INDIANA UNIVERSITY PHYSICS DEPARTMENT

GUIDE TO THE PREPARATION OF THESES AND DISSERTATIONS

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Important Information

Resources, Contacts, Requirements

The Physics department no longer requires students to submit a hard copy dissertation. If your committee determines that they would rather you submit a bound copy, follow the instructions on the University Graduate School webpage at http://www.indiana.edu/~grdschl/preparing-theses-and-dissertations.php. Additionally, any changes to the UGS requirements for the electronic submission of theses and dissertations will be reflected there before this document is updated.

Degrees are granted monthly. Required documents must be submitted to the University Graduate School by the **27th of the month** to be granted that month (except May and December); otherwise it will be granted the following month. **If the 27th falls on a weekend, the deadline will be the Friday prior.** May and December deadlines are established by the Office of the Registrar. Please contact us in February and September for an update on the submission deadlines for these end-of-semester months.

Information regarding commencement ceremonies, purchase and rental of commencement attire, faculty apparel, and doctoral hooding instructions can be found on the Office of University Ceremonies website: http://www.commencement.iu.edu/index.shtml.

NOTE: You must enroll each semester after passing the qualifying examination even if you are not in residence. If you are graduating during the summer, you must enroll for at least one session during that summer.

RESOURCES

- Indiana Statistical Consulting Center (<u>www.indiana.edu/~iscc</u>)
 Assistance available for all stages of research:
 - 1. Planning Projects (Experimental Design, Sample Size Calculations, Grant Preparation)
 - 2. Data Analysis
 - 3. Interpreting & Reporting Results
- Copyright resources: http://www.indiana.edu/~grdschl/copyright-resources.php
- Dissertation Abstracts database: http://www.proquest.com/en-US/products/dissertations

For questions: contact ProQuest at 1-800-521-0600 ext. 7020

- Recommended IT Training:
 IT Training and Education courses (http://www.ittraining.iu.edu)
 - 1. Before you begin writing: "Word: Publishing Research & Longer Documents"
 - 2. Before or at the beginning stages of writing: "Word: Collaborative Tools", "Acrobat: Collaboration Features and Full-Featured PDF's" (both are very useful when working with your committee)

3. During writing: "EndNote: The Basics"

If you can't make it to the course you're interested in, you may request a copy of the training guides for self-study: http://www.ittraining.iu.edu/online/

- Tip on deleting page numbers from the front matter:
 - 1) create a section break (page numbers will begin at "1" again)
 - 2) open the header and highlight the box that holds the page number and delete the box

REQUIREMENTS

 See the Graduate School Bulletin (especially the section on "General Requirements for Advanced Degrees")

QUESTIONS?

• Telephone:

Doctoral guidelines: (812) 855-1117

Physics Department Student Services: (812) 855-3973

Email:

grdschl AT indiana.edu gradphys AT Indiana.edu

Mailing address:

Indiana University Graduate School Kirkwood Hall 111 130 S. Woodlawn Avenue Bloomington, IN 47405-7104

Physics Department Student Services Swain West 129 727 E. 3rd Bloomington, IN47405-4201

Preparing Theses and Dissertations

Electronic Submission

SUBMIT YOUR DISSERTATION

You are now able to submit your dissertation online through ProQuest (http://dissertations.umi.com/indiana/). NOTE: Read through this entire page before attempting to submit your dissertation online.

BOOK BINDING

The Physics Department does not require a hardbound copy of your thesis. If you would still like to have one, please consider one of two local binderies in the area:

Smith Bookbindery

112 W. 10th St. Bloomington, IN 47404 (812) 332-2743

Hours:

Monday and Tuesday: Noon - 5:30 p.m.

Friday: Noon - 5:00 p.m.

Closed Wednesday and Thursday

National Library Binding Co.

55 South State Ave. Indianapolis, IN 46201 (317) 636-5606

Hours:

Monday - Friday: 8:00 a.m. - 5:00 p.m.

FORMATTING

Please follow the formatting for submitting your dissertation as listed below. The formatting for electronic submission has ONE IMPORTANT DIFFERENCE from the unbound paper method. Include the Acceptance page in your dissertation UNSIGNED. This is for security purposes -- ProQuest requests that no signatures be included in the online submission of your dissertation. Turn the SIGNED Acceptance page into the University Graduate School.

The front matter for your dissertation must appear in the following order:

- Title page (mandatory) see Appendix B
- 2. <u>Acceptance page, unsigned</u> (mandatory) [the SIGNED copy goes to UGS] see **Appendix C** This page confirms the committee's approval and acceptance of your dissertation.
- 3. Copyright page (mandatory if you copyright) see Appendix D
- 4. Dedication (optional)

5. Acknowledgments (recommended)

NOTE: Depending on your personal inclination, you may wish to include a dedication, a preface, or a set of acknowledgments. The latter are designed to recognize people or agencies to whom you feel grateful for any academic, technical, financial, or personal aid in the preparation of your thesis or dissertation; as a matter of courtesy, you would ordinarily mention the members of your committee here, as well as institutions that provided funding, your typist, or anyone else who helped.

- 6. <u>Preface</u> (optional)
- 7. Abstract, unsigned (mandatory) see Appendix E
- 8. <u>Table of Contents</u> (mandatory)
- 9. <u>Lists of tables, figures, appendixes, abbreviations and other supplemental materials</u> (if appropriate)

At the end of the dissertation or thesis, place a:

<u>Vita page</u> - Use a basic resume/CV format

TO COMPLETE YOUR DEGREE

Arrange a mutually agreeable time with your committee, set up the oral exam at least thirty days prior to when you wish to defend (leave a little extra time to allow for problems with mail), submit your defense announcement, then come back and defend. Ordinarily, the defense is conducted here at Indiana University, but under extraordinary circumstances, other arrangements can sometimes be made. Prior approval must be obtained from your committee and the University Graduate School.

- 1. Once your defense time and date are set, submit a one page dissertation defense announcement (see Appendix A for formatting).
 - o TIP: Provide each member of your committee with a complete copy of your dissertation at least thirty days before the defense so that they will have sufficient time to read and criticize your work; this time will also allow other faculty members who might be interested in your work to plan to attend your defense.
 - o TIP: If possible, phrase your announcement in non-technical language.
 - The chairperson of your research committee must approve and sign the announcement.
 - The announced time and place cannot be changed without the approval of the Dean of the University Graduate School.
 - Your dissertation will be announced on the UGS website to the University community (http://www.indiana.edu/~grdschl/upcoming-phd-defense.php).
- 2. During your oral examination, have your FULL committee sign:
 - o Acceptance Page Appendix C
 - Abstract Appendix E

NOTE: Because you are not turning in a paper copy of your dissertation to be bound, these documents DO NOT need to be on paper appropriate for bound theses. Normal-quality laser printer paper (or the equivalent) is acceptable.

3. **Complete the Application for Graduation for Ph.D. Students** (ONLY if you want to participate in the graduation ceremony)

To be listed in the commencement program, participate in the graduation ceremony and receive mail from the Alumni Office regarding commencement, graduating students should ask their chairperson to

approve this form and return it to The University Graduate School no later than October 1st for December Commencement and no later than March 1st for May Commencement. Application is at the back of this guide.

4. Pay the \$65 microfilming fee directly to ProQuest.

Cost: \$65 microfilming - mandatory \$65 copyrighting - optional

NOTE: When you submit your dissertation electronically, you'll be asked about microfilming and copyrighting your work. Microfilming is required, but copyrighting is optional. If you think you might publish your dissertation under your own name, then copyright your dissertation. If in doubt, ask your committee. You may also make your dissertation available via open access for free through the IUB Libraries IUScholarWorks site (https://scholarworks.iu.edu/docs/repository/dissertations.shtml).

5. Bring the following items to the University Graduate School, Kirkwood Hall 111.

- Acceptance page, signed (mandatory) see Appendix C
 This page confirms the committee's approval and acceptance of your dissertation.
- o Abstract, signed (mandatory) see Appendix E
- Complete the Survey of Earned Doctorates (completed and signed) (either download and print, or pick this form up from the University Graduate School, Kirkwood Hall 111):

Directions (http://www.indiana.edu/~grdschl/pdf/SED_Purpose.pdf)

Questionnaire (http://www.indiana.edu/~grdschl/pdf/SED_O9-10.pdf)

Confidentiality Guidelines (http://www.indiana.edu/~grdschl/pdf/SED_Confidentiality.pdf)

NOTE: The information you provide on the SED remains confidential and is reported only in aggregated form or in a manner that does not identify information about an individual.

6. Verify that the Office of the Registrar has the correct spelling of your name and correct diplomamailing address.

You will receive the diploma for your degree within about three months of your award date.

7. Complete the University Graduate School's Exit Survey (optional)

UGS Exit Survey (http://www.indiana.edu/~grdschl/pdf/IUExitSurvey.pdf)

After your defense, complete this survey and return it to Kirkwood Hall 111.

Preparing Theses and Dissertations

Formatting

Fonts

Script fonts (ex. Monotype Corsica) and italicizing large sections of text are not allowed for the main body of your text, although italics may be used appropriately.

Spacing

- The material should be double-spaced.
- Long quotations within the text should be typed single-spaced and with wider margins.

Photographs, images

If photographs or detailed graphics are part of the work, make sure they are crisp and clear.

Margins

• Margins should be at least 1-1/2 inches on the left and 1 inch on the top, right and bottom.

Page numbers

- Page numbers must be consecutive and on every page including appendixes, tables, figures, maps, charts, photographs, etc. EXCEPT for the Title page and Vita page.
- Lowercase Roman numerals (i.e., i, ii, iii) are used for the front matter.
- Arabic numerals (i.e., **1**, **2**, **3**) should be used in the body of the work, the bibliography, and any appendices.
- The Title page counts as page i, but does not bear a number.
- Begin the actual numbering with the acceptance page as page **ii**, and continue with lowercase Roman numerals until the start of the actual body of the dissertation. That page, whether part of your full introduction or of your first chapter, should be numbered using the Arabic numeral **1**, and every page thereafter should be numbered consecutively until you reach the Vita page.
- Ordinarily, page numbers should be centered at the top or bottom of the page, entered midway between the edge of paper and the text to prevent their loss during the binding process.

Language

Theses and dissertations should be written in English unless you and your department/committee have decided otherwise.

References, citations, bibliography, footnotes

Check with your department or research chair -- this format depends largely on your particular field or topic. For example, footnotes can appear either on the page where the annotation occurs, the end of each chapter, or the end of the dissertation -- be sure to follow the conventions of your department and discipline.

Indiana University Graduate School Attn: Dana Ruddick (Ph.D.) Kirkwood Hall 111 130 S. Woodlawn Avenue Bloomington, IN 47405-7104

Some Recommended Style Manuals

- The Chicago Manual of Style
- Kate L. Turabian, A Manual for Writers
- Modern Language Association (MLA) style sheet
- American Psychological Association (APA) style sheet (especially for works in the social sciences)

Some Recommended Dictionaries for Spelling and Usage

- Webster's Third International Dictionary
- Webster's Ninth New Collegiate Dictionary

Physics PhD Checklist

Check when complete

| A. | Getting Ready For Your Defense |
|----|--|
| | Meet with your research advisor and decide on 4 members for your committees. One must be present from the minor area. |
| | If you did not have four faculty members present at your candidacy seminar, turn in the "Nomination to Candidacy" form a minimum of eight (8) months before you plan to defend. (Form A). Check with staff in SW 129 if this is needed. |
| | Turn in the "Nomination of Research Committee" form at least six (6) months before you plan to defend. Include a one to two page summary with title of proposed research and your name. (Form B) |
| | Arrange a time for your defense with all of your committee. Reserve a room with the receptionist in SW 117 or IUCF. |
| | Take your defense announcement to the Ph.D. recorder at the Graduate School, Kirkwood Hall 111 a minimum of 30 days prior to the defense date. Make sure all members have copies of your work at this time. |
| | Give a copy of your defense announcement to SW 129. PDF is preferred, but we will accept a hard copy. This will be retained for your file. |
| В. | Take to your Defense |
| | Acceptance page and abstract (have signed at defense). Grad school must have one original. |
| C. | After your Defense |
| | Bring the following to the University Graduate School after your successful defense: |
| | 8. <u>Acceptance page, signed</u> (mandatory) - see Appendix C This page confirms the committee's approval and acceptance of your dissertation. |

This page confirms the committee's approval and acceptance of your dissertation. 9. Abstract, signed (mandatory) - see Appendix E

10. Complete the Survey of Earned Doctorates (completed and signed) (either download and print, or pick this form up from the University Graduate School, Kirkwood Hall 111):

Directions (http://www.indiana.edu/~grdschl/pdf/SED Purpose.pdf) Questionnaire (http://www.indiana.edu/~grdschl/pdf/SED_09-10.pdf) Confidentiality Guidelines (http://www.indiana.edu/~grdschl/pdf/SED_Confidentiality.pdf)

NOTE: The information you provide on the SED remains confidential and is reported only in aggregated form or in a manner that does not identify information about an individual.

Bring the following to Swain West 129:

- 1. Address and Position form (Form C)
- 2. A copy of your signed Abstract and a copy of your signed Acceptance page for your student file.

D. Submit dissertation online at http://dissertations.umi.com/indiana

Follow the format below:

- 10. Title page (mandatory) see Appendix B
- 11. <u>Acceptance page, unsigned</u> (mandatory) [the SIGNED copy goes to UGS] see **Appendix C** This page confirms the committee's approval and acceptance of your dissertation.
- 12. Copyright page (mandatory if you copyright) see Appendix D
- 13. <u>Dedication</u> (optional)
- 14. Acknowledgments (recommended)

NOTE: Depending on your personal inclination, you may wish to include a dedication, a preface, or a set of acknowledgments. The latter are designed to recognize people or agencies to whom you feel grateful for any academic, technical, financial, or personal aid in the preparation of your thesis or dissertation; as a matter of courtesy, you would ordinarily mention the members of your committee here, as well as institutions that provided funding, your typist, or anyone else who helped.

- 15. Preface (optional)
- 16. Abstract, unsigned (mandatory) see Appendix E Abstract
- 17. <u>Table of Contents</u> (mandatory)
- 18. Lists of tables, figures, appendixes, abbreviations and other supplemental materials (if appropriate)
- 19. Dissertation
- 20. Vita page Use a basic resume/CV format

Pay the \$65 microfilming fee directly to ProQuest.



ANNOUNCEMENT PAGE

| | Announcing the |
|---|--|
| Fi | nal Examination of |
| | (Student's Name) |
| | for the |
| Degree of Docto | or of Philosophy in (department) |
| | (Day, Date, Time) |
| | (Room, Building) |
| Dissertation: (Title) | |
| contain a statement of the problem, a description of and conclusions. Unlike the abstract, which is for spe | be limited to one page and not more than 600 words. It should f the methods or procedures used, and a formulation of the results ecialists in the field, an attempt should be made in the summary, anguage and style that can be understood by the University |
| Outline of Current Studies | Educational Career |
| Major: (Field) Minor(s): (Field and Department) | (Degree, Institution, year graduated – major area no needed, ex. "B.A., I.U., 1996") |
| <u>Cc</u> | ommittee in Charge |
| Professorial Rank (Name) |), Chairman (Phone Number), Department |

(Alphabetically list other committee members)

Approved: (Signature)

(Chairman's Name (Typed))

(Any member of the Graduate Faculty may attend. As a courtesy, please notify the Committee Chairperson in advance.)

TITLE PAGE

Separate page, content centered on page, limit of one page

TITLE CENTERED, ALL IN CAPITAL LETTERS:

THE IMPORTANCE OF KEY WORDS IN THE SUCCESSFUL INDEX

Author's Name

Submitted to the faculty of the University Graduate School

in partial fulfillment of the requirements

for the degree

Doctor of Philosophy

in the Department (or School) of,

Indiana University

Month Year

(The month and year is the date when all requirements have been satisfied – this is not necessarily the month in which you defend.)



(Month Day, Year)

ACCEPTANCE PAGE

Separate page, content centered on page, limit of one page

| | partial fulfillment of the requirements for the degree of Doctor hilosophy. |
|--------------------|---|
| Doctoral Committee | (Chairperson's signature) |
| | (Chairperson's name typed, Ph.D.) |
| | |
| | (Second reader's signature) |
| | (name typed) |
| | (Third reader's signature) |
| | (name typed) |
| | (Fourth reader's signature) |
| | (name typed) |
| | |



COPYRIGHT PAGE

Separate page, content centered on page, limit of one page

(In Microsoft Word, Alt-Ctrl-C (hold down all at once) will make the © sign.)

© (enter correct year) (Student's Name) ALL RIGHTS RESERVED



ABSTRACT

| Separate page, content centered on page, limit of one page | |
|--|--|
| | |

Student's Name

Dissertation Title (may be underlined or in caps)

The abstract is double-spaced and limited to 350 words. As many people will learn about your work through your abstract published in <u>Dissertation Abstracts</u>, you should spend a good bit of effort in the composition of both the abstract and the title of your work. Try to convey the flavor of your work, not just the bare bones of your findings; in an average abstract there will be about 70 characters per line with a maximum of 35 lines. You should also work to phrase your title so that it truly describes the contents and will be easily found in the index of <u>Dissertation Abstracts</u>. The index is based on key words, so be as specific as you can be about your subject.

| | | |
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Nomination to Candidacy for the PH. D. Degree – ask Student Services Staff if you need to complete.

****** FOR PHYSICS DEPARTMENT USE ONLY *********

| Name of Stud | ent: | | |
|----------------|-------------|----------------|--|
| Planned defe | nse date: | | |
| Birth date: | | Campus ID: | |
| Current Mailiı | ng Address: | | |
| | | | |
| Maior: | | | |
| - | | | |
| willior: | | | |
| Committee: | | | |
| | 1.) | | |
| | 2.) | | |
| | 3.) | | |
| | | | |
| | | | |

Please indicate if one of your committee members is a representative for an outside minor

Your committee must be made up of four members of the graduate faculty. At least half should be *full* members of the graduate faculty; others may be affiliate or associate members. A representative from your minor area must be on your committee if you have a minor outside of Physics.

Do not collect signatures on this paper. The Academic Administration office will do this for you.

Complete this form and return to SW 129 at least 8 months before your defense date.

Form B

Nomination of Research Committee for the PH. D.

****** FOR PHYSICS DEPARTMENT USE ONLY *******

| Name of Stud | ent: | | | |
|----------------|------------------|-----|---------|------|
| | | | | |
| Planned defe | nse date: | | | |
| Birth date: | | Cam | pus ID: | |
| Current Mailiı | ng Address: | | | |
| | | | | |
| | | | | |
| Major: | | | | |
| Minor: | | | | |
| | | | | |
| Proposed diss | sertation title: | | | |
| | | | | |
| | | | | |
| | | | | |
| Committee: | 4.) | | | |
| (chair) | 1.) | | | |
| | 2.) | | | |
| | 3.) | | | |
| | · | | | |
| | 4.) | | | |

Please indicate if one of your committee members is a representative for an outside minor

Your committee must be made up of four members of the graduate faculty. At least half should be *full* members of the graduate faculty; others may be affiliate or associate members. A representative from your minor area must be on your committee if you have a minor outside of Physics.

Do not collect signatures on this paper. The Academic Administration office will do this for you.

Attach a 1-2 page summary of your proposed research.

Complete this form and return to SW 129 at least 6 months before your defense date.



Indiana University Department of Physics

Address and Position form

The Physics Department of Indiana University must keep a record of where our graduates go. Please fill out this form and return it to the Physics Academic Administration Office (SW 129) before you leave Bloomington. Thanks.

Permanent Address (some place where your mail will always be forwarded to you)

Name: _____

| City: | State: | Zip: |
|------------|---------|------|
| Phone: | E-mail: | |
| Employment | | |
| mployer: | | |
| Position: | | |

Physics Academic Administration 727 East Third Street Swain West, Room 129 Bloomington, IN 47405



Ph.D. Commencement Participation Application

In order to be listed in the commencement program, receive mail from the Alumni Office regarding commencement instructions, and participate in the graduation ceremony, students should ask their chairperson to approve this form and return it to The University Graduate School no later than October 1st for December Commencement, or no later than March 1st for May Commencement. NOTE: SUBMISSION OF THIS FORM DOES NOT MEAN THAT A DEGREE HAS BEEN AWARDED. The Ph.D. degree is awarded in the month in which a student has completed all degree requirements.

COMMENCEMENT MAILING: The Office of the Registrar provides the Alumni Association with the name and address of each person who submits an application to participate in the Commencement. Please make sure that your "Student Home Address" in OneStart is correct and current. If you have questions regarding how to update your Student Home Address, please contact the Office of the Registrar.

| Name | | | | | |
|----------------------|-----------------------------|-----------------|--|---------------------|----------|
| Name(La | st) | (First) | | (Middle) | |
| University ID | Email Address | | | | |
| Hometown | | | | | |
| (City and | | | | dents: City and Cou | |
| September <a> | mmencement October | | <i>May</i> of May of | Commencement March | |
| November <u> </u> | December | May <u>L</u> | <u>I</u> June <u>□</u> | July 🔲 | August 🔲 |
| , , , , | | | | | |
| | lease type or print legibly | | | | |
| | Chair(s) | | | | |
| Name of Faculty Me | ember to Hood Student | | | | |
| Signed(D | epartment or Research Ch | air) | Date | | |
| Signed(Double Maiors | Only – Second Departmen | t or Research C | Date | | |

Please return original document to: The University Graduate School, Kirkwood Hall 111, Bloomington, IN 47405, and retain a copy for your files. Faxes are also acceptable: 812/855-4266.