cultures (mean cpm)	80
4.1	Mixed lymphocyte culture data for young MRL/Mp mice	88
4.2	Mixed lymphocyte culture data for old MRL/Mp mice	89
4.3	Young SLE vs control (non-SLE) mice microtiter co-cultures	101
4.4	Old SLE vs control (non-SLE) mice microtiter co-cultures	102
5.1	T and B lymphocyte destiny	103

LIST OF ABBREVIATIONS

PWM, Pokeweed mitogen

Con A, Concanavalin A

UK, United Kingdom

LIST OF SYMBOLS

\neq , not equal to

\propto , proportional to

∞ , infinity

\emptyset , empty set

2 inches of white space from the top of the page to the top of the word "CHAPTER"

CHAPTER I

1 blank line

INTRODUCTION

2 blank lines

A competent immune system in the animal organism is dependent upon the proper functioning of its component cells which have carefully defined immunologic functions and are under precise control in the healthy subject. These cells include B and T lymphocytes and macrophages. However, within the lymphoid cell population, 0.5 – 2.0% are considered to be “null” cells or non-T, non-B cells. B cells synthesize immunoglobulins that contribute the humoral limb of the immune response. The cell-mediated response generated by T cells is responsible for lymphokine production and protection against some bacteria, viruses, and fungi. Macrophages are capable of engulfing foreign organisms and particulate antigens, degrading the material, and presenting it to lymphoid cells. Those few lymphoid cells known as “null” cells are believed to act as killer cells responsible for cytotoxicity and immune surveillance associated with tumor immunity.

The first page of the first chapter is page number 1 (Arabic numeral) for the entire document.

1

1 inch of white space between the bottom of the number and the bottom of the page.

Sample Page “First Page of Chapter” TOC p.42

2 blank lines after text
and before headings

Translucent cages were used to house mice in groups of five. The cages were fitted with stainless steel covers and contained San-i-cel® bedding.

Methodology and Approvals

Methods used in conducting this research were standard procedures that are currently implemented in the investigator's laboratory. All procedures using animals were approved by the Institutional Animal Care and Use Committee.

Mitogens

RPMI-1640 medium to prepare mitogens did not contain heat-inactivated fetal calf serum, but did contain antibodies and L-glutamine.

Phytohemagglutinin (PHA)

“Leucoagglutinin,” a highly purified extract from *Phaseolus vulgaris*, was obtained as a freeze-dried powder (Pharmacia Fine Chemicals, Piscataway, NJ). Each 5 mg vial was reconstituted by adding 5 ml of sterile distilled water and stored at 4°C. RPMI-1640 was used to dilute the PHA stock to the dose response optimum of 10.0 µg/ml prior to use.

Concanavalin-A (Con-A)

Con-A, an extract of the jack bean (*Concanalia ensiformis*), was obtained as a lyophilized product (Pharmacia Fine Chemicals, Piscataway, NJ) and stored at 4°C.

Table 18

Suppression¹ on Old Male Lymph Node Cell Transformation by Mitomycin C Treated Splenic Cell Populations as Judged by Co-cultures² in BXS^B Mice

Culture	Percent Suppression					
	<i>Exp. 1</i> ⁴	<i>Exp. 2</i>	<i>Exp. 3</i>	<i>Exp. 4</i>	<i>Exp. 5</i>	<i>Exp. 6</i>
Old male lymph node cells Female spleen cells ³	44.6	-3.5	-96.6	49.1	82.6	-23.6
Old male lymph node cells Young male spleen cells ³	-3.6	-63.8	-149.8	24.4	40.2	-21.1
Old male lymph node cells Old male spleen cells ³	0.0	0.0	0.0	0.0	0.0	0.0
Old male lymph node cells Female spleen cells PWM	28.9	-28.9	43.5	48.6	27.7	-11.4
Old male lymph node cells Young male spleen cells PWM	-259.6	-65.6	27.3	22.5	21.5	-12.5
Old male lymph node cells Old male spleen cells PWM	0.0	0.0	0.0	0.0	0.0	0.0

¹ percent suppression of old male lymph node cell transformation is calculated by the following equation:

$$\% \text{ suppression} = 1 - \frac{\text{Mean CPM of old male lymph node cells cultured with female or young male spleen cells (with or without PWM)}}{\text{Mean CPM of old male lymph node cells cultured with old male spleen cells (with or without PWM)}}$$

² All cultures were pulsed with tritiated thymidine and the results were expressed as CPM. All results expressed in this table are given in percent values.

³ Ages of mice when sacrificed correspond to the following: females (controls) ten to twelve weeks, young males The nine to ten weeks, and old males 19 to 21 weeks old.

⁴ The magnitude of suppression is reflected in large positive numbers. Negative values indicate potentiation of DNA synthesis.

Table 18

Suppression¹ on Old Male Lymph Node Cell Transformation by Mitomycin C Treated Splenic Cell Populations as Judged by Co-cultures² in BXSB Mice

Culture	Percent Suppression					
	Exp. 1 ⁴	Exp. 2	Exp. 3	Exp. 4	Exp. 5	Exp. 6
Old male lymph node cells Female spleen cells ³	44.6	-3.5	-96.6	49.1	82.6	-23.6
Old male lymph node cells Young male spleen cells ³	-3.6	-63.8	-149.8	24.4	40.2	-21.1
Old male lymph node cells Old male spleen cells ³	0.0	0.0	0.0	0.0	0.0	0.0
Old male lymph node cells Female spleen cells PWM	28.9	-28.9	43.5	48.6	27.7	-11.4
Old male lymph node cells Young male spleen cells PWM	-259.6	-65.6	27.3	22.5	21.5	-12.5
Old male lymph node cells Old male spleen cells PWM	0.0	0.0	0.0	0.0	0.0	0.0

¹ The percent suppression of old male lymph node cell transformation is calculated by the following equation:

$$\% \text{ suppression} = 1 - \frac{\text{Mean CPM of old male lymph node cells cultured with female or young male spleen cells (with or without PWM)}}{\text{Mean CPM of old male lymph node cells cultured with old male spleen cells (with or without PWM)}}$$

² All cultures were pulsed with tritiated thymidine and the results were expressed as CPM. All results expressed in this table are given in percent values.

³ Ages of mice when sacrificed correspond to the following: females (controls) ten to twelve weeks, young males nine to ten weeks, and old males 19 to 21 weeks old.

⁴ The magnitude of suppression is reflected in large positive numbers. Negative values indicate potentiation of DNA synthesis.

In vivo examination of seven *L. monocytogenes* subgroup IIIA, IIIB, and IIIC strains (i.e., F2-458, XY-92, F2-086, and F2-208) in A/J mice indicates that six of these strains (all but X1-002) are capable of causing mouse mortality, as mice inoculated i.p. with these six strains died by day 5 postinfection, similar to those injected i.p. with the EGD control strain (Table 3).

Table 3

In Vivo Assessment of *Listeria monocytogenes* Virulence¹

Strain	Serotype or Subgroup	CFU	Mortality (no. of dead mice) (n=5)	Relative virulence
EGD	1/2a	1 X 10 ⁸	5	100
HCC23	4a	8 X 10 ⁷	0	0
F2-458	IIIA	1.2 X 10 ⁸	5	100
XY-92	IIIA	9 X 10 ⁷	2	20
F2-086	IIIB	1.1 X 10 ⁸	5	100
F2-208	IIIC	8 X 10 ⁷	5	100
None (saline control)	--	--	0	0

¹ Each group contained five A/J mice. The dose (*L. monocytogenes* suspension) given to each mouse was diluted 1/200.

It has been shown previously that while *L. monocytogenes* strains harboring internalin gene lmo2821 tend to be virulent, those without this gene (e.g., serotype 4a strains) are avirulent in the mouse model. The results from this study offer further support that lmo2821 may contribute to the enhanced virulence of *L. monocytogenes* strains, with lmo2821-positive subgroup IIIA strains F2-458 and J2-074 being clearly virulent and lmo2821-negative subgroup IIIA strain X1-002 being avirulent.

Table 4 Suppression of Young Female Lymph Node Cell Transformation by Mitomycin C Treated Control Splenic Cells as Judged by Co-Cultures in MRL/Mp Mice

TABLE DATA WOULD BE HERE

A line can be inserted to separate two tables on the same page.

Left justified, block style for table titles.

Table 5 Microtiter Plate Co-Culture Data from Control (Non-SLE) and Old (SLE) MRL/Mp Mice

TABLE DATA

A 1.0 inch margin is maintained on the top of the page (the binding side of the document) for tables in landscape orientation.

Table 18

Suppression¹ on Old Male Lymph Node Cell Transformation by Mitomycin C Treated Splenic Cell Populations as Judged by Co-cultures in BXSB Mice

Culture	Percent Suppression					
	Exp. 1	Exp. 2	Exp. 3	Exp. 4	Exp. 5	Exp. 6
Old male lymph node cells Female spleen cells ²	44.6	-3.5	-96.6	49.1	82.6	-23.6
Old male lymph node cells Young male spleen cells ²	-3.6	-63.8	-149.8	24.4	40.2	-21.1
Old male lymph node cells Old male spleen cells ²	0.0	0.0	0.0	0.0	0.0	0.0
Old male lymph node cells Female spleen cells PWM	28.9	-28.9	43.5	48.6	27.7	-11.4
Old male lymph node cells Young male spleen cells PWM	-259.6	-65.6	27.3	22.5	21.5	-12.5
Old male lymph node cells Old male spleen cells PWM	0.0	0.0	0.0	0.0	0.0	0.0

¹ The percent suppression of old male lymph node cell transformation is calculated by the following equation:

$$\% \text{ suppression} = 1 - \frac{\text{Mean CPM of old male lymph node cells cultured with female or young male spleen cells (with or without PWM)}}{\text{Mean CPM of old male lymph node cells cultured with old male spleen cells (with or without PWM)}}$$

² Ages of mice when sacrificed correspond to the following: females (controls) ten to twelve weeks, young males nine to ten weeks, and old males 19 to 21 weeks old.

The page number is centered on the bottom margin of the table as one would read the table.

1.0 inch of white space between the edge of the page and the page number.

The use of compound N260-XP has remarkable ability to enhance the resistance in a variety of mammals to specific bacterial infections. There was as much as a 30-fold increase in resistance to *Streptococcus mutans* in sheep. The effects of N260-XP are dose dependent and reach a plateau effect at a low concentration when injected intramuscularly (Figure 11).

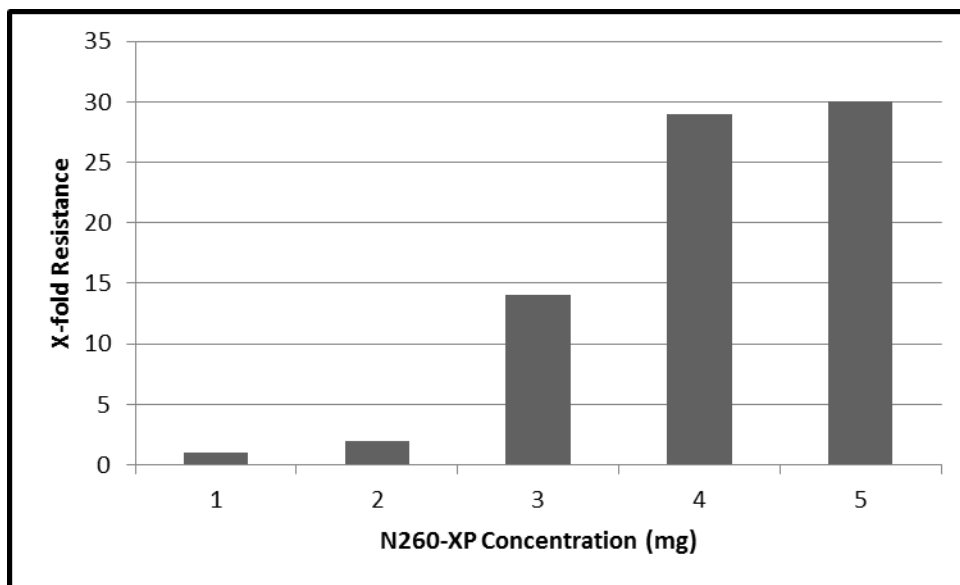


Figure 11 The ability of compound N260-XP to enhance resistance to *S. mutans* infection in sheep.

Based on the results of the current study, further titration and dose response experiments are needed to determine the what concentration between 3.0 and 4.0 mg is best to use in sheep. These types of dose response curves would need to be conducted in various mammals and with different bacterial to determine whether the dose response is similar in a variety of mammals and for different bacterial organisms.

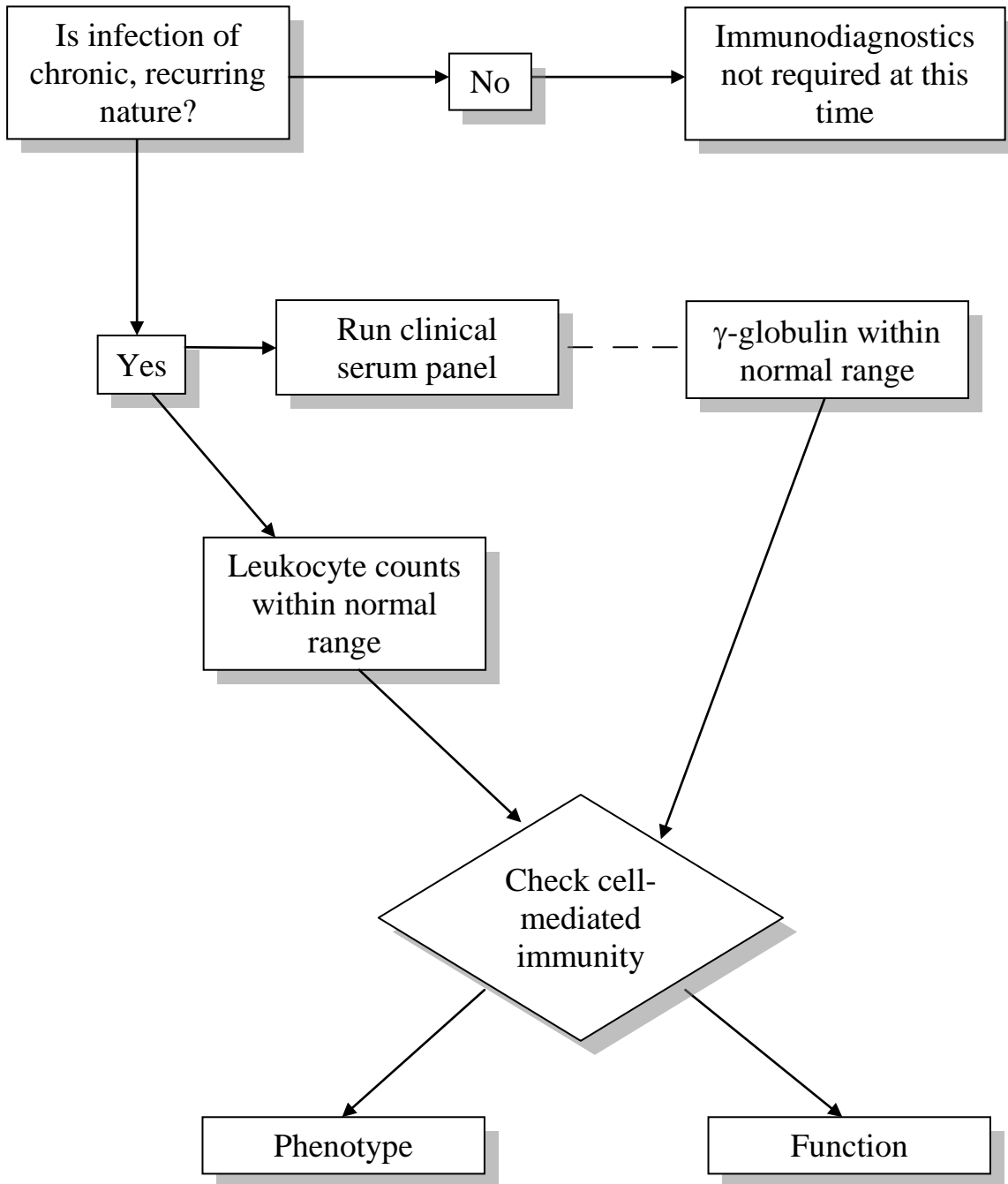


Figure 5.2

Diagnostic Laboratory Decision Making Training Networks

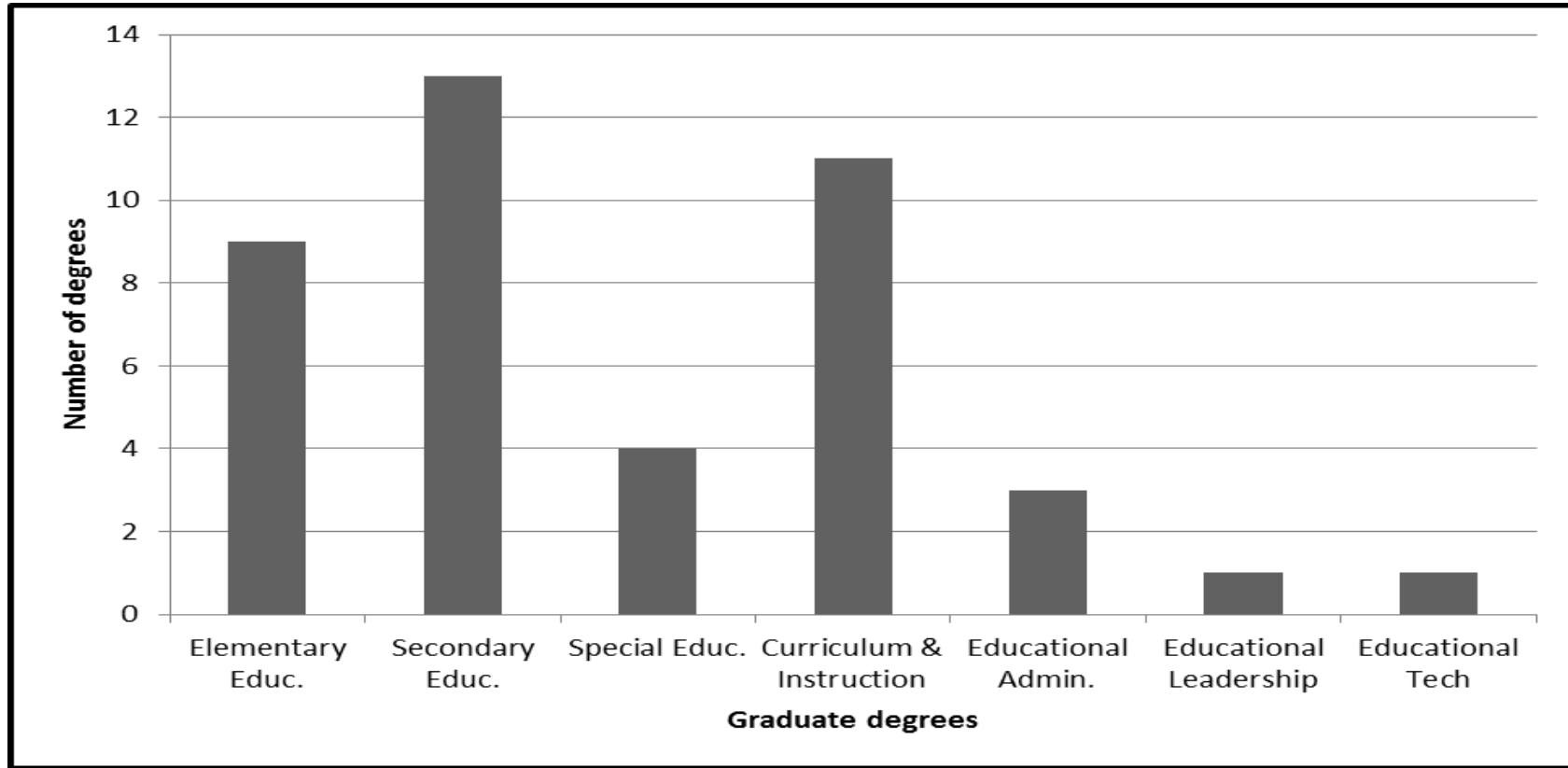


Figure 17 Number of degrees conferred in education by program area, spring 2011

In contrast, some studies suggest that sample size and/or error term adjustments render U.S. day-of-the-week effects statistically insignificant.⁵

In spite of the increasing evidence concerning seasonal anomalies in security rates of return, pronounced gaps in the research on this topic exist. For example, unlike the considerable body of investigations into seasonal regularities in equity markets, few studies have examined this phenomenon in fixed income markets. Specifically, investigating daily return patterns in T-bills, Gibbons and Hess found Wednesday's returns to be higher than those of any other day of the week, while Monday's returns were lower.⁶ Furthermore; several researchers have investigated the January effect in various bond markets and have reached different conclusions. For example, Smirlock was able to identify the existence of this anomaly in low-grade corporate bonds. In a recent paper, indications of significant year-end effects in junk bond prices were also provided by Cooper and Shulman.

Virtually all of the existing research on seasonal anomalies in corporate bond returns has been confined to investment-grade bonds. As investment instruments, junk bonds became popular in the mid-1980s. Today many investors consider junk bonds to be part of a well-diversified portfolio primarily because of the hybrid nature of these

⁵For example, see B. Cornell, "Liquidity and the Pricing of Low-Grade Bonds," *Financial Analysts Journal*, January/February 1992; B. Cornell and K. Green, "The Investment Performance of Lowgrade Bond Funds," *Journal of Finance*, 46, 1, March, 1991; and E. C. Chang, J. M. Pinegar and R. Ravichandran, "International Evidence on the Robustness of the Day-of-the-Week Effect," a paper presented at the 1992 Financial Management Association meeting in San Francisco, California.

⁶M. R. Gibbons and P. Hess, "Day-of-the-Week Effects and Asset Returns," *Journal of Business*, 54, 4, October 1981.

Double space between footnotes. If font size is reduced for footnotes, ensure that blank line is the size of the font in the text body, not the size of the footnote font.

Example format for numbered references

2 inches of white space between top of page and REFERENCES CITED

Single space within references and double space between references

REFERENCES CITED

Two blank lines between REFERENCES CITED and listing of references

- [1] Alderson, M. J., and T. L. Zivney, "On Computing Bond Returns: The Evaluation of Low-Grade Debt," *Journal of Financial Research*, XVII, 3, Fall 1994, pp. 403-415.
- [2] Altman, Edward I., "Measuring Corporate Bond Mortality and Performance," *Journal of Finance*, 44, September 1989, pp. 909-922.
- [3] Altman, Edward I., "Current Issues: Junk Bonds — How 1989 Changed the Hierarchy of Fixed Income Security Performance," *Financial Analysts Journal*, 46, 3, May/ June 1990, pp. 9-12, 20.
- [4] Blume, Marshall E., and Donald B. Keim, "Lower-Grade Bonds: Their Risks and Returns," *Financial Analysts Journal*, 43, (July-August 1987), pp. 26-33.
- [5] Blume, Marshall, Donald B. Keim, and Sandeep A. Patel, "Returns and Volatility of Low-Grade Bonds, 1977-1989," *Journal of Finance*, 46, no. 1 (March 1991), pp. 49-74.
- [6] Chang, Eric C., J. M. Pinegar, "Return Seasonality and Tax-Loss Selling in the Market for Long-Term Government and Corporate Bonds," *Journal of Financial Economics*, 17, December 1986, pp. 391-415.
- [7] Connolly, Robert A., "A Posterior Odds Analysis of the Weekend Effect," *Journal of Econometrics*, 49, 1991, pp. 51-104.
- [8] Cooper, Rick A., and Joel M. Shulman, "The Year-End Effect in Junk Bond Prices," *Financial Analysts Journal*, September-October 1994, pp. 61-65.
- [9] Cornell, Bradford, "Liquidity and the Pricing of Low-Grade Bonds," *Financial Analysts Journal*, January-February 1992, pp. 63-67, 74.
- [10] Cornish, Geoffrey and Ronald E. Whitten. 1993. *The Architects of Golf: A Survey of Golf Course Design from its Beginnings to the Present*. Harper Collins. 14
- [11] Doak, Tom. 1999. *The Anatomy of A Golf Course*. Short Hills: Burford Books.
- [12] Dockery, Donny. 2002. Personal Interview. May 25, 2002.

- [13] Dotti, Paul. 2002. "Is Your Course Certified?" USGA Green Section. http://usga.org./green/ARCHIVE/Record/02/jan_feb/course_certified.html. Feb. 3, 2002
- [14] Graham, D. Douglas. 2003. Resistance Not Futile. http://grounds_mag.com/ar/grounds_maintenance_resistance_not_futile/ Jun. 2003
- [15] Hood, Megan. 2002. "Beat the Heat." Sportsturf Consultants. http://sportsturf.com.au/articles/drought_article. Jan. 27, 2002.
- [16] Hurdzan, Michael. 1992. Golf Course Architecture Design, Construction, and Restoration. Chelsea: Sleeping Bear Press.
- [17] Leiter, Martin. 2002. Personal Interview. May 26, 2002.
- [18] Millhouse, John. 2002. "Golf Courses and Our Water Resources."
- [19] Sandy Lyle Golf Design. http://www.sandylyle.com/Articles_by_Staff/Water_and_Design.html. Jan. 29, 2002.
- [20] Morrisett, Ran. "Golf Course History." <http://www.golfclubatlas.com/> Jan. 28, 2002.
- [21] Paul, Tom. 1999. "A Renaissance Movement in Golf Architecture." <http://www.golfclubatlas.com/opinionpaul.html>.

REFERENCES

- Akaike, H. "A New Look at Statistical Model Identification." *IEEE Transactions on Automatic Control*, AC-19 (6), December 1974, pp. 716-723.
- Atkins, A. B. and E. A. Dyl. "Price Reversals, Bid-Ask Spreads, and Market Efficiency." *Journal of Financial and Quantitative Analysis*, 25, 4, December 1990, pp. 535-547.
- Ball, R. and S. P. Kothari. "Nonstationary Expected Returns: Implications for Tests of Market Efficiency and Serial Correlation in Returns." *Journal of Financial Economics*, 25, 1, November 1989, pp. 51-74.
- Brock, W., W. Dechert, and J. Scheinkman. "A Test for Independence Based on the Correlation Dimension." Working Paper, University of Wisconsin at Madison, University of Houston, and University of Chicago, 1987.
- Brock, W., D. Hsieh, and B. LeBaron. *Nonlinear Dynamics, Chaos, and Instability*. Cambridge, MA.: MIT Press, 1991.
- Brorsen, B. W. and S. R. Yang. "Nonlinear Dynamics and the Distribution of Daily Stock Index Returns." *Journal of Financial Research*, 17, 2, Summer 1994, pp. 187-203.
- Cochran, S. J., R. H. DeFina, and L. O. Mills. "International Evidence on the Predictability of Stock Returns." *Financial Review*, 28, 2, May 1993, pp. 159-180.
- Errunza, V., K. Hogan, Jr., O. Kini, and P. Padmanabhan. "Conditional Heteroskedasticity and Global Stock Return Distributions." *Financial Review*, 29, 3, August 1994, pp. 293-317.
- Frank, M., R. Gensay, and T. Stegnos. "International Chaos?" *European Economic Review*, 32, 1988, pp. 1569-1584.
- Hsieh, D. "Chaos and Nonlinear Dynamics: Application to Financial Markets." *Journal of Finance*, 5, December 1991, pp. 1839-1877.
- Hsieh, D. "Implications of Nonlinear Dynamics for Financial Risk Management." *Journal of Financial and Quantitative Analysis*, 28, 1, March 1993, pp. 41-64.

REFERENCES

- Apps, J. W. (1991). *Mastering the teaching of adults*. Malabar, FL: Krieger Pub. Co.
- Barnett, B., & Lee, P. (1994). Assessment processes and outcomes: Building a folio. In L. Jackson & R. Caffarella (Eds.), *Experiential learning: A new approach* (Vol. 62, pp. 55-62). San Francisco, CA: Jossey-Bass. Retrieved from <http://www3.interscience.wiley.com/journal/112754572/issue>
- Berg, B. (1998). *Qualitative research for the social sciences* (3rd ed.). Boston, MA: Allyn and Bacon.
- Bloom, B. (Ed.). (1966). *Taxonomy of educational objectives: Cognitive domain*. New York, NY: David MacKay Company, Inc.
- Bol, L., Stephenson, P., O'Connell, A., & Nunnery, J. (1998). Influence of experience, grade level, and subject area on teachers' assessment practices. *The Journal of Educational Research*, 91(6), 323-330. Retrieved from <http://vnweb.hwwilsonweb.com/hww/jumpstart.jhtml?recid=0bc05f7a67b1790e4aa891479a01d5bf56dff9afb43b1d06d8d4c50b91929beec42dd303f5a46ef5&fmt=H>
- Boud, D., Keough, R., & Walker, D. (1985). *Reflection: Turning experience into learning*. London, England: Kogan Page.
- Boud, D., & Walker, D. (1991). *Experience and learning: Reflection at work*. Geelong, Australia: Deaken University Press.
- Boud, D., & Walker, D. (1998). Promoting reflection in professional courses: The challenge of context. *Studies in Higher Education*, 23(2), 191-206.
- Brookfield, S. (1986). *Understanding and facilitating adult learning*. San Francisco, CA: Jossey-Bass.
- Brookfield, S. (1995). *Becoming a critically reflective teacher*. San Francisco, CA: Jossey-Bass.
- Caffarella, R., & Barnett, B. (1994). Characteristics of adult learners and foundations of experiential learning. In L. Jackson & R. Caffarella (Eds.), *Experiential learning: A new approach* (Vol. 62, pp. 29-42). San Francisco, CA: Jossey-Bass. Retrieved from <http://www3.interscience.wiley.com/journal/112754572/issue>

Candy, P. (1989). Constructivism and the study of self-direction in adult learning. *Studies in the Education of Adults*, 21, 95-116.

Candy, P. (1991). *Self-direction for lifelong learning: A comprehensive guide to theory and practice*. San Francisco, CA: Jossey-Bass.

Example of reference having an assigned digital object identifier (doi)

Brownlie, D. (2007). Toward effective poster presentations: An annotated bibliography. *European Journal of Marketing*, 41(11/12): 1245-1283.
doi:10.1108/03090560710821161

Example of reference not having a digital object identifier

Kenneth, I. A. (2000). A Buddhist response to the nature of human rights. *Journal of Buddhist Ethics*, 8. Retrieved from <http://www.cac.psu.edu/jbe/twocont.html>

Center the information vertically and horizontally on the page.

APPENDIX B

THIS IS AN EXAMPLE OF AN APPENDIX DIVIDER PAGE
FORMATTED CORRECTLY

Appendix title is in all capital letters. A title longer than one line is double spaced and formatted as an inverted pyramid.

The appendix divider page has a page number

121

Sample Page for the Appendix Divider TOC p.58

2 inches of white space between the top of the page and VITA

Two blank lines between VITA and the text

VITA

Sam Jones was born in Raymond, TX, to the parents of Sly and Betty Jones. He is the second of three children, an older brother and a younger sister. He attended Van Winkle Elementary and continued to Forest Hill High School in Dallas, Texas. After graduation, attended the University of Arkansas where he became interested in fishery sciences. Sam completed an International Study Abroad Program with Dr. Ike Sanderson, which was the impetus for him to continue his education. He completed the Bachelors of Science degree in May 2004 in Wildlife and Fisheries Sciences and Molecular Biology. Sam worked for one year for the U.S. Wildlife and Fisheries Service before accepting a graduate research assistantship at the University of Tennessee at Chattanooga in the Environmental Sciences Program. Sam graduated with a Masters of Science degree in Environmental Science in May 2007. Sam is continuing his education in fishery conservation by pursuing a Ph.D. degree at Auburn University.

Sample Vita TOC p.59

VITA

Arianna Figbonlio was born in Rome, Italy, to the parents of Ciro and Adelina Figbonlio. She was an only child. She immigrated with her parents to the U.S.A. the year she began Carson Elementary School in Stillwater, OK. Her father was relocated to Georgia with his job when she was to begin high school. She attended Norcross High School and went on to Georgia Institute of Technology where she completed her bachelors and masters degrees in Mechanical Engineering and Computer Science, respectively. Arianna accepted a graduate research assistantship in the Sim Center at the University of Tennessee at Chattanooga and completed her Ph.D. degree in Computational Engineering in December 2009. Arianna is currently employed in a postdoctoral fellowship at Los Alamos Laboratory. Arianna has a great love for animals and in her spare time she volunteers with the Los Alamos Humane Shelter.