# TABLE OF CONTENTS

# Page

INTRODUCTION	3
Style Composition and Structure Acknowledgement of Support Abstract.	3 4
MANUSCRIPT PREPARATION	4
Paper and Duplication Printing Font Margins Pagination Spacing	4 4 5 5
Numbering Schemes Division Body of Manuscript Words and Sentences	5 5 5
Headings and Subheadings Tables and Figures Table of Contents Preparation Hint	6
GENERAL INFORMATION	7
Language Other Than English Foldout Pages Pockets Multi-Volume Manuscripts Multi-Part and Journal Article Format	7 7 7
FINAL INSTRUCTIONS	8
MANUSCRIPT SUBMISSION	8
Master's Thesis Ph.D. Dissertation ProQuest Information and Learning Copyright Survey of Earned Doctorates Exit Survey for Graduating Students Permission to Use Copyrighted Material	8 8 8 8 9
ELECTRONIC SUBMISSION	9
EXTRA COPIES	9

CHECKLIST AND FEES	
INSTRUCTIONAL AND SAMPLE PAGES	
Margin Template	
Abstract Instructions	
Thesis Abstract	
Dissertation Abstract	
Dissertation Title Page Template	
Thesis Title Page	
Dissertation Title Page	
Copyright Page	
Dedication	
Acknowledgements	
Table of Contents Template	
Table of Contents Sample	
List of Tables	
List of Figures	
Spacing Template (Chapter One, Page 1)	
Chapter One, Page 1 Sample	
Continuation Page (with quotation and footnotes)	
Continuation Page (with table and first-level headings)	
References Page Sample	
Title Page, Revised for Electronic Submission	
DEPARTMENT NAMES AND MAJORS	

# INTRODUCTION

These guidelines provide students with essential information about how to prepare and submit theses and dissertations in a format acceptable to the Graduate School. The topics range from writing style to the completion of required forms and the payment of fees.

## <u>Style</u>

There is a distinct difference between submitting a manuscript to a publisher and submitting a completed thesis or dissertation to the Graduate School. A manuscript represents a pre-publication format; a thesis or dissertation is a final, completely edited, published document. Students should therefore use these guidelines, not other style manuals, as the final authority on all issues of format and style. Areas not covered in this document or deviation from any of the specifications should be discussed with the Graduate School format editor. Do not use previously accepted theses and dissertations as definite models for style.

Limit referral to a style manual appropriate to a discipline (or required by a department) to citation style. The Graduate School recommends the following books for assistance in matters of citation style.

Turabian, Kate L. <u>A Manual for Writers of Term Papers, Theses and Dissertations</u>. 6th ed. Chicago: University of Chicago Press, 1996.

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

American Psychological Association. <u>Publication Manual of the American Psychological Association</u>. 5th ed. Washington, D.C.: American Psychological Association, 2001.

Gibaldi, Joseph. Modern Language Association. <u>MLA Handbook for Writers of Research Papers</u>. 6th ed. New York: The Modern Language Association of America, 2003.

Any issue not covered in the chosen style guide should be discussed with the Graduate School.

## Composition and Structure

Manuscripts consist of three major sections and should be placed in the order listed:

Preliminary Pages or Front Matter
Title Page (required)
Copyright (Ph.D.s only, required if copyrighting)
Dedication (optional)
Acknowledgment/Preface (optional)
Table of Contents (required)
List of Tables (required if one or more)
List of Figures (required if one or more)
List of Abbreviations/Nomenclature/Symbols (optional)
<b>-</b>
Text
Introduction (may be referred to as Chapter I)
Body of manuscript
Defense an Deck Matter
Reference or Back Matter
Appendices (optional)
Bibliography or References (required)

#### Acknowledgement of Support

Students should give appropriate acknowledgement of grant and contract support, e.g., a grant from the National Science Foundation, on the acknowledgement page. A sample acknowledgements page is on page 20.

#### Abstract

The Abstract is a separate document from the manuscript and is not bound with the dissertation or thesis. No page numbers are printed on the Abstract. One copy of the abstract must be turned in with the master's thesis. Two copies must accompany the doctoral dissertation. Abstracts must have the original signature(s) of the faculty advisor(s). Instructions and examples are provided on pages 12-14. Majors are listed on page 32.

#### MANUSCRIPT PREPARATION

#### Paper and Duplication

Submit final copies on 8 <sup>1</sup>/<sub>2</sub> x 11 inch white, acid free, quality bond paper of at least 20-pound weight and not less than 25% cotton content. Paper of this quality is required to withstand long-term library use. Vanderbilt watermark (available for purchase from the Vanderbilt Bookstore) meets these minimum specifications, but this watermark is not required. Several duplication methods are acceptable: (a) two original computer generated copy and photocopy, or (c) two photocopies. Final copies submitted to the Graduate School must be sharp, clear, and free of smudges or extraneous marks.

#### Printing

Text print must be consistently clear and in black characters. <u>Print on one side of the page only</u>. Acceptable print quality may be obtained by using laser, *letter quality* dot matrix, or ink-jet printers. The use of color in graphics, figures and tables enhances detail and is encouraged.

#### <u>Font</u>

A standard font should be used consistently throughout the manuscript. Font size should be 10 to 12 point for all text, including titles and headings. It is permissible to change point size in tables, figures, captions, footnotes, and appendix material. Retain the same font, where possible. When charts, graphs, or spreadsheets are "imported" into word processing software from other types of software, it is permissible to use alternate fonts.

*Italics* are appropriate for book and journal titles, foreign terms, and scientific terminology. **Boldface** may be used within the text for emphasis and/or for headings and subheadings. Use boldface in moderation.

#### <u>Margins</u>

Measure top margins from the edge of the page to the top of the first line of text. Measure bottom page margins from the bottom of the last line of <u>text</u> to the bottom edge of the page. The page number falls within the one-inch bottom margin. The left page margin is <u>one and one-half inches</u>, with extra space to allow for binding. Top, bottom, and right margins are <u>one inch</u>.

Right margins may be justified or ragged depending upon departmental requirements or student preference.

#### Pagination

The title page, copyright page, and half-title pages (sometimes used to separate appendices) are assigned a page number, but the number is not printed on these pages. Otherwise, *all pages should have a page number at the center bottom of the page*. Number the preliminary pages (front matter) in lowercase Roman numerals (ii, iii, iv, etc.). Arabic numerals begin on the first page of Chapter I (page one of the main body of the manuscript) and run consecutively throughout the remainder of the manuscript. Page numbers should be placed within the one-inch bottom margin at ~1/2" from the bottom of the page.

If the Introduction is placed before the first page of Chapter I, it is treated as preliminary material and numbered with lowercase Roman numerals.

#### Spacing

The text should be double-spaced throughout except for block quotations, footnotes, endnotes, table and figure captions, and titles longer than one line in length, which are all single-spaced. Single-space each individual reference entry; double-space between references.

**Two hard returns** (abbreviated as *Hrt*) should be placed after chapter numbers, chapter titles and major section titles (Dedication, Acknowledgements, Table of Contents, List of Tables, List of Figures, List of Abbreviations, Appendices and Bibliography or References), before each first-level and second-level heading, and before and after tables and figures. <u>Two hard returns</u> are equivalent to three blank lines between entries (<u>when line</u> spacing is set for double spacing).

Place one hard return after headings.

Chapter, heading, and subheading titles that are more than one line in length should be <u>single-spaced</u>.

Spacing between the various elements of the title page will vary according to the length of the title of the dissertation or thesis. Title page examples are on pages 15-17. A sample title page, revised for electronic submissions, is on page 31.

#### Numbering Schemes

Chapters should be numbered with uppercase Roman numerals. Tables, figures, and equations should be numbered consecutively throughout the manuscript with Arabic numerals. In fields where the common practice is to number tables, figures, and equations by chapter rather than consecutively, this method is acceptable. An equation number should be right justified and contained within parentheses or brackets.

Use uppercase letters to designate appendices.

#### **Division**

#### Body of Manuscript

Departments will determine acceptable standards for organizing master's theses into chapters, sections, or parts. If a thesis has headings, it is divided, and a Table of Contents must be included.

The Ph.D. dissertation must be divided into chapters. The use of parts, in addition to chapters, is acceptable.

#### Words and Sentences

Take care to divide words correctly. Do not divide words from one page to the next. Most word processing software provides for "widow and orphan" protection. When it is available, utilize this feature to help in the proper division of sentences from one page to another. In general, a single line of text should not be left at the bottom or top of a page.

## Headings and Subheadings

Use headings and subheadings to describe briefly the material in the section that follows. Refer to the chosen style manual for correct organization and placement of sectional headings and subheadings. **Be consistent** with your choice of "levels" and refer to the instructions on spacing in these guidelines for proper spacing between headings, subheadings, and text. First-level headings must be listed in the table of contents. Second-level and subsequent subheadings may be included if desired.

# Tables and Figures

Figures commonly refer to photographs, maps, charts, graphs, and drawings. Tables generally list tabulated numerical data. These items should appear as close as possible to their first mention in the text. Tables and figures may be placed in appendices, if this is a departmental requirement. All material in tables and figures <u>must remain within the stated page margins</u>.

Number tables and figures consecutively in Arabic numerals or (in some fields) consecutively by chapter. Place captions for tables at the **top of the table** and place captions for figures at the **bottom of the figure**. Short captions (less than one line in length) should be centered, and long captions (exceeding one full line in length) should be single-spaced and left justified with the page margin.

Tables and figures should be combined with text whenever possible, but may be placed on a page alone. When placed on its own page, a figure or table can be centered on the page. When included with text, a table or figure should be set apart from the text by the equivalent of two hard returns.

If necessary, tables and figures may be printed in landscape style. The top of the table or figure is located at the binding edge. The caption also should be printed in landscape. Page numbers must appear at the center bottom of the page in portrait position. It is not necessary to rotate the page number to the portrait position when submitting electronically.

Table data and figure data must be kept together, when space allows. When continuing a lengthy table or figure to a second page, use an abbreviated title (e.g., "Table 1, continued" or "Figure 2--cont."), and center or left justify the title.

In some fields it is common practice to place a caption on the facing page. If the caption appears on the facing page, center the caption vertically between the top and bottom of the page and left justify it with the page margin. The left and right page margins are in reverse order (the left margin is one inch and the right margin is one and one-half inches). If a table or figure is rotated and the caption is placed on the preceding page, the caption must be rotated also. Center the caption on the page and left justify the caption with the one-inch left margin (which, when rotated, is the bottom of the page). The page number appears at the center bottom of the page in the upright (portrait) position.

If photographs are used in a figure or an illustration, affix the photographs permanently to the bond paper with proper dry mounting techniques. Utilize spray dry mount adhesive or tissue dry mount material. Tape or glue may not be used to mount photographs.

# Table of Contents Preparation Hint

Although the Graduate School does not provide word processing expertise or information, one hint is included. In Word, use the "Format Tabs" feature to prepare the Table of Contents. Type the number 6 in the Tap stop position box, select Alignment Right and select Leader option 2. These commands cause the page numbers to be right-aligned at the 1" right-hand margin and correctly spaced "dots" to be positioned between headings and page numbers. Table of Contents instructions and examples are included on pages 21-23.

## **GENERAL INFORMATION**

## Language Other Than English

Students in foreign language departments may submit manuscripts in a language other than English, if the language or the literature of the language is the subject of the thesis or dissertation.

The title page and the Abstract must be written in English with the exception that on the title page <u>and</u> on the Abstract, the exact title of the thesis or dissertation should be written in the foreign language.

# Foldout Pages

Illustrative material which must be presented in a continuous format may require printing on a paper size larger than 8  $\frac{1}{2}$ " x 11". A foldout must meet certain requirements (acceptable paper quality and size, folding method, page number positioning, and placement on the page). Discuss these requirements with the Graduate School format editor. Avoid foldouts if the material can be presented in any other way.

## Pockets

Occasionally critical material that cannot be duplicated or mechanically reproduced, without loss of quality, must be included in a thesis or dissertation. A pocket on the inside back cover of the bound manuscript may be used to hold this information. The use of pockets is discouraged if any other means of presentation is possible. Permission should be obtained from the Graduate School in advance. Material inserted in a pocket should be listed in an appendix and included in the table of contents. There are additional binding costs.

#### Multi-Volume Manuscripts

A manuscript more than three inches in thickness must be bound in two volumes. Students must prepare a title page specifying Volume I or Volume II (below the title in each volume) and include identical tables of content in each volume. Page numbering is consecutive beginning with page 1 of Volume I to the end of the last volume. The title page and table of contents in Volume II are not numbered. The physical division of the manuscript must occur between chapters. Additional binding fees are accessed.

## Multi-Part and Journal Article Format

A multi-part presentation format may be used for combining research that has been conducted in two or more *related or non-related areas*, or for presentation of combined journal articles (published or submitted for publication). Organization of the parts or articles into chapters (as outlined in these guidelines) is recommended. Each "chapter" may contain its own bibliography or list of references and appendices, or those items may be combined at the end of the manuscript.

Each manuscript should include the appropriate front matter (preliminary pages), an introduction presenting the general theme of the research and literature review, and a conclusion summarizing and integrating the major findings. Each "chapter" should consist of well-defined "subheadings," such as introduction, methods, results, and discussion.

The front matter should include only <u>one</u> table of contents, list of tables, list of figures, and list of abbreviations/nomenclature. Tables and figures should be placed appropriately <u>within the text</u> throughout the manuscript, not at the end as is customary in journal articles submitted for publication.

## FINAL INSTRUCTIONS

At the beginning of the semester in which a student will be completing a degree, he or she must fill out an "Intent to Graduate" form and return it by the date specified. Intent forms can be downloaded from the Vanderbilt University web site (Graduate School/Information for Current Students) and require the signature of the Director of Graduate Studies. Information on the Intent form is used to determine the mailing address for a student's diploma, to prepare the official graduation list, and to plan the Commencement ceremony in May. Please inform the Graduate School if information on "Intent to Graduate" form changes or if completion plans are delayed.

IMPORTANT: Students should plan to meet with the Graduate School format editor several times to discuss format issues before submitting the final product. For convenience, please make an appointment by calling (615) 322-3934. This review usually requires less than an hour.

## MANUSCRIPT SUBMISSION

All required documents and fees should be submitted simultaneously with final copies of the theses or dissertations. Refer to the "Checklist" on page 10. It is to the student's advantage to schedule an appointment with the format editor for "turning in" (322-3934).

**Students who have left Nashville** must adhere to the specifications in these guidelines. Many students set up a time to meet with the format editor when they are on campus for their defense. Manuscripts can be sent for format review through the mail or as an e-mail attachment, formatted in Word or as a PDF. Non-resident students are responsible for ensuring that all information is received and all procedures are completed. The Graduate School street address is 2101 West End Avenue, Nashville, TN 37240.

## Master's Thesis

The master's student must submit to the Graduate School two copies of the thesis with original signatures of the committee members on each title page and one copy of the Abstract, with the original signature of the advisor. All degree recipients are encouraged to complete an anonymous Exit Survey for Graduating Students. A description of this survey is on page 9. Binding fees must be paid when the thesis is submitted.

Graduates who indicate on their Intent to Graduate form that they will or may participate in the May Commencement ceremony will be mailed regalia rental forms and Commencement instructions in the early spring.

## Ph.D. Dissertation

The doctoral student must submit to the Graduate School two copies of the dissertation with original signatures of the committee members on each title page, and two copies of the abstract with the original signature of the advisor on each copy; must pay the binding, microfilming, and copyright fees; and must submit the forms described on page 9. Degree recipients who indicate on their Intent to Graduate form that they will or may participate in the May Commencement ceremony will be mailed regalia rental forms and instructions in the early spring.

<u>ProQuest Information and Learning</u>. Graduate School policy requires that all doctoral candidates publish their dissertation. Vanderbilt contracts with ProQuest Information and Learning to have dissertations microfilmed. That firm's Publishing Agreement Form (available from the Graduate School) must be completed and returned with the dissertation.

<u>Copyright Information</u>. ProQuest will apply for a copyright on behalf of doctoral candidates. Students who elect this service should sign the copyright section on the Publishing Agreement Form, include a copyright page in each copy of the dissertation, and pay the copyright fee. Copyrighting is optional. Discuss questions with committee members.

<u>Survey of Earned Doctorates</u>. Students finishing a doctoral degree are requested to complete this survey and turn it in with their dissertation. Information provided to the National Opinion Research Council is treated as confidential and used for research or statistical purposes only. Forms are available from the Graduate School. Queries should be directed to the NORC at the University of Chicago, 1-800-248-8649. The e-mail address is norcmail.uchicago.edu.

<u>Exit Survey for Graduating Students</u>. All students receiving an advanced degree are requested to evaluate their graduate experience at Vanderbilt University by completing an Exit Survey. Participation in the Survey is optional and anonymous. The form is available from the Graduate School.

<u>Permission to Use Copyrighted Material</u>. The standard provisions of copyright laws regarding quoted material under copyright apply to publication by microfilm. All dissertations are scanned by ProQuest for previously copyrighted material. ProQuest requires written permission from the copyright holder of any extensively quoted material. Proper acknowledgement within the text of the manuscript must be made.

Students should discuss questions or concerns about copyrighted material with their dissertation director. Additional information may be obtained by calling ProQuest at 1-800-521-0600, ext. 3887, or by reviewing the ProQuest web site at www.bellhowell.infolearning.com.

# ELECTRONIC SUBMISSION

Students have the option of submitting their thesis or dissertation electronically. The format requirements listed in these guidelines are applicable. When a figure or table positioned in landscape is included in an electronic submission, it is not necessary to rotate the page number to the portrait position.

The document must be approved by the format editor.

The Graduate School must be provided with two printed copies of the title page and two copies of the Abstract (both with original faculty signatures).

The student is responsible for converting the document to a PDF. The title page is revised to reflect typed names of faculty committee members. See the revised title page sample on page 31.

Refer to the checklist on page 10 for required forms and fees. There are no binding fees.

Although most students choose one mode or the others, students who submit electronically can also submit in printed form.

Refer to the Vanderbilt University web site (www://etd.library.vanderbilt.edu) for further information, or contact the Jean and Alexander Heard Library Information Technology Services (322-7125 or 322-7073).

# EXTRA COPIES

The Graduate School has theses and dissertations bound at through Southern Library Bindery Company. That firm will provide additional copies to individuals. The address is 2952 Sidco Drive, Nashville, TN 37204. The telephone number is (615) 244-5045 or (800) 637-3509.

# INSTRUCTIONAL AND SAMPLE PAGES

The instructional and example pages, pages 11-31 in this booklet, are provided for illustrative and clarification purposes only. Follow the written instructions in these guidelines for correct spacing, font size, placement and type of page numbering, margin requirements and all other required specifications.

#### Checklist and Fees

The Graduate School encourages students to use the following checklist as they prepare the manuscript and related material for submission to the Graduate School.

# Master's Thesis

- 1. \_\_\_\_\_ Two (2) copies of the thesis on bond paper with the original signatures of advisor and second reader
- 2. \_\_\_\_\_ One (1) copy of the Abstract on bond paper with original signature of advisor
- 3. \_\_\_\_\_ Binding fees 2 copies @ \$18.00 per copy
- 4. \_\_\_\_\_ Exit Survey for Graduating Students

## Ph.D. Dissertation

- 1. \_\_\_\_\_ Two (2) copies of the dissertation on bond paper with the original signatures of committee members
- 2. \_\_\_\_\_ Two (2) copies of the abstract on bond paper with original signature of dissertation director
- 3. \_\_\_\_\_ Three (3) <u>photocopies</u> of the title page, after original signatures are obtained (copy paper is acceptable)
- 4. \_\_\_\_\_ Two (2) completed ProQuest publishing agreement forms (one original, one photocopy)
- 5. \_\_\_\_\_ One (1) completed NSF Survey of Earned Doctorates
- 6. \_\_\_\_\_ Fees 36.00 Binding fees - 2 copies @ \$18.00 per copy 60.00 Microfilming fee 45.00 Copyright fee (optional)
- 7. \_\_\_\_\_ Exit Survey for Graduating Students

Checks should be made payable to Vanderbilt University. Cash is accepted (in the exact amount, please). The fees listed are subject to change without notice.



(All caps, underlined, right justified, one inch from top of page) (Refer to page 32 for <u>correct Program name</u>. Do not precede Program name with the words "Department of")

(Two hard returns after PROGRAM NAME, with line spacing set for double spacing)

#### FINAL TITLE OF DISSERTATION, ALL CAPS, DOUBLE SPACED,

#### CENTERED, INVERTED PYRAMID STYLE

(Two hard returns here, with line spacing set for double spacing)

#### YOUR NAME, ALL CAPS, CENTERED

(Two hard returns here, with line spacing set for double spacing)

Dissertation under the direction of Professor (Full Name) (Single spaced, underlined, centered, upper/lower case - one Hrt to text)

Two copies of the dissertation abstract must be submitted with your dissertation. The text of the abstract should be double-spaced with no page numbers. The margins are the same as those required for the dissertation.

The maximum length of the dissertation abstract is 350 words (*to include the title*). If the text of the abstract continues to a second page, the signature line is placed on the one-inch bottom margin of the second page.

Both copies of the abstract must bear the original signature of your dissertation director.

#### Thesis under the direction of Professor (Full Name)

The master's thesis abstract format requirements are the same as those required for a dissertation abstract. Substitute the word "Thesis" for "Dissertation." The word limit for a thesis is 250 words. The Graduate School requires one copy of the master's abstract, with the original signature of the thesis director.

Approved	

Date

# SUPERVISORY FAULT ADAPTIVE CONTROL OF MOBILE ROBOT

#### MENG JI

#### Thesis under the direction of Professor Nilanjan Sarkar

Supervisory fault adaptive control (FAC) of mobile robot is presented in this thesis. First the model of the mobile robot is presented and several mobile robot controllers are introduced. Then the idea of behavior switching is introduced based on the controllers and hybrid system is used to model the switching control of mobile robot. The faults model and Fault Detection and Isolation strategies are investigated. As the framework to implement the FAC system, supervisory control architecture is studied and adopted. The layered structure is systematically built to incorporate the behaviorswitching with FAC. Simulations are provided and the results are analyzed for switching control of mobile robot and supervisory FAC.

As part of the thesis work, a mobile robot system is built in the laboratory. Based on this test bed, experiments are conducted to demonstrate the supervisory FAC and the behavior switching. The results from the experiments confirm the simulations and endorse our methodology.

Approved Date

# Sample Thesis Abstract

Source: Meng Ji, "Supervisory Fault Adaptive Control of Mobile Robot." Master of Science thesis in Mechanical Engineering, Vanderbilt University, Nashville, December 2003.

# **PSYCHOLOGY**

# CHANGING LIVES THROUGH CHANGING STORIES: A PHENOMENOLOGICAL STUDY OF ADOLESCENTS IN RECOVERY FROM ADDICTION

# **B. TOVA RUBIN**

## Dissertation under the direction of Professor Paul R. Dokecki

This project is concerned with the developmental process of recovery from substance abuse for adolescent boys and girls. In this dissertation I explore the recovery process from the phenomenological perspective of adolescents through their personal narrative. In a nutshell, I have interviewed adolescents who are in recovery from addition and have asked for their personal narrative. I learned that adolescents use drugs primarily because it provides an escape from intense psychic pain, it provides a physiological feeling of confidence and freedom, and it provides a strong peer network to teens who have typically experienced rejection. In sum, using drugs had many benefits and few negative consequences for many teens. In this research I discovered a new way to understand adolescent addiction using a phenomenological lens.

Ap	proved	
1 YP	p10100	

Date

#### Sample Dissertation Abstract

Source: B. Tova Rubin, "Changing Lives Through Changing Stories: A Phenomenological Study of Adolescents in Recovery from Addiction." Doctoral dissertation in Psychology, December 2003.

#### FINAL TITLE OF YOUR DISSERTATION, ALL CAPS, DOUBLE SPACED, (One inch from top of page to top of title) CENTERED, INVERTED PYRAMID STYLE

(Spacing will vary depending on the length of the title of the dissertation)

By

# Your Name

#### (The following five lines must remain double spaced and in this exact format) Dissertation

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

#### DOCTOR OF PHILOSOPHY

in

Your Program Name

Month, Year (The month will <u>always</u> be either May, August, or December – this is your actual <u>graduation</u> month, not your <u>defense</u> month)

Nashville, Tennessee

Date:

Approved:

(Original signatures of committee members)

(Title Page carries the value of page " i ", but do not print number on page)

# BIOSTRATIGRAPHIC INVESTIGATION OF THE OLIGOCENE IN MISSISSIPPI

# AND ALABAMA USING CALCAREOUS NANNOFOSSILS

By

Christopher Kenneth Hall

# Thesis

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

# MASTER OF SCIENCE

in

Geology

December, 2003

Nashville, Tennessee

Approved:

Date:

(Original signatures)

(*Title Page carries the value of page " i ", but do not print number on page*)

Sample Thesis Title Page

# INFORMATION TECHNOLOGY: AN ASSESSMENT OF THE UNIQUE

# FACTORS LEADING TO ITS ADOPTION AND USE IN A

# DEVELOPING COUNTRY

By

Dafer Al-Jalahma

Dissertation

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

# DOCTOR OF PHILOSOPHY

in

Interdisciplinary Studies: Informatics Engineering

August, 2003

Nashville, Tennessee

Approved:

Date:

(Title Page carries the value of page "i", but do not print number on the page.)

Copyright © 2003 by Millie Noble McRee All Rights Reserved

(Copyright Page carries the value of page number "ii", but do not print number on page)

Sample Copyright Page

To my amazing daughters, May and Lena, wise beyond their years

and

To my beloved husband, Bassel, infinitely supportive

(Begin printing page numbers here using lower case Roman numerals and continue consecutive Roman numeral numbering throughout front matter; include Dedication in Table of Contents)

ii

Sample Dedication Page

#### ACKNOWLEDGEMENTS

This work would not have been possible without the financial support of the Vanderbilt Physician Scientist Development Award, the American Roentgen Ray Society Scholarship or the Vanderbilt University Medical Center Department of Radiology and Radiological Sciences. I am especially indebted to Dr. Martin Sandler, Chairman of the Department of Radiology, and Dr. John Worrell, Chief of the Section of Thoracic Radiology, who have been supportive of my career goals and who worked actively to provide me with the protected academic time to pursue those goals.

I am grateful to all of those with whom I have had the pleasure to work during this and other related projects. Each of the members of my Dissertation Committee has provided me extensive personal and professional guidance and taught me a great deal about both scientific research and life in general. I would especially like to thank Dr. Ron Price, the chairman of my committee. As my teacher and mentor, he has taught me more than I could ever give him credit for here. He has shown me, by his example, what a good scientist (and person) should be.

Nobody has been more important to me in the pursuit of this project than the members of my family. I would like to thank my parents, whose love and guidance are with me in whatever I pursue. They are the ultimate role models. Most importantly, I wish to thank my loving and supportive wife, Jennifer, and my three wonderful children, Lauren, Jacob and Elizabeth, who provide unending inspiration.

iii

#### Sample Acknowledgement Page

Source: Edwin F. Donnelly, "Development and Evaluation of a Polychromatic Phase-Contrast Radiography Imaging System." Doctoral Dissertation in Biomedical Engineering, Vanderbilt University, Nashville, August 2003.

# TABLE OF CONTENTS (Hrt)

# (Hrt)

DEDICATION iii (Hrt)
ACKNOWLEDGEMENTS iv (Hrt)
LIST OF TABLES vii (Hrt)
LIST OF FIGURESix (Hrt)
LIST OF ABBREVIATIONS x (Hrt)
Chapter (Hrt)
I. TITLE OF CHAPTER I, ALL CAPS 1 (Hrt)
First level heading one (upper/lower case).1First level heading two.3First level heading three6Second level subheading one (upper/lower case)8Second level subheading two10First level heading four15First level heading five17 (Hrt)II.TITLE OF CHAPTER II, ALL CAPS.20 (Hrt)First level heading one (upper/lower case).20Second level subheading one (upper/lower case)23Second level subheading two25First level heading two.28First level heading three30 (Hrt)
III., IV., V., ETC. Same format as above
Appendix (Hrt)
<ul> <li>A. TITLE OF FIRST APPENDIX, ALL CAPS</li></ul>
C. TITLE OF THIRD APPENDIX, ALL CAPS 143 (Hrt)
BIBLIOGRAPHY or REFERENCES149
v

# Table of Contents Template

# TABLE OF CONTENTS

Page	
ACKNOWLEDGEMENTS	ii
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	ix
Chapter	
I. INTRODUCTION	1
Protein complexes	1
PDZ domains	
PDZ domain structure	
Multi PDZ domain proteins INAD	
Discs Lost	
GRIP	16
CIPP	17
hINADL/PATJ	
MUPP1	
MUPP1 Interacting proteins	
Receptors	
Small G protein regulators Lipid proteins	
Junction proteins	
Oncogenic viral proteins	
5-HT <sub>2c</sub> Receptor	
Summary	
II. AGONIST-INDUCED PHOSPHORYLATION OF THE	
SEROTONIC 5-HT <sub>2C</sub> RECEPTOR REGULATES ITS INTERACTION WITH MULTIPLE PDZ PROTEIN1 (MUPP1)	36
Introduction	36
Methods	
Results	-
The 5-HT <sub>2c</sub> receptor selectively interacts with MUPP1 PDZ 10	45
Mutation of Ser <sup>458</sup> in the 5-HT <sub>2c</sub> receptor reveals altered PDZ 10 interaction	E 4
	วา
iv	

## Sample Table of Contents

Source: Lisan Lalita Parker, "Multi PDZ Protein MUPP1: Interaction with the Serotonin  $5-HT_{2c}$  Receptor and Other Proteins." Doctoral Dissertation in Pharmacology, Vanderbilt University, Nashville, December 2003.

	Serotonin treatment decreases the ability of the 5- $HT_{2c}$ receptor to interact with PDZ 10 Alkaline phosphatase treatment of the 5- $HT_{2c}$ receptor increases PDZ 10 interaction and reveals 5- $HT_{2c}$ receptor basal phosphorylation Discussion	
III.	MUPP1 PDZ 10, A CLASS I PDZ DOMAIN, BINDS CLASS I AND CLASS III PDZ BINDING MOTIFS	65
	Introduction	65
	Methods	67
	Results	73
	Mutation of the $-3$ position of the 5-HT <sub>2c</sub> R reduces binding to	
	PDZ 10	
	Native c-Kit exhibits binding to PDZ 10 similar to the 5-HT <sub>2c</sub> R	
	PDZ 10 model reveals PDZ domain selectivity	
	Discussion	88
IV.	SYNOPSIS AND CONCLUSIONS	
BIB	LIOGRAPHY	103

v

Sample Table of Contents, continued to a second page

Source: Parker, December 2003.

# LIST OF TABLES

	Page	
1.	ANOVA Test of Difference of Means (Reason of Stop grouped by Gender) and ANOVA Test of Difference of Means (Reason for stop Grouped by Race/Ethnicity)	2
	ANOVA Test of Difference of Means (Search grouped by Gender) d ANOVA Test of Difference of Means (Search grouped by ce/Ethnicity)	2
	ANOVA Test of Difference of Means (Search Results grouped Gender) and ANOVA Test of Difference of Means (Search sults grouped by Race/Ethnicity)	2
	Cross-Tab measuring Association between Race and Police Search nd Cross-Tab measuring Association between Race and Police earch Results	2
	Cross-Tab measuring Association between Race and Police Search nd Cross-Tab measuring Association between Race and Police esearch Results	2
6.	Cross-Tab measuring Association between Race and Police Search and Cross-Tab measuring Association between Race and Police Search Results	2
	Cross-Tab measuring Association between Gender and Police Search ad Cross-Tab measuring Association between Gender and Police earch Results	3
8.	Logistic Regression Predicting Search	
9.	Logistic Regression Predicting Search Results	

# Sample List of Tables

Source: Michael G. Stahl, "Unlawful Entry: Examining Racial Profiling Through Police Search Practices." Master of Science Thesis in Community Research and Action, Vanderbilt University, Nashville, December 2003.

# LIST OF FIGURES

Figure		Page
	Oviposition sites and resulting fruit shapes for flowers pollinated by ticula cassandra and T.yuccasella	12
2. 8	Survivorship results for Tegeticula cassandra and T.yuccasella	21
	Example of differences in vapor pressure over time for the three er treatments	23
	Distribution of the pollinator <i>Tegeticula elatella</i> and the cheater <i>T. media</i> in the United States	39
	Maximum likelihood tree for <i>Tegeticula elatella, T. intermedia</i> chondrial DNA haplotypes	45
	Likelihood scores calculated from AFLP date for <i>Tegeticula elatella,</i> termedia, and individuals from the Big Bend population	47
	Site locations for <i>Tegeticula intermedia</i> and <i>T.cassandra</i> in the ed States	61
	Hypothetical scenario for the evolution of cheating in the <i>Tegeticula</i> media-T.cassandra lineage	62
	Maximum-likelihood tree for <i>Tegeticula intermedia</i> and <i>T. cassandra</i> chondrial DNA haplotypes	71
10. N	Mitochondrial DNA haplotype network for Tegeticula intermedia	72
11. N	Mitochondrial DNA haplotype network for Tegeticula cassandra	73
	solation by distance results for <i>Tegeticula intermedia</i> and ssandra	75
13. I	Mismatch distributions for Tegeticula intermedia and T.cassandra	76
	Posterior distributions of migration for Tegeticula intermedia and T.Cassandra	78
	ix	

# Sample List of Figures

Source: Kari A. Segraves, "The Stability of Mutualism and Evolution of Cheating." Doctoral Dissertation in Biology, Vanderbilt University, Nashville, August 2003.

#### CHAPTER I (Hrt)

(Hrt)

# TITLE OF CHAPTER (Hrt)

(Hrt)

First-Level Heading (Hrt)

Each chapter begins at the top of a new page. The first paragraph of text begins here if a first-level heading is used. If a first-level heading is not appropriate, then the text would begin "two hard returns" after the chapter title. The spacing for a first-level heading followed immediately by a second-level heading is the same as illustrated above, i.e., two hard returns separate the two entries. The same procedure applies when completing a section of text and beginning another section as follows: *(Hrt)* 

(Hrt)

First-level Heading (Hrt)

(Hrt)

Second-level subheading (Hrt)

The actual number of levels and the placement of the heading/subheading titles (i.e., centered or left justified) will vary according to the style manual the student is following.

One hard return is appropriate between second level and subsequent subheadings as well as between subheadings that are immediately followed by test. Students should "set apart" tables and figures from text by the equivalent of two hard returns before and after.

As in all matters with respect to formatting, **<u>be consistent</u>** with your choices.

(Begin printing page numbers here using Arabic numerals and continue consecutive Arabic page numbering throughout the remainder of the document, including the appendices, bibliography or references)

# Spacing Template-Chapter One, Page One

#### CHAPTER I

#### INTRODUCTION

Most children develop spatial concepts by looking at their environment and moving through their surroundings (Long & Hill, 2000). Children who are blind are unable to visually learn about their environment and are often delayed in the motor skills necessary to explore their environment (Adelson & Fraiberg, 1974; Jan, Sykanda, & Groenveld, 1990; Palazesi, 1986). Despite these delays, children who are blind are able to develop and use cognitive maps of spatial relationships though not necessarily following the same pattern as children with typical sight (see literature review).

First, key terms are defined and the impact of blindness on cognitive mapping is discussed. Next, a historical perspective on cognitive mapping in children with visual impairments is provided. Then, methods of measuring cognitive mapping are presented, and the importance of studying cognitive mapping abilities in children is discussed. Finally, research questions are presented.

Definitions and Impact of Blindness on Cognitive Mapping

#### Definitions

*Cognitive mapping* – a psychological process in which one "acquires, codes, stores, recalls, and decodes information about the relative locations and attributes of phenomena in his everyday, spatial environment" (Downs & Stea, 1973, p. 9)

1

#### Sample Chapter One, Page 1

Source: Wendy Sapp, "Cognitive Mapping of Large Scale Simple Environments in 10-17 Year Old Children Who Are Blind: Use of Tactual Maps, Tactual Models, and Verbal Descriptions." Doctoral Dissertation in Special Education, Vanderbilt University, Nashville, August 2003.

Once again when he reminds us of Thomas S. Kuhn's work on paradigms: "But as Thomas S. Kuhn has stated in *The Structure of Scientific Revolutions*, theory often follows rather than precedes the practical 'shift in paradigm' that he regards as constituting a revolution in most research disciplines."<sup>95</sup> Perhaps the practice of a new paradigm is coming into place with the theory to follow. Perhaps we as historians of ancient Israel should acknowledge an axiom of philosopher of history, Michael Stanford,

It is therefore not a weakness of history that it generates unending debates ...Therefore history is to be seen not as a set of cast-iron facts, but rather as an ongoing conversation with one's fellows about affairs of importance or interest – past, present or future. The discussion can at times become debate, or fierce argument...History is not a concept but an activity – an activity of a unique kind...History is...best understood as an endless debate, constituting an important part of the continuing conversation of mankind [*sic*].<sup>96</sup>

Contemporary historians then continue to press forward by contemplating increasingly complex questions. Perhaps it is in conversation with the broader discipline of history and philosophy of history that historians of ancient Israel will find acceptable foundations for a new paradigm.<sup>97</sup> Historiography in general, and historiography of ancient Israel specifically, finds itself at an extended crossroad, in need of an agreed-upon historiographic framework. In establishing this framework, the discipline must acknowledge the tradition upon which it stands; it must acknowledge the corrective challenges that have and continue to modify that tradition; it must push that tradition to ask itself challenging questions; it must reformulate itself to meet its current

#### 89

## Sample Continuation Page

Source: Alice Wells Hunt, "The Zadokites: Finding Their Place in the Hebrew Bible." Doctoral Dissertation in Religion, Vanderbilt University, Nashville, August 2003.

<sup>&</sup>lt;sup>95</sup>Dever, 69, discussing Thomas S. Kuhn, *The Structure of Scientific Revolutions* (3<sup>rd</sup> ed.; Chicago: University of Chicago Press, 1996).

<sup>&</sup>lt;sup>96</sup>Stanford, An Introduction to the Philosophy of History, preface, viii.

<sup>&</sup>lt;sup>97</sup>As already suggested by Long, "The Future of Israel's Past," passim and Halpern, *The First Historians*, passim.

"depression + conduct disorder but do not have ADHD". This is a more accurate representation of the presentation clinicians must deal with in community settings. Finding "pure" examples of a single diagnosis is uncommon. Therefore, in the current study, a child was listed as having a diagnosis if he/she met the criteria for that diagnosis and regardless of the other diagnoses for which he/she might have qualified.

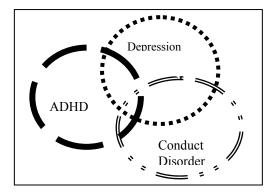


Figure 2. Venn Diagram of Co-Morbid Disorders

In addition to the *PCAS* diagnoses, Internalizing and Externalizing scores from the *Child Behavior Checklist* were used as indicators of "broadband-specific features" (Weiss, Susser, & Catron, 1998) rather than the narrowband-specific features represented by specific diagnostic categories. Measures of Internalizing and Externalizing behaviors function as indicators of what the parent/surrogate views as the primary problem. *T* scores for theses two scales were used in analyses. Theses *T* scores reflect the deviation of all subjects from the mean of their respective normative (age and gender) groups in the same fashion without losing any statistical power (Achenbach, 1991).

36

# Sample Continuation Page (with figure)

Source: Theresa A. Sparks, "An Exploratory Analysis of Help-Seeking Patterns in Families of Children Diagnosed with a Mental Disorder." Doctoral Dissertation in Psychology, Vanderbilt University, Nashville, August 2003.

#### REFERENCES

Able, S. and Ungewickell, E. (1990) Auxilin, a newly identified clathrin-associated Protein in coated vesicles from bovine brain. *J Cell Biol*, **111**, 19-29.

Bartels, C., Xia, T., Billeter, M., Guntert, P. and Wuthrich, K. (1995) The program XEASY for computer-supported NMR spectral analysis of biological macromolecules. *J Biol NMR*, 1-10.

Bashford, D. and Case, D.A. (2000) Generalized born models of macromolecular solvation effects. *Annu Rev Phys Chem*, **51**, 129-152.

Bayer, P., Arndt, A., Metzger, S., Mahajan, R., Melchior, F., Jaenicke, R. and Becker, J. (1998) Structure determination of the small ubiquitin-related modified SUMO-1. J Mol Biol, 280, 275-286.

Beal, R., Deveraux, Q., Xia, G., Rechsteiner, M. and Pickart, C. (1996) Surface hydrophobit residues of multiubiquitin chains essential for proteolytic targeting. *Proc Natl Acad Sci U S A*, **93**, 861-866.

Bertolaet, B.L., Clarke, D.J., Wolff, M., Watson, M.H., Henze, M., Divita, G. and Reed, S.I. (2001a) UBA domains mediate protein-protein interactions between two DNA damage-inducible proteins. *J Mol Biol*, **313**, 955-963.

Bertolaet, B.L., Clarke, D.J., Wolff, M., Watson, M.H., Henze, M., Divita, G. and Reed, S.I. (2001b) UBA domains of DNA damage-inducible proteins interact with ubiquitin. *Nat Struct Biol*, **8**, 417-422.

Biederer, T., Volkwein, C. and Sommer, T. (1997) Role of Cue1p in ubiquitination and degradation at the ER surface. *Science*, **278**, 1806-1809.

Bodehausen, G. and Ruben, D.J. (1980) Natural abundance nitrogen-15 NMR by enhanced heteronuclear spectroscopy. *Chemical Physics Letters*, **69**, 185-189.

Bonifacino, J.S. and Traub, L.M. (2003) Signals for Sorting of Transmembrane Proteins to Endosomes and Lysosomes. *Annu Rev Biochem*, **72**, 395-447.

Braunschweiler, L. and Ernest, R.R. (1983) Coherence transfer by isotropic mixing: Application to proton correlation spectroscopy. *Journal of Magnetic Resonance*, **53**, 521-528.

Buchberger, A. (2002) From UBA to UBX: new words in the ubiquitin vocabulary. *Trends Cell Biol*, **12**, 216-221.

## 79

#### Sample References Page

Source: Nicholas Chim, "Solution Structure of the Complex of Ubiquitin with the Ubiquitin-Associated (UBA) Domain in *Saccharomyces Cerevisiae* Protein, SWA2P, Reveals a Novel Mode of Interaction." Doctoral Dissertation in Molecular Biology, Vanderbilt University, Nashville, December 2003.

# GLOBAL ECONOMICS, DOMESTIC POLITICS, AND REFORMS OF SOCIAL INSURANCE PROGRAMS IN ADVANCED CAPTALIST COUNTRIES

By

Stephen Craig Ammon

Dissertation

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements for

the degree of

DOCTOR OF PHILOSOPHY

in

**Political Science** 

May, 2002

Nashville, Tennessee

Approved:

Professor Donna L. Bahry

Professor M. Donald Hancock

Professor Kurt G. Weyland

Professor Bruce I. Oppenheimer

Professor Robert A. Margo

Sample Title Page, Revised for Electronic Submission

# DEPARTMENTS NAMES AND MAJORS Majors listed in *middle* column below *must* be used on *Title Page* and *Abstract*

Department	<u>Major</u>	Degrees
1. Anthropology	Anthropology	M.A., Ph.D.
2. Art and Art History	Art History	M.A.
3. Biochemistry	Biochemistry	Ph.D.*
4. Biological Sciences	Biological Sciences	M.S., Ph.D.
5. Biomedical Engineering	Biomedical Engineering	M.S., Ph.D.
6. Biomedical Informatics	Biomedical Informatics	M.S., Ph.D.
7. Cancer Biology	Cancer Biology	M.S., Ph.D.
8. Cell and Developmental Biology	Cell and Developmental Biology	Ph.D.*
9. Cellular and Molecular Pathology	Pathology	Ph.D.*
10. Chemical Engineering	Chemical Engineering	M.S., Ph.D.
11. Chemistry	Chemistry	M.A., M.S., Ph.D.
12. Civil Engineering	Civil Engineering	M.S.,Ph.D.
13. Classical Studies	Classics	M.A., Ph.D.
	Latin	M.A.T.
14. Community Research and Action	Community Research and Action	M.S., Ph.D.
14. Comparative Literature	Comparative Literature	M.A., Ph.D.
15. Computer Science	Computer Science	M.S., Ph.D.
16. Economics	Economics	M.A., Ph.D.
17. Electrical Engineering	Electrical Engineering	M.S., Ph.D.
18. English	English	M.A., Ph.D.
19. Environmental Engineering	Environmental Engineering	M.S., Ph.D.
20. French and Italian	French	M.A., Ph.D.
21. Geology	Geology	M.S.
22. Germanic and Slavic Languages	German	M.A., Ph.D.
23. Hearing and Speech Sciences	Hearing and Speech Sciences	M.S., Ph.D.
24. History	History	M.A., Ph.D.
25. Interdisciplinary Studies	Interdisciplinary Studies: {subtitle}	M.S., Ph.D.
26. Interdisciplinary Materials Science	Interdisciplinary Materials Science	M.S., Ph.D.
27. Latin American and Iberian Studies	Latin American Studies	M.A.
28. Leadership, Policy, and Organizations	Leadership and Policy Studies	Ph.D.
29. Liberal Arts and Science	Liberal Arts and Science	M.L.A.S.
30. Management	Management	Ph.D.
31. Management of Technology	Management of Technology	M.S. (Ph.D. under
		Interdisciplinary)
32. Mathematics	Mathematics	M.A., M.S., Ph.D.
33. Mechanical Engineering	Mechanical Engineering	M.S., Ph.D.
<ol><li>Microbiology and Immunology</li></ol>	Microbiology and Immunology	Ph.D.*
<ol><li>Molecular Physiology and Biophysics</li></ol>	Molecular Physiology and Biophysics	Ph.D.*
36. Neuroscience	Neuroscience	Ph.D.
37. Nursing Science	Nursing Science	Ph.D.
38. Pharmacology	Pharmacology	Ph.D.
39. Philosophy	Philosophy	M.A., Ph.D.
40. Physics and Astronomy	Astronomy	M.S.
	Physics	M.A., M.S., Ph.D.
41. Political Science	Political Science	M.A., Ph.D.
42. Psychology	Psychology	M.A., Ph.D.
<ol><li>Psychology and Human Development</li></ol>	Psychology	M.S., Ph.D.
44. Religion	Religion	M.A., Ph.D.
45. Sociology	Sociology	M.A., Ph.D.
46. Spanish and Portuguese	Spanish	M.A., Ph.D.
	Portuguese	M.A.
	Spanish and Portuguese	Ph.D.
47. Special Education	Special Education	Ph.D.
48. Teaching and Learning	Teaching and Learning	Ph.D.

\*A research-based thesis Master of Science degree is awarded only under special circumstances.

In addition, the M.A.T. degree may be earned in the following major fields: Biological Sciences, Chemistry, English, Foreign Languages, History, Mathematics, Physics, or one of the Social Sciences.