The Office of Research and Graduate Studies presents

A THESIS/DISSERTATION WORKSHOP
SPEAKERS

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  Director, Office of Research and Graduate Studies

- Denise Anderson
  Graduation Analyst

- K’Cindra Cavin
  Graduate Studies and Research Programs Specialist

www.tntech.edu/graduatestudies
FOUNDATION OF A THESIS/DISSERTATION

- It is a reflection on you and your research.
- The quality of your paper is important both to you personally and as a representative of Tennessee Tech University.
- The integrity of the content is essential to the continued development of new knowledge and application to benefit society.
What format do I use?
You are encouraged to use publications within your field—journals and textbooks—to assist you in establishing bibliographic form, use of number, and other conventions that are discipline oriented. Although knowledge and use of publication formatting is essential, the regulations established by the Graduate School guide always take precedence.
What is the proper writing style?

You should use style handbooks such as the most recent editions of the *MLA Handbook for Writers of Research Papers* (English), *Publication Manual of the American Psychological Association* (Education), *CBE Style Manual* (Biology), *Form and Style* (Arts & Sciences, Engineering, Education), *The Chicago Manual of Style*, and *Harbrace College Handbook* as resources for basic style and grammar.
Where can I get help if I have questions?

+ For help with writing and writing styles
  - TTU Writing Center, Henderson Hall, Room 204B (appointment required)

+ Go to [www.tntech.edu/graduatestudies/etd](http://www.tntech.edu/graduatestudies/etd)
  - Thesis/Dissertation Checklist

+ If you cannot find the answers to your questions there, you may contact either Denise Anderson or K’Cindra Cavin in the Graduate School as an additional resource.
**BIG TIPS TO SAVE YOU TIME & TROUBLE**

- Go into your word processing program and set your paragraph styles to “0” space before and after paragraphs. Also, set your line spacing to “double.” This eliminates most spacing errors.

- Learn how to use “right tabs” and “leaders” so that you can properly format your Table of Contents, List of Tables, and List of Figures.
EXAMPLES OF PRELIMINARY PAGES
Key Elements:

- The page title starts on the first line of the page.
- The title of the thesis or dissertation is single-spaced.
- The body of the abstract is single-spaced within paragraph and a blank line is left between paragraphs.
- There is NO page number.
Key Elements:

- The title is double-spaced and in inverted pyramid form.
- The page is centered vertically and horizontally.
- Spacing between text and dividing lines is equal in all places.
- There is no printed page number.
COPYRIGHT PAGE

Key Elements

- This page is optional.
- This page is centered both horizontally and vertically.
- This is the first page number with a printed number.
CERTIFICATE OF APPROVAL (SIGNATURE PAGE)

Key Elements:

- The page title begins on the first line of the page.
- The thesis/dissertation title is double-spaced and inverted pyramid form.
- “Dr.” does not appear before any names.
- There is a printed page number.
Key Elements:

- This page is optional.
- This page is centered both horizontally and vertically.
- The page number is printed.

DEDICATION

This thesis is dedicated to my parents who have supported me throughout my education. Thanks for making me see this adventure through to the end.
I would like to thank Dr. Kuzowski who worked so diligently with me throughout my time at Tennessee Technological University. When my research reached a dead end, your guidance and assistance helped me see new possibilities and new avenues I had not yet explored. To Dr. Jackson and Dr. Liu, your constant advice helped me when decisions were difficult to make.

Thank you to all the department secretaries who helped me get all my copies made, get registered for classes, and bought supplies for my experiments. You were always cheerful and helpful. You have become an extended family to me.

Last, but not least, I would like to express my gratitude to the Cookeville Regional Medical Center for allowing me to present and test my theories in their facility.

ACKNOWLEDGEMENTS
# TABLE OF CONTENTS

## Key Elements:

- **TABLE OF CONTENTS** begins on the first line of the page and is in all uppercase letters.
- “Page” is the column header for the page numbers.
- The page numbers are right tabbed with periods as leaders.
- **LIST OF TABLES, LIST OF FIGURES, and all CHAPTERS AND CHAPTER TITLES** are in uppercase letters.
- Chapters sections are in Title Case.
- Notice the indentions to indicate the level of header.
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CHAPTER # always begins on the first line of the page and is in uppercase letters.

The title is always in uppercase letters.

Notice the spacing between the titles, headers, and body of text.

Paragraphs are indented.

No additional space between paragraphs.
Key Elements:

- Heading styles must be followed. Do not skip a heading level.
- Notice spacing of headings.
- Right margin may be ragged or justified.
CHAPTER 3

THE OVERVIEW OF DATA MINING AND KNOWLEDGE DISCOVERY

Data mining and knowledge discovery (DMKD) theory and methods provide a new framework to interpret the nature of the objects hidden behind the data. In this chapter, some basic definitions about DMKD are first briefly introduced, and then the approaches of signature extraction and pattern recognition are discussed in detail.

3.1 Basic Definitions About DMKD

To clearly identify the goal and process of the research, the definitions of data, information, knowledge, and DMKD are briefly introduced in this section.

3.1.1 Data

Data is a numerical form of the observed matter in terms of its attributes and their correlation. It implies two features: (a) data can be measured in different units, and appropriate processing, and (b) data can be transformed into information for transmission and processing.

3.1.2 Information

Information is the specific meaning delivered by data under a given circumstance. This means data is the carrier of information.

\[
y_p = L \frac{d}{dt} i_p - \delta i_p + v_p
\]

where \( L = L_p + L_m \) is the total inductance between the terminal bus and load bus; \( v_p = V_p \sin \delta \) and \( v_p = V_p \cos \delta \) are the d-axis and q-axis components of load bus voltage in \( dq \) reference frame, where \( V_p \) stands for voltage magnitude at load bus and \( \delta \) stands for phase angle at load bus.

Substituting Equations (2.14), (2.15), (2.16), and (2.17) into Equations (2.22) and (2.23) to solve for \( \frac{d}{dt} i_p \) and \( \frac{d}{dt} \delta \), we have

\[
\frac{d}{dt} i_p = \frac{1}{s} \left[ \left( \frac{V_p}{x_p} \right) \sin \delta - \frac{V_q}{x_q} \sin \delta \right]
\]

(2.24)

\[
\frac{d}{dt} \delta = \frac{1}{s} \left[ \left( \frac{V_p}{x_p} \right) \cos \delta - \frac{V_q}{x_q} \cos \delta + \frac{d}{dt} i_p \right]
\]

(2.25)

Substituting Equation (2.24) and Equation (2.25) into Equation (2.20) and Equation (2.21) to eliminate \( \frac{d}{dt} i_p \) and \( \frac{d}{dt} \delta \), we have

\[
P = \frac{F_p}{2s} \sin \delta \frac{P_p}{2s} \sin (\delta - \delta')
\]

(2.26)

\[
\Theta = \frac{F_p}{2s} \cos \delta \frac{P_p}{2s} \cos (\delta - \delta')
\]

(2.27)

In Equation (2.26) and Equation (2.27), the instantaneous generator output power \( P_p \) and \( \Theta_p \) are functions of instantaneous \( V_p \), \( V_q \), \( \delta \), and \( \delta' \). Usually, the disturbances will cause abrupt change of \( V_p \), \( V_q \), \( \delta \), and \( \delta' \), and, therefore, lead to a abrupt change of generator output power. The sensitivity of \( P_p \) and \( \Theta_p \) to \( V_p \),
FIGURE AND TABLE PLACEMENT

Widowed/Orphaned Lines

Avoid single lines of a paragraph at the top and bottom of a page (widow and orphan lines). If you must divide a paragraph at the bottom of a page, make at least two lines appear at the bottom and carry at least two lines to the top of the next page. If there is not room for a complete heading and at least two lines of text at the bottom of a page, begin the new subdivision on the next page.

Other Formatting Considerations

Margin Settings and Justification

The left margin must be no less than 1.5 inches, the right, top, and bottom margins no less than 1 inch. All images, including the page number, must fit within these margins. These margins define the minimum white space to be maintained on all sides.

A fully justified line of type, regardless of the number of words in it, is exactly the same length as all other lines [7]. This feature is an option in most word processing packages. Either fully justified or left justified margins are acceptable. The use of justified margins must be consistent throughout the manuscript.

Table 2: Quick Reference Guide for Mechanics of Thesis or Dissertation

<table>
<thead>
<tr>
<th>Font Size</th>
<th>10 point – 12 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Font Type</td>
<td>Arial or New Times Roman type</td>
</tr>
<tr>
<td>Spacing</td>
<td>varies. Set the line spacing to double or spacing is easy. This is a great help when spacing headers.</td>
</tr>
<tr>
<td>Margins</td>
<td>1 1/2 inch on the left. All others are 1 inch.</td>
</tr>
<tr>
<td>Paragraph Indents</td>
<td>All paragraphs indented 5 to 10 spaces. Most tabs are automatically set at 5 spaces (12 inch).</td>
</tr>
<tr>
<td>Widowed/Orphaned Lines</td>
<td>Now allowed. Most word processing software allows for personalized settings which can aut-cor rect widow orphan lines.</td>
</tr>
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</table>

Figure 1. Logos of the sTD service used by TTU.

Printing the Manuscript Master

Under no circumstances should you generate final copies for binding from a printer. You must photocopy them from the manuscript master onto 25 percent cotton content, 20 pound paper. The surface of cotton paper is such that ink from nonimpact printers does not always adhere permanently. The general premise of most photocopying is a combination of heat and pressure which produces a stronger permanent bond of the ink or toner with the paper. Although some printers function in much the same way, neither the heat nor pressure is sufficient to assure a permanent bond to 25 percent cotton paper. This is a potential problem of all nonimpact printers. The problem has been noted on random pages or smearing of copy from pages rubbing against each other.

Copying

You will find area copy shops that are familiar with the University's requirements concerning paper and copy quality. The cost of having copies made by local shops is reasonable, and you will save little money by buying your paper and doing your own copying. Professional shops are responsible for equipment maintenance and should maintain a supply of 25 percent cotton paper. All brands of 20 pound, 25 percent cotton paper are acceptable, but all pages, including the approval sheets and any outline pages (11 x 17 inches), must be on the same brand. If you are an out-of-town student, you may wish to investigate copy shops in your location for comparison with those in this area.
REFERENCES OR BIBLIOGRAPHY


**Defense**

- **Defense Date**
  It is best to defend prior to the due date of the defense form which is due three weeks prior to commencement.

- **Certificate of Approval (signature page)**
  This page must be reviewed and approved prior to your defense so that your committee can sign a correctly formatted page.

- **Committee Approval**
  Your advisory committee must approve your final copy before you may submit it for review by the Graduate School. In submitting you certify that the thesis/dissertation meets, in format and content, the standards of excellence expected by your advisory committee and the Graduate School of TTU.
SUBMITTING FOR FORMAT REVIEW

- UMI eTD Administrator ProQuest
- Setting up an account
- Uploading a thesis/dissertation
- Permission to review
About ETD Administrator

• The UMI ETD Administrator is an on-line system that streamlines the submission and publication of theses and dissertations.

• It simplifies the submission process for students and graduate administrators alike by moving all steps online and eliminating the need to box and ship paper copies of each dissertation or thesis.
SETTING UP AN ACCOUNT
PROCESS FOR UPLOADING THESIS/DISSERTATION

1. Convert document to a .PDF file (other file types for multi-media are submitted as supplementary files).
2. Go to submission website at http://www.etdadmin.com/tntech/ and create an account.
3. Log-in and begin the submission process:
   - Read instructions on the introductory page.
   - Select publishing option. Read and accept the publishing agreement.
   - Enter contact information (present and future, if known).
   - Enter details of the submission (e.g., degree to be conferred, subject).
   - Upload the PDF document.
   - Upload supplementary files, if any.
   - Choose other available options (e.g., copyright filing, ordering print copies, etc.).
   - Complete any associated surveys (e.g., eventually the SED).
   - Elect payment method (if applicable).
   - Submit. Review confirmation screen, correct any errors, and finalize.
4. An email confirming that the Graduate School has received the submission will be sent.
5. Correspondence will follow between you and the Graduate School staff for format review.
The Graduate School staff need to know that you and your advisor approve the submitted version, so request for your advisor to send permission to review the thesis/dissertation. This is usually handled via email.
CORRECTION PROCESS

- **Review Appointment**
  Make an appointment with your Graduate School representative for a personalized format review.

- **Corrections**
  All corrections must be made to your electronic copy, a new pdf created and uploaded to ProQuest for follow-up review. If errors are found, you will receive notice to make more corrections. Once all corrections are made, your file will be marked for publication.
Graduate School Approval
Your format must be approved by the Graduate School before the posted deadline in order to be eligible to graduate.

Final signature from Graduate School
Our Office will obtain this signature for you and the signed Certificate of Approval will be maintained on file.
Delivery for electronic publication
Final submission must be uploaded by the posted deadline – one week before Commencement. Failure to do so will make you ineligible for graduation that term.
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  You provide the printed copies to be bound.

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  Print and fill out. Must accompany your copies.
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- **Bindery Schedule**
  The Bindery picks up and delivers copies once a month.
QUESTIONS?
THANK YOU FOR ATTENDING.