EASTERN KENTUCKY UNIVERSITY

Guide to the Preparation of
Theses, Specialist Projects and
Doctoral Dissertations

Graduate Education & Research
2012

Text adapted from Tennessee Conference of Graduate Schools:
Guide to Preparation of Theses and Dissertations

and

Southern Illinois University Edwardsville:
Guidelines for the Preparation of a Thesis
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CHAPTER 1

INTRODUCTION

The successful completion of a thesis is the culmination of a student’s work in fulfilling the requirements for a graduate degree at Eastern Kentucky University. The process is demanding, rigorous, time-consuming, challenging, and sometimes, discouraging. It is also one of the most rewarding aspects of graduate study because it is you – the graduate student, your topic, your proposal, your research, and your writing. The result is a manuscript that is published in a national dissertation archive as tangible and lasting evidence of your completed graduate study at EKU.

Thesis guidelines are prepared by the Graduate School as a resource in helping you achieve the standards expected for an academic work. Throughout this guide, the term “thesis” will be used to denote a master’s thesis, specialist project or doctoral dissertation. In addition to reading this guide, you will find it useful to consult with your thesis committee to determine if any particular style is preferred; e.g., Turabian, APA, MLA, etc. Some departments will require a specific style, while others will leave that decision to the discretion of the student. Whatever style is selected, familiarize yourself with its requirements, and be consistent within that style.

A thesis is an academic work; as such, creative use of bold and italics and dramatic changes in point size are discouraged even though word processing packages provide some interesting temptations. Adherence to a traditional format is expected, and is especially applicable to the cover page, which is standard for every thesis. Please note that the Graduate School will not accept theses that do not strictly adhere to these guidelines.

The thesis writer is expected to proofread the manual for errors in spelling, punctuation, grammar, syntax, subject/verb agreement, sentence structure, and paragraphing. Remember that the spell checking function of your word processing software is more of a crutch than a tool and is not the final solution for spelling problems, particularly with regards to homonyms.

Witness the following poem by Pennye Harper:

I have a spelling checker;
It came with my PC.
It plainly marks four my revue
Mistakes I cannot sea.
I've run this poem threw it;
I'm sure your pleased too no
Its letter perfect in it's weigh;
My checker told me so.

**Academic Integrity**

Since conferral of a graduate degree implies personal integrity and knowledge of scholarly methods, there are three areas in which graduate students should be particularly cautious: (1) proper acknowledgment of cited works, (2) the use of copyrighted material, and (3) the proper reporting of work where research compliance is required.

*Webster's Collegiate Dictionary* defines plagiarism as "stealing or passing off ideas or words of another as one's own"; "the use of a created production without crediting the source." Any material taken from another source must be documented, 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. If in doubt, students should check with the major professor and the Graduate School about the project. Plagiarism will be investigated when suspected and prosecuted if established.

If copyrighted material is used in a limited way, permission to quote usually does not need to be sought. If, however, extensive material from a copyrighted work is to be used such that the rights of the copyright owner might be violated, permission of the owner must be obtained. 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* (1993), "A few lines from a sonnet, for instance, form a greater proportion of the work than do a few lines from a novel. Use of anything in its entirety is hardly ever acceptable" (p. 146, section 4.53). In no case should a standardized test or similar material be copied and included in a thesis without written permission. According to Circular 21 (Reproduction of Copyrighted Works by Educators and Librarians, p. 11), ". . . the following shall be prohibited: . . . There shall be no copying of or from works intended to be 'consumable' in the course of study or of teaching. These include workbooks, exercises, standardized tests and test booklets and answer sheets and like consumable material." 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 with the acknowledgments, and the source should appear in the List of References or Bibliography.

The advanced capabilities of electronic search engines has made plagiarism much more easy to detect, particularly for scholarly works that reside on the web in an electronic format, as is the case for all EKU theses and dissertations. There have been several notable instances where graduate degrees have been revoked by institutions due to plagiarism. The Graduate School reserves the right to take appropriate actions, including the revocation of a graduate degree, where there are deviations from the commonly accepted practices of academic integrity.

Research Compliance

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. EKU requires each student to verify that he or she has complied with the appropriate approval procedure(s) prior to the initiation of the thesis related research, if approval is relevant to the research. Graduate students doing research involving any of the areas mentioned should determine what compliance is required by EKU.

Thesis Involving Human Subjects

All research involving human subjects must comply with federal regulations from the Office of Human Research Protections (OHRP) and the University’s Institutional Review Board (IRB) for the protection of human research subjects. Proposals for research projects involving human subjects must be reviewed and approved by the IRB prior to the collection of data. Applications are available on the Sponsored Programs website at http://www.sponsoredprograms.eku.edu/irb-submission-procedures-and-application-forms.

Federal regulations require mandatory training for all researchers, including students writing theses or dissertations. To satisfy this training requirement, EKU requires that all researchers participating in projects involving human subjects complete the National Institutes of Health’s Human Participant Protections Education for Research
Teams Tutorial and supply a copy of the certification of completion to the IRB prior to the approval of research protocols. A link to the tutorial is provided on the IRB website.

**Thesis Involving Animal Subjects**

All research involving animal subjects must be reviewed by and receive approval from the Institutional Animal Care and Use Committee (IACUC) prior to the beginning of the research project. The IACUC application and guidelines are available on the Sponsored Programs website at [http://www.sponsoredprograms.eku.edu/application-procedures](http://www.sponsoredprograms.eku.edu/application-procedures). For more information about IRB and IACUC requirements, contact the Division of Sponsored Programs at (859) 622-3636.

The goal of the Graduate School, as well as the student's thesis committee members, is to ensure that a manuscript has been produced that will reflect credit on the student, the student's committee, the department, and the Graduate School. Good luck with your thesis and remember that when it’s all done the rewards will include a completed graduate degree and an immense feeling of accomplishment.
CHAPTER 2

THE ESSENTIALS

Purpose of this Guide

This guide is designed to be a basic source of information for thesis preparation. It establishes the technical parameters within which all students should work, such as table and figure formatting, margins, and the sequence of pages within the manuscript. Since most graduate students will publish during and after their graduate education, it is also logical to encourage the use of leading professional publications to help establish specific formatting conventions. Students are encouraged to use publications within their field--journals and textbooks--to assist them in establishing heading format, bibliographic form, use of numbers, and other conventions that are discipline oriented. The application of this theory is not simple, but it is necessary for students to understand the various elements of a manuscript and general publication formatting requirements in academic publishing. Although knowledge and use of publication formatting is essential, the regulations established by this guide always take precedence.

Style handbooks such as the MLA Handbook for Writers of Research Papers, Publication Manual of the American Psychological Association, A Manual for Writers, and/or The Chicago Manual of Style should also be used as resources for basic style and grammar. In contrast, previously accepted theses should never be used as the final guide to style. Examples taken from other theses may be out of context, out of date, or incorrect. The existence of a particular style or usage in a previously accepted thesis does not establish a precedent for its continuation.

By accepting a thesis and awarding the degree, a university or college places its academic reputation on the line. Thus, the content of the manuscript is carefully evaluated by experts in the student's field, while format requirements are imposed to ensure an appropriate academic appearance of the manuscript.

Definitions

Type Face or Font

These terms apply to all the features available within a "type" family. For many printers, type face includes bold, italic, and the various sizes of any named type i.e. Helvetica, Times Roman, Arial, Courier, etc.
**Text**

In the discussion of formatting, text is used as a generic term to designate the main body of the thesis and to distinguish this element from preliminary pages (or front matter), references, tables, figures, and appendices.

**Preliminary Pages**

Sometimes called "front matter," these pages serve as a guide to the contents and nature of the manuscript (Chicago Manual of Style, p. 4, section 1.2). The approval or acceptance sheets, as part of the preliminary pages, confirm acceptance by the committee members acting for the department, and the dean of the graduate school, acting for the university or college.

**Tables**

A table consists of numbers, words, or both, and presents information that is separated into columns. Tabular information allows the author to convey precise information to a reader in a structured format.

**Figures**

Any diagram, drawing, graph, chart, map, photograph, or material that does not fit into the restricted format for a table is a figure. Figures generally show relationships or illustrate information rather than present precise data.

**Appendix**

An appendix is generally a "catch-all" for supplementary material to the thesis. In some cases, tables and/or figures are placed in an appendix to avoid interrupting the text.
CHAPTER 3

ELEMENTS AND STYLE

Preliminary Pages

Figure 1 shows the sequence and numbering scheme of the various thesis parts. Samples of all preliminary pages are found in the appendix.

Approval Sheet

Each thesis submitted to the Graduate School must have an approval sheet using the exact wording and format shown in the appendix. This sheet must be in the same base type face as the remainder of the thesis. The name used on the approval sheets and title page must be that under which the student is registered at the institution. Black ink is recommended for the original signatures. The number of signature lines must equal the number of committee members. The major and degree to be awarded must be exactly those to which the student was admitted officially by the Graduate School. Majors and degrees can be found in the university’s graduate catalog. The approval sheet is the first page of the manuscript and is not numbered, or counted in the numbering sequence.

Statement of Permission to Use

The Statement of Permission to Use allows the library to provide academic copies of a thesis without securing further permission from the author. Like the approval sheet, the statement of Permission to use must be submitted to the school in the same base type style. This statement is in addition to optional copyrighting of the thesis. It follows the approval sheet and is not assigned a page number.

Title Page

The style should be followed exactly as it appears in the example on page 35. Do not use bold, italics, underline, or point size larger than standard text. Center these items in the same way they are centered on the sample page. This page is not numbered, but it is counted as page one of the preliminary pages and is assigned roman numeral "i," although the number does not appear on the page (see Figure 1 on page 10 for details of numbering and sequencing of manuscript). The date used is the month and year of commencement. The student's name must appear as he/she is registered at the institution. The wording and format must be exactly as shown in the appendix.
Copyright Page

This page should be included due to the option to copyright the thesis/dissertation through the electronic submission process.

Dedication Page

If the student wishes to dedicate the manuscript, the dedication statement is included at this point.

Acknowledgments

This page is to thank those who have helped in the process of obtaining the graduate degree. Permissions to quote copyrighted material are listed here, as well as acknowledgments for grants and special funding.

Abstract

A thesis submitted to the Graduate School must have an abstract. Although the content of the abstract is determined by the student and graduate committee, the following information is appropriate: (1) a short statement concerning the area of investigation, (2) a brief discussion of methods and procedures used in gathering the data, and (3) a condensed summary of the findings. DO NOT state conclusions reached within your study. Stating conclusions could prevent any patent applications from being accepted for the work. An abstract is required when uploading the thesis to the electronic repository. This abstract should have content agreed upon by the student and their thesis committee. There is no word limit on the abstract appearing in the thesis.

Preface

A personal statement about the thesis would be included in a preface. The tone of a preface, however, must be academic and appropriate to a scholarly work.

Table of Contents

The Table of Contents may vary in style and amount of information included. Chapter or Section titles, the Bibliography or List of References, the Appendix(es), if any, and the Vita must be included. Page numbers given for the Bibliography and Appendix should be those assigned to the separation sheet preceding each of those items. Although it is not necessary to include all levels of headings, inclusion must be consistent. If a particular level is included at any point, all headings of that level must be
included. No preliminary pages with Roman numerals are included in the Table of Contents; the Table of Contents entries start with page 1. The listed page numbers in the Table of Contents, as well as those given on the List of Tables and List of Figures should be right justified (see examples on pages 40-43).

**List of Tables/List of Figures**

If there are five or more tables or figures, a List of Tables and/or Figures must be included. There must be separate lists for tables and figures. Any tables or figures appearing in the appendix are also included in the appropriate list. Each title must be different from the other titles, and all titles must be entered in the lists worded exactly as they appear on the table or figure. This includes the information up to the first terminal punctuation. Additional explanatory information need not be included in the list. These pages are placed immediately after the Table of Contents in the preliminary pages. Not every thesis will require the use of tables, etc.

Placement of tables, figures, or illustrations will be determined by the student and the graduate thesis committee. If they are included within text they should be placed as closely as possible to their first mention in text. Some students and their committees will elect to place them in the Appendix, especially if they are nonessential to the printed matter. Placement of tables, figures, and illustrations is not an either/or; it is permissible to use some of them within the body of the thesis and include the rest of them in Appendix.

All of these elements should be referred to by number. If a table cannot be accommodated in the space remaining on a page, continue the text to make a full page and place the table at the top of the next page, continuing the text from the position at which the table ends. Each table, illustration, etc., must have a title or caption.

**List of Symbols/List of Abbreviations/Nomenclature**

The title of this material should reflect its content and may be included to define specialized terms or symbols. This information may also be placed in an appendix.
<table>
<thead>
<tr>
<th>Thesis Parts</th>
<th>Page Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval Sheet</td>
<td>No page number assigned</td>
</tr>
<tr>
<td>Statement of Permission to Use</td>
<td></td>
</tr>
<tr>
<td>Title Page</td>
<td>Small Roman Numeral</td>
</tr>
<tr>
<td>*Dedication Page</td>
<td>(Assigned, not typed)</td>
</tr>
<tr>
<td>*Acknowledgements</td>
<td></td>
</tr>
<tr>
<td>Abstract</td>
<td></td>
</tr>
<tr>
<td>*Preface</td>
<td>Small Roman Numeral</td>
</tr>
<tr>
<td></td>
<td>(Typed)</td>
</tr>
<tr>
<td>Table of Contents</td>
<td></td>
</tr>
<tr>
<td>List of Tables (if 5 or more)</td>
<td></td>
</tr>
<tr>
<td>List of Figures (if 5 or more)</td>
<td></td>
</tr>
<tr>
<td>List of Symbols and/or Abbreviations (if needed;</td>
<td></td>
</tr>
<tr>
<td>may be included as an appendix)</td>
<td></td>
</tr>
<tr>
<td>Body of Thesis (divided into chapters or sections)</td>
<td>Arabic numerals; starting at 1</td>
</tr>
<tr>
<td>Bibliography or List of References</td>
<td></td>
</tr>
<tr>
<td>Separation Sheet (if an appendix or appendices</td>
<td></td>
</tr>
<tr>
<td>*Appendix</td>
<td></td>
</tr>
<tr>
<td>*Vita</td>
<td></td>
</tr>
</tbody>
</table>

Parts preceded by an asterisk are optional; all others are required.

**Figure 1: Arrangement of thesis parts**
Text

For the purposes of this discussion, "text" is used as a generic term to refer to the main body of the thesis. Samples of thesis parts may be found in the appendix.

Divisions

The manuscript must be divided into a logical scheme that is followed consistently throughout the work. Chapters are the most common major division, but sections and parts are also permissible. Examples of these formats are shown in Figure 2 on page 12. For a discussion of division into parts, see Chapter 5.

Each chapter or section must be numbered consecutively and begin on a new page. A division entitled INTRODUCTION may be the first numbered chapter or section, or may precede the first numbered chapter or section. Chapter or section titles are primary divisions of the entire manuscript and are not part of the subdivision scheme. Each chapter should begin on a new page with two lines separating the chapter heading and the first line of text.

Subdivisions

Any logical system of subdivision within chapters or sections is permissible, but the scheme must be consistent throughout the manuscript. The appearance of the heading must vary for each level of subdivision unless a numbering system is used to indicate level. The subdivisions within a chapter or section do not begin on a new page unless the preceding page is filled. If there is not room for the complete heading and at least two lines of text at the bottom of a page, the new subdivision should begin on the next page. First and second level subdivisions are always preceded by extra space to indicate to the reader a major shift in subject. According to the Chicago Manual of Style (1993), "The subhead and its white space . . . equal two lines of text" (p. 773, section 18.28). Any levels of subdivision below the first two are not required to have extra space above but must be treated consistently.
A. Division by Chapters:

CHAPTER 1

GROWTH DYNAMICS OF TUMOR CELLS IN VITRO
AND IN VIVO

Chapter numbers can be expressed as Roman or Arabic numerals. Note the extra
spacing between chapter number, chapter title and beginning of text. This space
provides a visual "roadmap" for readers, telling them that a major division has just
occurred.

B. Division by Sections:

1. GROWTH DYNAMICS OF TUMOR CELLS IN VITRO
AND IN VIVO

Sections can be expressed either in Roman or Arabic numerals. Note the extra
spacing between the section designation and text, showing readers that a major
break has occurred.

Figure 2. Example showing the differences between chapter and section formats.
**References Within Text**

Notes documenting the text and corresponding to superscripted numbers in the text are called footnotes when they are printed at the bottom of the page (*Chicago Manual of Style*, p. 494, section 15.4). This format is only used occasionally and has generally been replaced by references. References usually consist of information in parenthesis or square brackets within the text. Two common methods of referencing are (1) to use author's name and date of publication, as in (Smith, 1990), or (2) to assign numbers to the bibliographical entries and insert the corresponding number for the authors as they are cited in the text, as in Smith (95).

The purpose of references is to guide the reader to the corresponding entry in the List of References or Bibliography, where complete information is available. Footnotes or reference notes collected at the end of each chapter or section (end notes) are not acceptable. The form, style and contents of footnotes or reference notes should be determined by what is generally accepted in the field of study, using a professional journal or style manual.

Most of the popular word processing applications have a footnote feature that provides automatic formatting and placement of footnotes at the bottom of the page. For disciplines using that convention, the formatting provided by the software application would be acceptable.

**Tables and Figures**

**General Information**

**Titles.** Since tables and figures are separate entities, they must be numbered independently. Each table or figure must have a unique title descriptive of its contents. This title appears at the top of the table and at the bottom of the figure. Figures containing parts must be given a general title, after which the figure may be broken down into "A" and "B" parts. For multiple-part figures, the title may be integrated, with titles for each part as part of the general figure title, or composite, with no reference to the individual parts. No two figures may have exactly the same title. The formatting of the titles must be consistent for all tables and figures.

**Numbering.** Tables and figures may be numbered in one of several ways. Three of the most common numbering schemes are (1) to number consecutively throughout the manuscript, including the appendix, using either Roman or Arabic numerals; (2) to number consecutively within chapters or sections, with a prefix designating the
chapter/section (e.g., 3-1, 3-2 . . . 4-1, 4-2). Appendix tables or figures would use a prefix of A for Appendix or a prefix designating the specific appendix (e.g., A-1, A-2 or A-1, B-1, B-2); or (3) to establish a consecutive numbering system for the body of the manuscript and a different one for the appendix (e.g., 1, 2, 3 for text and A-1, A-2, A-3 for appendix). The style of numbering must be consistent.

Placement within the body of the manuscript. Each table or figure must immediately follow the page on which it is first mentioned (except as noted in the next paragraph) and all tables and figures must be referred to by number, not by expressions such as "the following table/figure." When more than one table or figure is introduced on a page of text, each follows in the order mentioned. It is recommended that tables and figures be assigned pages separate from the text to avoid problems in shifting during last-minute revisions. In degree of importance, tables and figures are secondary to the text so that the text dictates where the tables or figures are placed. All pages must be filled with text and in no case should a page be left significantly short because of the mention of a table or figure.

A table or figure less than one-half page in length (approximately 4 inches) may be incorporated within the text, provided the following criteria are met:

- Must be in numerical order.
- Is separated from the text by extra space (approximately 1/2 inch).
- Is not continued onto a following page.
- Follows its specific mention in the text.

It is strongly suggested that if tables and figures are integrated with text, they be placed so that they appear either at the top or the bottom of a page. A mention on the upper half of a page of text would mean that the bottom half of the page would be reserved for the table or figure, and a mention in the bottom half of the page would place the table or figure at the top of the next page. There should always be a balance of no less than one-half page of text and no more than one-half page of table or figure. If multiple tables or figures are mentioned together on a page, they may be placed on pages together, provided there is approximately 1/2 inch between each.

It is not necessary to designate as figures small diagrams within the text, nor to designate as formal tables compilations which are no more than a few lines in length.
Placement of tables and figures in the appendix. When all tables and/or figures are in an appendix, this fact is stated in a footnote in the body of the text attached to the first mention of a table or figure and is not repeated thereafter. When only some of the tables and figures are in an appendix, their location must be clearly indicated when the items are mentioned in the text (Table 1, Appendix A), unless the numbering scheme makes the location obvious (Table A-1).

Horizontal tables and figures. To accommodate large tables or figures, it is sometimes necessary to place them in horizontal orientation on the page. The margin at the binding edge must still be 1 1/2 inches, and all other margins at least 1 inch. The margin at the top of the page and the placement of the page number must be consistent with the rest of the thesis. The table or figure and its caption will be placed so that they can be read when the thesis is turned 90 degrees clockwise.

Tables

Type face. Since tables are typeset rather than photographed or copied from artwork (Publication Manual of the APA, p. 94), the base type face used for the manuscript must be used for tables. The size of the type may differ, depending on the "fit" of the information within the margins. Because of the type requirements for tables, it is seldom possible to use a table from another source "as is."

Required components. Since tables consist of tabulated material or columns, the use of ruling or lines in tables helps the reader distinguish the various parts of the table. One of the characteristics that identifies tabulated material as a table is the presence of at least the following three lines:

1. The table opening line, which appears after the table title and before the columnar headings.
2. The columnar heading closing line, which closes off the headings from the main body of the table.
3. The table closing line, signaling that the data are complete. Anything appearing below the closing line is footnote material. (See Figure 3.)

Vertical lines are accepted but not required. Tables must have at least two columns which carry headings at the top—brief indications of the material in the columns (Chicago Manual of Style, p. 413, section 12.26). The headings appearing between the table opening line and the column heading closing line must apply to the entire column down
to the table closing line. This is especially important in tables that continue onto additional pages. It is never appropriate to change columnar headings on continued pages. One method of avoiding a problem is to use cut-in-heads, which are headings that appear below the column heading closing line, cut across the columns of the table, and apply to all the tabular matter lying below it (Chicago Manual of Style, p. 414, section 12.30) (see example in Figure 3).

**Continued tables.** Tables may be continued on as many pages as necessary, provided the columnar headings within the columnar block remain the same. The columnar block is repeated for each page. The table title is not repeated, but continuation pages are indicated with the designation: Table ___ (continued). Tables too large to fit within margins may be reduced (see Chapter 7 for hints on technical production).

**Table footnotes.** Footnotes to tables consist of four different categories: (1) source notes, (2) general notes, (3) notes to specific parts of the table indicated by superscripts, and (4) notes on level of probability (Turabian, p. 101).

If the table or data within the table are taken from another source, the word *Source(s):* is used, followed by the full reference citation, regardless of the format for referencing used in the main body of the text. This ensures that if that specific page is copied in the future by an interested reader, all bibliographic information is contained within the page. All references must be included in the List of References or Bibliography.

General notes are introduced as “*Note(s):*” and may include remarks that refer to the table as a whole. Notes to specific parts of the table use superscripts (letters for tables consisting of numbers; numerals for tables consisting of words; symbols if letters or numbers might be mistaken for exponents) that are attached to the part of the table to which they apply.

If a table contains values for which levels of probability are given, asterisks are used by convention. A single asterisk is used for the lowest level of probability, two for the next higher, etc. (Chicago Manual of Style, p. 419, section 12.50).
Table 4
Number and Percentage of Sampled Subjects in Each Demographic Category

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>n</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>139</td>
<td>44.3</td>
</tr>
<tr>
<td>Female</td>
<td>175</td>
<td>55.7</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>252</td>
<td>79.2</td>
</tr>
<tr>
<td>30-44</td>
<td>62</td>
<td>19.5</td>
</tr>
<tr>
<td>45-64</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td>65-74</td>
<td>0</td>
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<td>Other</td>
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<tr>
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<td>More than a high school degree</td>
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<td>Master’s or doctoral degree</td>
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<td>3.5</td>
</tr>
</tbody>
</table>

**Figure 3.** Sample table. This table shows the tabular opening line (A), the columnar closing line (B), and the tabular closing line (C; see p. 18). Also illustrated are the continuation of the table to another page and the use of a generic columnar heading (Demographic Category) with internal subheadings indicating the specific groups within categories.

Table 4 (continued)

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<th>Demographic Category</th>
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<td>Annual Income</td>
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<td>Less than $7,000 a year</td>
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<td>72</td>
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<tr>
<td>$25,000 to $39,999 a year</td>
<td>15</td>
<td>4.8</td>
</tr>
<tr>
<td>$40,000+ a year</td>
<td>7</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Figure 3 (continued). Sample table. This table shows the tabular opening line (A), the columnar closing line (B), and the tabular closing line (C; see p. 18). Also illustrated are the continuation of the table to another page and the use of a generic columnar heading (Demographic Category) with internal subheadings indicating the specific groups within categories.

Source: Lankford, December 1991, p. 32.

Figures

Type face. Since figures are considered illustrations, regardless of the nature of their content, any print that is part of the figure can be in any type face, provided it is neat and legible. The figure title (or caption) and page number must be in the same base type face as the rest of the manuscript because this material is considered to be part of the typeset body of the manuscript (see Chapter 7).

Legends. Explanatory material for figures may be placed within the figure, either above or below the title, or continued after the period following the title. If a figure has a long legend which must be placed on a separate sheet because of the size of the figure, this page must be placed immediately before the figure. The page number assigned to the legend page is considered to be the first page of the figure. The figure title would appear on the legend page, together with the legend information. Legend pages are used only as needed.

Continued figures. A figure containing several related parts too large to be included on a page may be continued onto other pages. The first page contains the
figure number and complete title, and subsequent pages contain the remainder of the figure and the designation: Figure ___ (continued).

**Figure footnotes.** Footnotes are placed below the figure title but are not separated by a dividing line. If the figure or information within the figure is taken from another source, the word *Source(s):* is used, followed by the full reference citation, regardless of the format for referencing used in the main body of the text. This ensures that if that specific page is copied in the future by an interested reader, all bibliographic information is contained within the page. If changes are made in a figure from another source, this is indicated by using the phrase "Adapted from . . . ." General notes are introduced as *Note(s):* and may include remarks that refer to the figure as a whole. All references must be included in the Bibliography or List of References.

**Bibliography/List of References**

A thesis must include a list of materials used in the preparation of the manuscript. This may consist only of references cited in the text (List of References) or it may include works consulted as well (Bibliography). The purpose of listing the citations is threefold: (1) to serve as an acknowledgment of sources, (2) to give readers sufficient information to locate the volume, and (3) in the case of personal interviews or correspondence, to save readers the trouble of attempting to locate material that is not available.

Ordinarily, citations are arranged alphabetically by the last name of the author. Runover lines in a bibliography can be handled in one of two ways: Either indent the author’s name five spaces and place the runover line(s) flush left – or – Place the author’s name flush left and indent the runover lines five spaces. The format for the citations should be that used in the field of study.

**Appendix**

An appendix (appendixes or appendices), if included, is preceded by a numbered page with the designation centered vertically and horizontally between the margins. Original data and supplementary materials are usually placed in the appendix. In some cases, all tables and/or figures are moved to the appendix to avoid interrupting text. Each different element of the supplemental material (e.g. each set of tables, charts, etc.) is sectioned into separate appendices each preceded by a numbered designation page (see sample).
Vita

The vita is written in narrative form and contains appropriate personal, academic and professional information about the author. Since copies of the manuscript will be available to the public, private information should not be included. It is the last item in the manuscript and appears with no preceding separation page.
CHAPTER 4

FORMATTING

Type Face and Quality

Type Face or Font

While font style is an individual decision, it is important that the manuscript is professional looking and readable. Use of a 10- to 12-point font size and a font style that is clear and projects an appropriate academic image is recommended. Suggestions include Courier, Arial, Calibri, or Times New Roman. Type face affects the physical appearance of a manuscript more than any other single element. Figure 4 shows a sample page using various point sizes and special effects.

The use of bold and/or italic fonts is permitted (except on the cover page and for major headings). Second or third level headings are more easily seen with bold, for example. Frequently, a thesis will contain a section of definitions, which are more distinctive when seen in bold or italics. Substituting either bold or italics for underline also generates a sharper contrast between words being defined and second level headings that also use underline. It is important to establish styles or conventions that will be followed consistently throughout the manuscript. If the decision is made to set all single-spaced quotes in italics or in a smaller type than that used for the regular text, that convention should be followed for all single-spaced quotes.

The type face selected for text will be the base style or the "starting point" for all type selection and will establish the framework for the entire manuscript. All the following items must be in the family of type selected as the "base" style:

- Preliminary pages, including approval sheets and Statement of Permission to Use.
- Text.
- Tables—even those from other sources, provided they are called tables.
- Figure titles. The labeling of figure parts may be in a different type face.
- Page numbers, including appendix page numbers.
Chapter 2

Materials and Methods

Introduction
Ten major steps were involved in finding RFLPs among *Cornus* genotypes. These steps are shown in Figure 2.1.

Plant Material
*Cornus* tissue (newly emerging succulent leaves, older fully expanded leaves, floral bract tissue and floral buds) was collected from different species and from different cultivars of *C. florida* from several locations. The primary *Cornus* genotypes used in this study were *C. mas*, *C. amomum*, *C. sericea*, *C. kousa* and the *C. florida* cultivars 'Barton', 'Cherokee Princess', 'Cloud Nine', 'Mary Ellen'. During the course of this study DNA was extracted from several other *Cornus* genotypes but due to time constraints RFLP experiments were not carried out on these additional plants. All tissue was collected within a 100 mile radius of Knoxville, Tennessee (see Table 2.1) and tissue from all trees (with the exception of two *C. kousa* trees) was collected from trees growing outside.

Plant tissue was collected throughout the spring and summer and into early fall at different times during the day and night. To reduce the destructive activity of nucleases on the DNA, the tissue was usually immersed in liquid nitrogen as soon as it was obtained and kept in a frozen state until processed. For solutions used see Table 2.2.

Figure 4. Sample page printed in Times New Roman type face. The chapter number and title were printed in 14 point bold, headings in 12 point bold, text in 10 point normal, and genus and species in italics.

Type Quality

Acceptable type quality for the final master copy is determined by the following factors:

1. The visual smoothness of the letters.
2. Standard upper and lower case letters.
3. The presence of descenders (parts of letters that normally extend below the line, such as p, q, y).
4. A high-contrast, solid image.

Spacing

Spacing has both aesthetic and utilitarian effects on the appearance of a page. Most word processing packages allow the user to set the "spacing" for vertical measurement, using the predetermined line height as a basis. Single spacing leaves a small space between two lines of type and double spacing leaves the equivalent of the height of a line between the two lines of type. Newer software will also permit line spacing of 1.15 and 1.5 lines. For readability when printed, the general text should be at least 1.5 spaces and at most be double-spaced. Single or 1.15 spacing is permissible to set off quoted material and for references and tables. Students are encouraged to use the conventions within their field and to be consistent in their application. In the event that extra space is needed (e.g., above headings, between chapter number and title), an additional "enter" is added, doubling the white space.

The decision whether to indent each paragraph or leave flush is optional, but indentations should be uniform throughout the thesis. Additionally, it is no longer necessary to place two spaces after each period in a paragraph. Most word processing software today automatically place extra space between sentences.

Widows/Orphans

Widows/orphans are single lines/words of text separated from paragraphs. If possible, widows/orphans should be avoided. Be advised that they will not be accepted when they interfere with the flow of the text.

Other Formatting Considerations

Margin Settings and Justification

Thesis margins cannot be violated. The left margin must be no less than 1 1/2 inches; the right, top and bottom margins no less than 1 inch. All images must fit within
these margins, including the page number. These margins define the minimum white space to be maintained on all sides. All margins must be left justified (or ragged-right). Left justified margins are the only margins acceptable and must be consistent throughout the manuscript.

**Pagination**

Figure 1 on page 10 shows the order and pagination of the various parts of a thesis. The approval sheet and Permission to Use page are not numbered and are not assigned a number. The preliminary pages begin with the title page and are assigned lowercase Roman numerals. Although the preliminary paging begins with the title page, no number appears on that page; therefore, the first numbered page is page ii.

Beginning with the first page of the text, all pages should be numbered consecutively throughout the manuscript, including the Bibliography or List of References, Appendix, and Vita, with Arabic numerals. Pagination using letter suffixes (i.e., 10a and 10b) is not allowed. The number may be positioned at the bottom of the page centered between the margins, or in the lower right hand corner, but must be consistent throughout the document. Numbers may appear on separation sheets (Bibliography or List of References and Appendix), or be suppressed, provided the pages are assigned numbers.
CHAPTER 5

SPECIAL PROBLEMS AND CONSIDERATIONS

The guidelines given in the previous chapters are sufficient for most theses. However, there are several circumstances that require additional guidance. This chapter addresses a few of the more specific questions that may exist in thesis preparation, such as the use of papers that have been or will be submitted to journals, the division of unusually long manuscripts, and requirements pertaining to creative writing and foreign languages.

Theses in the Form of Journal Articles

A thesis may include articles submitted or about to be submitted to professional journals. Theses done this way, however, must meet specific guidelines. The individual papers must be integrated into a unified presentation, which may be done through an introductory chapter which might contain, among other things, a detailed literature review of the type not presented in journal articles. Additionally, one or more connecting chapters might be used to expand upon the methodology or the theoretical implications of the findings presented in the individual articles. A uniform style of headings, reference citations, and bibliographical format – in compliance with this guide – must be adopted for the thesis, even though the individual papers may have been prepared for submission to different journals. Each paper may be listed as an individual chapter within the thesis or may be treated as a part and follow the Multi-part format discussed in the next section. If chapter divisions are used, one Bibliography or List of References, including all references from the various articles, is presented at the end of the text. Finally, appendices may be added to present information not included in the chapters. Pages must be numbered consecutively throughout the manuscript.

Multi-Part Theses

With approval of the committee members, a thesis may be divided into parts, rather than sections or chapters. The use of parts is an effective method of organization when research has been performed in two or more areas not practical to be combined into a single presentation or to assist in maintaining consistent format for journal articles. Each part may be treated as a separate unit, with its own chapters, figures, tables, Bibliography or List of References, and Appendix (if needed), or the Bibliography or List of References and Appendix may be combined at the end as in the case of theses in the
form of journal articles (see previous section). In all cases, the thesis must include an introduction which provides an overview and summary of the project, a single Table of Contents, List of Tables and List of Figures. Consecutive pagination should be used throughout the manuscript, including numbering of the required separation sheets listing the part number and title placed before each part.

Creative Writing Theses

All theses, including those in creative writing, are expected to conform to the basic rules of margins and must be blended into a unified presentation that fulfills the requirement that the thesis should reflect credit on the student, the student's committee and the university. The following elements are required for the acceptance of a thesis in Creative Writing:

- Approval sheet
- Title page
- Abstract
- Table of Contents
- Introduction, which sets the academic tone for the body of the manuscript, and provides a rationale for the acceptance of the creative work as a thesis.

Theses Prepared in a Foreign Language

All theses must be written in English.
CHAPTER 6

TECHNICAL POINTERS

Computer use has enabled students to assume responsibility for all aspects of thesis preparation, allowing them to function as author, editor and publisher of their manuscripts. With this freedom has come the responsibility of ensuring that the content is accurate, grammar and mechanics are acceptable, and all elements of formatting are handled correctly. The purpose of this chapter is to provide some pointers on technical production and to address some common production problems.

Appearance

The element that contributes most to the attractiveness of a manuscript is consistency. Consistency in formatting means that the writer establishes and adheres to a series of conventions or protocols regarding spacing, heading sequencing, and other aspects of appearance to guide readers through the manuscript visually, thus enabling them to concentrate on the content. Consistency in thesis production is especially critical, since it determines, in part, the committee reaction to content and ultimately, acceptance of the manuscript by the Graduate School.

Content

Photographs

There are at least three methods for including photographs in a thesis, each differing in quality and cost and requiring different handling.

1. Halftone prints are made of each photograph and mounted onto paste-up pages. The PMT (photo-mechanical transfer) process screens the halftone image and converts it into dots, which can then be copied. Generally a dot density of 85 lines per inch gives the best image on most copiers. The quality of reproduction is comparable to that of a newspaper and probably would not be satisfactory for scientific applications. The cost is relatively low, since as many photographs as will fit on a sheet of PMT material can be made in one shot.

2. Many students use scanners to reproduce photographs, making them part of
the computer-contained manuscript. Essentially, the scanner performs the same function as the PMT process and converts the photograph to dots, which are printed as graphics. Fine detail may be lost, but the overall image is attractive and copies well.

3. Offset printing is a final option. The process is done by full-service print shops and requires the processing of two negatives--one for the printed copy and one for the halftone photograph. These are then combined, spots opaqued, burned onto a printing plate and printed on the offset press. Done well, this process produces excellent quality in a form that will last as long as the paper on which it is printed. The expense, however, may limit its use in thesis production.
CONCLUDING INSTRUCTIONS

Electronic Submission

Electronic theses and dissertations (ETDs) will be published with ProQuest® UMI and also in EKU's institutional repository. Electronic theses and dissertations will be available to other scholars and individuals through the internet. The process for submission and acceptance of electronic theses and dissertations is as follows:

- Candidates who have successfully completed their defense should complete the ETD Submission form.
- The completed form should be sent to EKU Graduate School along with the original signed signature page and Permission to Use form.
- The chair of the thesis/dissertation committee should email an electronic version of the thesis or dissertation in either MS Word or PDF format to graduateschooledt@eku.edu.
- Candidates will be notified by email with instructions to enter biographical and other information into the ProQuest website.
- Candidates will be notified via email if there are any formatting or other changes required before final publication. Candidates are strongly encouraged to use the EKU Thesis Template to minimize formatting or other errors that may delay final publication. You will not be cleared to graduate until your thesis has been approved by the graduate school and the final submission to proquest has been made.

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You will have the opportunity to copyright your thesis/dissertation through the Proquest electronic submission process. Master's and specialist students may wish to copyright their thesis or dissertation. The Chicago Manual of Style (1993) offers an excellent discussion of copyright law and its implications. "Copyright law exists to protect the exclusive right of the copyright holder to copy the work . . . [although] the law has long been interpreted as allowing others to copy brief portions of the work for certain purposes" (Chicago Manual of Style, p. 126, section 4.4).

A page must be inserted immediately after the title page and assigned number ii. The following information must appear centered on the copyright page:
Copyright 20__(year) by _________________________ (name)
All rights reserved

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All other copies of the thesis, including any required by the department and/or major professor, are produced and bound through arrangements made personally by the student. The major professor or departmental secretary can help determine who expects to receive copies. Copies can be purchased during the electronic submission process or you order copies by contacting Proquest Author services at disspub@proquest.com. You may also inquire about options and pricing with commercial binder H/F Group at (800) 334-3628. You can also order online after your submission by going to http://www.proquest.com/en-US/products/dissertations/orderinggrad.shtml

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BIBLIOGRAPHY


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APPENDIX

For demonstration of important elements in the following sample pages, spacing has been altered and margins have been reduced to fit inside borders.
THE REACTION OF 1, 3, 5-TRISUBSTITUTED HEXAHYDRO-1, 3, 5-TRIAZINES WITH CARBON MONOXIDE

By

Albert Percy Smith, Junior

Thesis Approved:

__________________________
Chair, Advisory Committee

__________________________
Member, Advisory Committee

__________________________
Member, Advisory Committee

__________________________
Dean, Graduate School

Sample Approval Sheet
STATEMENT OF PERMISSION TO USE

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Signature _____________________________________
Date _____________________

[Explanation: This statement, signed in ink (duplicated signatures are not acceptable), is required in EACH copy of a Master's or Specialist thesis or Doctoral dissertation.]

Sample Statement of Permission to Use
THE REACTION OF 1,3,5-TRISUBSTITUTED HEXAHYDRO-1,3,5-TRIAZINES WITH CARBON MONOXIDE

By
ALBERT PERCY SMITH, JUNIOR

Bachelor of Science
Northwestern State College
Altemont, California
1993

Associate of Arts
University of Oklahoma
Norman, Oklahoma
1990

Submitted to the Faculty of the Graduate School of Eastern Kentucky University in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE May, 2010

Sample Title Page
Sample Dedication Page

Source: S. Babu, "Transient Thermal Analysis of a High Power Density Magnetohydrodynamic Nozzle."

Master of Science Thesis in Mechanical Engineering, The University of Tennessee, Knoxville, December 1990.
Sample Acknowledgments

ABSTRACT

This research attempted to develop guidelines for selecting appropriate cross-sections for arterial highways in developing urban and/or suburban areas. The two major features of cross-section considered in this research were the non-traversable median in the form of a raised or a depressed (grass) median, and the traversable median in the form of a two-way left-turn lane (TWLTL). Models for predicting accident rates and delay were identified from previous research for use in the selection process. Engineers of different state DOTs were contacted for their opinion on the topic. Real-life case studies were prepared to see how practicing engineers deal with them. A comparison of the results of the models and the views of the engineers was carried out. The results of all analyses revealed certain inconsistencies as well as some interesting patterns.

It was concluded that accurate guidelines were difficult to formulate based on accident and delay criteria only. Land use was identified as a significant parameter in determining the choice of a cross-section. A stepwise procedure was developed to assist highway engineers in making a choice between a median and a TWLTL.

Sample Abstract
### Sample Table of Contents


<table>
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<td>II. LITERATURE REVIEW</td>
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<td>Definition of Work Teams</td>
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<td>Effect of Implicit Theories on Team Effectiveness</td>
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## Sample List of Figures

Source: Gregory Vonzell Murphy, "Robust LQG/LTR Control System Design for Low-Pressure Feedwater Heater Train with Time Delay." Doctoral Dissertation in Electrical Engineering, The University of Tennessee, Knoxville, August 1990.

<table>
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Sample List of Abbreviations

Source: Randy J. Hendricks, "Companion to Owls: Robert Penn Warren and the Literature of Knowledge."

Who Speaks for the Negro? .............................................. Who Speaks?
World Enough and Time .................................................. WET

*These abbreviated forms of titles of Warren’s works have been used where necessary for parenthetical documentation of sources within the text. Other abbreviations used in parenthetical documentation are obvious and used in conformance with standard MLA practice.

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Source: Kramer, August 1989.
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Source: Kramer, August 1989.
CHAPTER II

THE INSTITUTIONAL SETTING

The Interstate Commerce Act and Revisions

There is no consensus regarding the precise course of events which lead to the passage of the Interstate Commerce Act in 1887 or the formation of the Interstate Commerce Commission in 1889. There are, however, a number of prominent factors which somehow worked together to produce these measures. First, the agricultural community, feeling that unfair railroad pricing practices had contributed to declining real farm incomes, lobbied hard for both state and federal regulation of rail rates.¹ There is also the common view that rail carriers favored federal regulations as a means of curbing destructive competition.² However, Chandler (1977) suggests that, while there was a desire on the part of the carriers for federal intervention, the sort of regulation embodied in the Interstate Commerce Act was not at all what the carriers sought a decade earlier.

Prudent analysis suggests that there are elements of truth in each approach. In any case, the act to regulate commerce and to establish the Interstate Commerce Commission was passed into law in 1887. Table 2-1 summarizes the regulated activities and enforcement devices attributed to this legislation.

¹See Robertson (1964).

²See Gilligan, Marshall and Weingast (1989) for a discussion of this viewpoint.

Sample Beginning Page of Chapter

CHAPTER III

CARBON AND KEVLAR FIBERS

Morphology of Carbon and Kevlar Fibers

General
A characteristic of considerable importance is the morphology of the void phase embedded in carbon and Kevlar fibers. These voids range in size between 1-30mm [2-4, 18-22], and tend to be elongated in shape with the length of the void being on the order of 1.5-6 times the void width. The mechanism by which the void phase forms is dependent upon both processing conditions and material characteristics [3,4,23,24,84,85]. In the case of wet spun fibers, such as Kevlar, the voids are formed as the solvent leaves the polymer during coagulation [3,4,24,25]. The ellipsoidal shape of the voids is due to the applied tensile force during this process. The microvoid phase in pitch based carbon fibers has a number of sources. The formation of voids can occur during fiber spinning when the initial fiber structure is formed. Further formation can occur during carbonization and graphitization as the structure is refined, and volatiles are given off [86,87]. Polyacrylonitrile (PAN) based fibers often have similar structures with voids arising both from wet spinning and from carbonization.

Carbon Fibers

Manufacture
Before discussing the morphology of carbon fibers, it is useful to understand their basic manufacturing process, as variations in processing history will affect the final fiber morphology. The
and produces final output equal to

\[ v_i^\mu = \sum_j W_{ij} h_j^\mu + \theta_i = \sum_j W_{ij} g\left( \sum_k W_{ik} l_k^\mu + \theta_j \right) + \theta_i \]

If \( t_i^\mu \) is the target output value for the \( \mu \) input pattern, the error measure, or cost function, is calculated as

\[ e_i^\mu = g(v_i^\mu) = g\left( \sum_j W_{ij} h_j^\mu + \theta_i \right) = g\left( \sum_j W_{ij} g\left( \sum_k W_{ik} l_k^\mu + \theta_j \right) + \theta_i \right) \]

which may be rewritten according to (2.6) as:

\[ E[W] = \frac{1}{2} \sum_{\mu} \sum_i \left[ t_i^\mu - e_i^\mu \right]^2 \]

The function defined by equation (2.8) is clearly a continuous differentiable function in every weight, and thus we can use a steepest descent algorithm to obtain the appropriate weights. In one sense this is all there is to back-propagation, and the so-called delta rule, for the minimization of the error is one more numerical way to implement numerical regression, a well-known statistical method (Werbos, 1988). For the hidden-to-output connections the gradient descent rule gives

\[ E[W] = \frac{1}{2} \sum_{\mu} \sum_i t_i^\mu - g\left( \sum_j W_{ij} g\left( \sum_k W_{ik} l_k^\mu + \theta_j \right) + \theta_i \right) \]

\[ \Delta W_{ij} = -\eta \frac{\partial E}{\partial W_{ij}} = \eta \sum_{\mu} \left[ t_i^\mu - e_i^\mu \right] g'(v_i^\mu) h_j^\mu = \eta \sum_{\mu} \delta_i^\mu h_j^\mu \]

**Sample Page with Equations**

Table 2-2. CREATINE KINASE ACTIVITY AND ISOZYME DISTRIBUTION

<table>
<thead>
<tr>
<th>AGE (month)</th>
<th>STRAIN</th>
<th>DIET</th>
<th>CK (mU/mg) (n)</th>
<th>MM+MITO (%) (n)</th>
<th>BB+MB (%) (n)</th>
</tr>
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<td>4</td>
<td>WKY</td>
<td>CON</td>
<td>1733±59 (10)</td>
<td>81.2±3.3 (8)</td>
<td>18.8±2.2 (8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HS</td>
<td>1615±40 (9)</td>
<td>80.3±1.4 (7)</td>
<td>19.7±1.5 (7)</td>
</tr>
<tr>
<td></td>
<td>BHR</td>
<td>CON</td>
<td>1697±27 (10)</td>
<td>79.7±4.3 (7)</td>
<td>20.3±4.2 (7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HS</td>
<td>1768±37 (10)</td>
<td>83.5±1.6 (8)</td>
<td>16.5±1.6 (8)</td>
</tr>
<tr>
<td></td>
<td>SHR</td>
<td>CON</td>
<td>1644±33 (10)</td>
<td>83.9±1.9 (6)</td>
<td>16.1±8.6 (6)</td>
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<tr>
<td></td>
<td></td>
<td>HS</td>
<td>1536±81 (8)</td>
<td>77.0±1.8 (8)</td>
<td>23.0±1.7 (8)</td>
</tr>
<tr>
<td>12</td>
<td>WKY</td>
<td>CON</td>
<td>1468±61a (6)</td>
<td>82.0±1.1 (8)</td>
<td>18.0±1.4 (8)</td>
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<td></td>
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<td>HS</td>
<td>1323±32a (8)</td>
<td>79.7±3.8 (7)</td>
<td>20.3±3.8 (7)</td>
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<td>BHR</td>
<td>CON</td>
<td>1301±56a (8)</td>
<td>78.0±2.8 (7)</td>
<td>22.0±2.5 (7)</td>
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<td></td>
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<td>HS</td>
<td>1422±54a (9)</td>
<td>79.4±1.4 (9)</td>
<td>20.6±1.4 (9)</td>
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<tr>
<td></td>
<td>SHR</td>
<td>CON</td>
<td>1270±81a (10)</td>
<td>71.3±2.8ace (9)</td>
<td>28.7±2.6ade (9)</td>
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</tbody>
</table>

Notes: Data are mean ± SEM. Probabilities are one-tailed. CK is total creatine kinase activity; n is the number of observations. MM+MITO is the sum of the MM and mitochondrial isozymes of creatine kinase. BB+MB is the sum of the BB and MB isozymes of creatine kinase.

ap ≤ 0.0003 vs same strain and diet at 4 months of age.
bp = 0.0031 vs 12 month old WKY-CON.
cp = 0.0023 vs 12 month old WKY-CON.
dp = 0.0028 vs 12 month old WKY-CON.
ep ≤ 0.0086 vs 12 month old BHR-HS.

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Major result</th>
<th>Suggested future improvements</th>
</tr>
</thead>
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<tr>
<td>PTWIST analysis of plasma wave propagation in a sheared magnetic field</td>
<td>Rotation of the polarization plane is accurately predicted</td>
<td>Add absorption effects, forward plus backward wave analysis and $B_z$ capability</td>
</tr>
<tr>
<td>Over-moded waveguide Component measurement techniques developed</td>
<td>Pattern calculations and pattern subtraction method accurately quantify mode purity</td>
<td>More automation of the procedure and least-squares Analysis algorithm</td>
</tr>
<tr>
<td>TE$_{02}$ mode transducer</td>
<td>High mode purity TE$_{02}$ mode available for laboratory testing</td>
<td>Reduce VSWR, build TE$_{03}$ and whispering gallery type transducer</td>
</tr>
<tr>
<td>Waveguide Mode Analyzer</td>
<td>Measurement of output power and mode content of the gyrotron possible</td>
<td>Reduce frequency sensitivity, add multiple detectors</td>
</tr>
<tr>
<td>TE$<em>{02}$ to TE$</em>{01}$ rippled-wall mode converter</td>
<td>High conversion efficiency mode converter</td>
<td></td>
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<tr>
<td>Miter bend analysis and measurements</td>
<td>Accurate measurement of mode conversion and new geometric optics model for reflections</td>
<td>Include diffraction effects in the model and perform more measurements of high order modes</td>
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**Sample Continued Table**

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Major result</th>
<th>Suggested future improvements</th>
</tr>
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<tbody>
<tr>
<td>High power, polarization-controlled, narrow-beam launcher</td>
<td>Good beam characteristics, reliable high power operation, rotatable polarization</td>
<td>Improve Vlasov beam quality and reduce spill-over losses</td>
</tr>
<tr>
<td>GTD analysis and measurements of Vlasov mode converting antenna</td>
<td>First application of GTD to the Vlasov device; good agreement between calculations and measured patterns</td>
<td>Add second order scattering to the model; calculate 2-D patterns and efficiency</td>
</tr>
<tr>
<td>Polarization rotating reflector</td>
<td>High power operation and high polarization rotation efficiency</td>
<td>Round corners of lands to reduce arcing</td>
</tr>
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<td>Launcher beam analysis and focusing reflector design</td>
<td>Good agreement between beam model and reflector design and measurements</td>
<td></td>
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<td>First-pass and leakage power microwave diagnostics</td>
<td>Calibrated dual-polarization measurements of first-pass plasma absorption and multiple-bounce power distribution</td>
<td>Improve detector calibration; reduce cross-talk between gyrotrons and adjacent first-pass detectors</td>
</tr>
<tr>
<td>Absorption experiments</td>
<td>Several predicted plasma absorption effects measured</td>
<td>More measurements, especially at 1.92 T fundamental resonance</td>
</tr>
</tbody>
</table>

Sample Continued Table (continued)

Source: Bigelow, December 1990.
circular lumpy area with an ulnar extension, the whole having somewhat the shape of a tadpole
(Figure 23, MC2; Figures 40 [p. 269] and 46 [p. 273]). The ulnar "tail" may represent part of the
origin of the Adductor Pollicis, but it was measured with the FCR since it forms a visible unit.
Length was measured medial-lateral and width represents the average of several measurements
taken at equal distance proximal-distal of the enthesis. Height was determined by the contour
gauge at the highest elevation (Table 4).

<table>
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<th>Right</th>
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<td>Max</td>
<td>Min</td>
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<td>Length</td>
<td>246</td>
<td>17.00</td>
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<tr>
<td>Width</td>
<td>245</td>
<td>7.60</td>
</tr>
<tr>
<td>Height</td>
<td>246</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Sample Table Integrated with Text

Source: Catherine M. Goldsmith, "Metacarpal Entheses Changes as Evidence of Labor Differences in Non-
Agricultural and Agricultural American Indian Skeletons." Doctoral Dissertation in Anthropology,
The University of Tennessee, Knoxville, May 1990.
Figure 1. Causal path model showing achievement leading to self-concept leading to attributions (* † values > 2.0, p < .05)

Sample Figure

Figure 5. Cole-Cole plots of the dielectric loss versus dielectric constant. (a) i) SRT; ii) Cole-Cole, and (b) i) Cole-Davidson; ii) Havriliak-Negami.

Sample Multi-Part Figure with Integrated Title
Sample Multi-Part Figure with Composite Title

Figure 3. EC EXPORT REFUNDS FOR POULTRY

Note: Data for 1975 and 1979 represents 5-year averages.

Implementation of the 1992 harmonization reforms, according to Kelch (1990), would result in a single price for agricultural products throughout the EC. Movement toward harmonization will affect the EC agriculture. For instance, elimination of green rates will bring grain prices to equilibrium in the EC. Poultry production will be affected as feed prices fall. Poultry producers in the EC will benefit from lower feed costs and increase their production. Consumption may increase due to lower internal poultry prices. However, the elimination of producer incentives may also reduce production as inefficient producers collapse.

Sample Figures Integrated with Text

Impacts on US Poultry Industry

Even though CAP's policies have strengthened European agriculture through various production and marketing subsidies, they have distorted the world market for agricultural commodities. Over the years, US poultry exports have declined to less than 10 percent of production. At present, less than 4 percent of the total value of US poultry exports goes to the EC (Figure 4).

Figure 4. US Poultry Meat Export Value by Destination (Percentages)
Source: Adapted from Dairy, Livestock, and Poultry: World Poultry Situation, USDA, FAS

Sample Figures Integrated with Text (continued)

Figure 1.4. Proposed alternative cleavage pathways of the polyprotein containing the nonstructural proteins of BVDV (Akkina et al., 1991). Numbers indicate molecular weight in kilodaltons. Protein designations enclosed in parentheses denote analogous proteins characterized by Collett et al. (1988b).
Sample Figure with Legend Page (previous page)

Source: Kennedy, December 1991.
BIBLIOGRAPHY


Sample Bibliography (First Page)

Source: Hall, December 1990.
LIST OF REFERENCES


Source: Barrett, December 1990.
Allan Robert Ellstrom was born in Pittsburgh, Pennsylvania on May 19, 1951. He attended elementary schools in the Fox Chapel (Pittsburgh) Area School District and graduated from Fox Area High School in June, 1969. The following September he entered Indiana University of Pennsylvania and in May, 1973 received the degree of Bachelor of Science in Music Education. He reentered Indiana University of Pennsylvania in June, 1974 and in August 1977 received a Master of Education degree in Music Education. In January, 1985 he entered The University of Tennessee, Knoxville and in December 1990 received a Master of Science degree in Communications.

He is presently employed as a Radio Programmer/Announcer at WUOT-FM, the Radio Center, at The University of Tennessee, Knoxville.

*Sample Vita*