

CULLEN COLLEGE OF ENGINEERING
University of Houston

THESIS AND DISSERTATION GUIDE

DEAN'S OFFICE

Associate Dean: Dr. Suresh K. Khator
skhator@uh.edu

**Director of Graduate
Student Affairs:**
Miranda Vernon-Harrison
mavernon-harrison@uh.edu

Last updated – March 2020

TABLE OF CONTENTS

A. Format Review	3
B. BS Honors Thesis Submission and Binding Requirements	3
C. MS Thesis and Dissertation Two Step Submission Process	3
Step One: Electronic Submission.....	3
Step Two: Traditional Binding Submission.....	4
D. Margins	4
E. Style and Language Content.....	4
F. References.....	4
G. Research Committee Appointment.....	4
Committee Appointment Form (sample).....	5
H. Title Page	6
I. Preparing the Abstract.....	6
J. Proper Placement of Pages.....	6
K. Organization of the Thesis.....	6
L. Numbering the Pages.....	7
M. Copyright.....	7
N. Thesis approval.....	7
O. Deadline for Submission	7
P. Fees	7
Q. Helpful Writing and Style Hints	8
R. Equations	8
S. Numbers and Numerals	9
T. Units.....	9
REMINDERS.....	10
COMMON MISTAKES	11
Updates.....	12
Approval Form.....	13
Front Matter: Title Page (sample).....	14
Front Matter: Copyright Page (sample).....	15
Front Matter: Dedication/Epigraph (sample).....	16
Front Matter: Acknowledgements (sample).....	17
Front Matter: Abstract (sample).....	18
Front Matter: Table of Contents (sample)	19
Front Matter: List of Tables (sample)	20
Front Matter: List of Figures (sample)	21

CULLEN COLLEGE OF ENGINEERING (CCOE) GUIDE FOR PREPARATION OF THESES/DISSERTATIONS

SPECIAL NOTE - ALL STUDENTS MUST APPLY FOR GRADUATION BY THE DEADLINE DATE OF THE SEMESTER IN WHICH THE DEGREE IS POSTED!

Students must be enrolled in the semester in which they graduate.

This thesis/dissertation guide can also be found online at the CCOE website at the following link, <https://www.egr.uh.edu/academics/graduate-programs-policies/guide-preparation-thesesdissertations>, under the "Guide for Preparation of Theses/Dissertations." The Dean's Office does not provide a LaTeX template for typing one's work, since a variety of software can be used.

*Hereafter, the thesis/dissertation shall be referred to only as thesis.

- A. Format Review. Submit a draft on ordinary printer paper to the CCOE Graduate Coordinator in the Dean's Office in E421 of Engineering Bldg 2, D3. Figures and tables can be printed in black-and white for this draft. The Coordinator will review and make in- text corrections in red ink along with attaching a submission checklist.

- B. BS Honors Thesis Submission and Binding Requirements. Graduating BS Honors thesis students are required to follow the procedures in the online guide for preparing and writing their theses. They will submit the amount of copies designated by their advisor, typically ranging from 2-3 copies. They will need to turn in their manuscripts and signature pages in to the College Graduate Coordinator for review and final approval. These students need to follow the instructions for paper requirements and submission deadlines for Traditional Binding only. **Graduating BS Honors Thesis students are not required to do an electronic submission at this time.**

- C. MS Thesis and Dissertation Two Step Submission Process:

Step One: Electronic Submission (ETD) -

From Summer 2012 onward, the college requires these students to submit an Electronic Thesis or Dissertation (ETD). Additional information on submitting the ETD is available online at the Graduate and Professional Studies (GPS) website, which also includes steps on how to submit an ETD at the following link:

<http://vireoetd.org/vireo/vireo-userdocumentation/initial-submission/x.php>.

In order to submit an ETD, students must turn in a hard copy draft for format review. Once a manuscript has successfully passed the review and has received approval, by the coordinator, students can then begin the ETD submission process.

First, students will need to convert their documents into a PDF. Students will then upload their PDF to the Vireo system at the following link: <https://uh-etd.tdl.org/>. Students will log in using their cougar net access to create an account . After the initial upload, it is a college requirement to select the minimum of 2 years as an embargo or journal hold. More information about the embargo is available at the Vireo site when the manuscript is uploaded. Consult with your advisor if you will need an extension.

Once approved, your document will go into a “pending publication” status. For assistance with using the Vireo site, review the video available at the following link, <http://vireoetd.org/vireo/support/vireo-3-0-help-videos/>.

It is mandatory for graduating doctoral students to complete the Survey of Earned Doctorates (SED) by visiting the SED website at <https://sed.norc.org/survey>. Email confirmation sent to the coordinator that the survey has been completed is required for graduation.

Step Two: Traditional Binding Submission -

Both BS Honors and Graduate MS Thesis and PhD students are required to submit hard copies for traditional Binding. For graduate students, the college requires one bound copy for the department. The student will verify with their advisor if a bound copy is required for the advisor. The minimum requirement for graduate students is 1-2 copies and **4-5 copies for BS Honors Thesis**. Students are welcome to purchase additional personal copies for themselves. **Microfilming is no longer required for dissertations.** Color images used in figures and tables are permitted. Hard copies need to be submitted by the binding deadline listed online. Paper requirements are 20-pound weight, 8½" x 11" white bond paper (with a minimum of 25% cotton fiber content), this applies to BS, MS, and PhD students.

Writing Center

Any graduate student can visit 234 Classroom and Business Building to make a one on one appointment with a Graduate Writing Consultant to get help on their thesis and dissertation writing skills. Please go to: <https://uh.mywconline.com/> to register and select “Graduate Writing Consultant” in the drop down menu to schedule an appointment. There is no cost to students for this service.

- D. Margins. Left – 1.5 inches, and 1 inch for right, top, and bottom.
- E. Style and Language Content. The thesis should be double-spaced. **Figure legends and Table captions should be single-spaced**. The font size should be 10–12 point. Figures and tables should be placed in the text at their point of mention. They should not be grouped at the end of a chapter nor in an appendix. In the event that the student refers to his/her own previously published work, it should be addressed in a logical sequence so that it does not represent a stand-alone entity.
- F. References. If the student's major department has a preferred style, the student can follow their guidelines. If the student is uncertain as to which reference form to use, some examples are APA, Turabian and Chicago Manual of Style. The references list should be placed at the end of the thesis, before appendices. Do not include “et al.” In the references, this is only acceptable in the body of the text. List all authors' names in the reference section at the end of the work.
- G. Research Committee Appointment Form: MS and PhD students must submit their form to the Dean's Office by ORD- the official reporting date or 12th day of class of the semester of their defense, which is their graduating semester. For PhD students who have a proposal defense within their department, the form should be submitted two weeks prior to the proposal defense. The student must obtain this form from his/her major department. A sample committee form is available on the following page.

COMMITTEE APPOINTMENT PAGE (sample) – Student must obtain this form from their major department.

UNIVERSITY OF HOUSTON

CULLEN COLLEGE OF ENGINEERING

Department _____

APPOINTMENT OF (Doctoral) Dissertation Committee
(Master's) Thesis Committee

for _____ Student number _____ Last, first, middle
Date passed Dept/Qual/CompExam

Anticipated field of research _____

Tentative title of thesis or dissertation _____

It is requested that the following Graduate Faculty members be appointed to constitute the Doctoral/Master's Committee for the student named above. By initialing below, they have agreed to serve if appointed.

	COMMITTEE MEMBERS	AFFILIATION	Accepted (initial)
1.	_____ (Chair)	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Approved _____ Date _____
Graduate Advisor

Approved _____ Date _____
Department Chair or Interdisciplinary Chair

Approved _____ Date _____
Associate Dean for Graduate Studies
Cullen College of Engineering

H. Title Pages. Please see the Sample Title page (see Front Matter) for an example of correct format. The thesis and dissertation committee members will no longer sign a signature page when they approve the thesis or dissertation. Instead, committee members will sign an approval form, stating that they have read and examined the manuscript. The committee members will certify that it is adequate in scope and quality as a thesis/dissertation for a graduate degree and indicate their approval or disapproval of the content prior to being submitted to the college/department for processing and acceptance.

I. Preparing the Abstract. An abstract contains the following information:
(1) Concise statement of the problem; (2) Procedure or methods; (3) Results;
(4) Conclusions. The abstract is not to exceed 350 words.

J. Proper Placement of Pages.

1. Title Page - Must show end-of-semester date (month year) of the semester in which you finish, e.g., for Spring use May, Summer use August, and Fall use December 2020. It should appear as December 2020. See sample in Appendix I.
2. Copyright Page - (if manuscript is to be copyrighted). Must be included in each copy, not necessary for BS Honors thesis.
3. Dedication- Optional
4. Acknowledgements- Optional
5. Abstract
6. Table of Contents- include preliminaries first, i.e., Acknowledgements, Abstracts, etc. as Roman numerals before Chapter and Section lists.
7. List of Tables
8. List of Figures
9. Nomenclature- Optional
10. Text- body of work/research
11. References
12. Appendices
13. Blank sheet of paper at the end of each copy submitted.

K. Organization of the Thesis. Example of a typical chapter outline:

1. Introduction
2. Review of Previous Work
3. Analysis of the Problem (or description of the experimental apparatus, etc.)
4. Results and Discussion
5. Summary and Conclusions

[The above outline is not mandatory and variations are acceptable].

L. Numbering the Pages. Each page, including all blank pages, should be assigned a number. The following plan of page numbering generally is accepted.

1. For the preliminary pages, use small Roman numerals (i, ii, iii, iv, etc.). The first visible numbering begins on the Dedication/Epigraph/Acknowledgements, if included, or abstract.
2. For the remainder of the manuscript—including the text, illustrations, references, and appendices—use Arabic numerals (1, 2, 3, 4, etc.). Each page must be numbered within the one-inch margin at the bottom center of the page. Avoid use of letter suffixes such as 10a, 10b. The numbering begins with 1 on the first page of Chapter 1 and runs consecutively to the end of the manuscript, including the appendices which should not have a separate numbering system.

M. Copyright is optional and free of charge due to the new ETD submission policy. If a student wants a copyright page, s/he should include a sheet of paper with the following: © Copyright by "Student's Name" and year of graduation (see Appendix II). Insert one copyright page per copy in between the first blank page and the title page. Copyright is not required for graduating BS Honors Thesis students.

N. Thesis Approval. The thesis needs to be format checked and approved by the review deadline. The latest a student can defend a thesis is by the review deadline. Thesis must be approved prior to electronic submission and binding.

O. Deadline for Submission of Copies for Binding. To graduate in a given semester, the student must upload their ETD to the Vireo website and submit the approved hard copy thesis (with approval form) for binding to the Associate Dean's Office, Room E421. Check the college's website for deadline dates by clicking on Academics, then scroll down to Graduate Academic Policies and click on "Thesis and Dissertation Deadlines." All documents and payment must be turned in at the time of submission. Any student missing this deadline must enroll and reapply for graduation in the next semester. No extensions will be made.

P. Fees.

1. The charge for binding is \$45.00 per copy for BS and graduate students for up to 200 pages. The price for binding increases by \$10 for every 75 pages.

-This is a per copy charge.

2. Copyrighting is now free of charge. Microfilming is no longer required.

The method of payment is online via debit/credit card at your myUH account. Checks and money orders are no longer accepted. Anominal processing fee will be charged.

Q. Helpful Writing and Style Hints. The thesis should be written in correct American English; this includes grammar, punctuation, and spelling. You must write using complete sentences. When different spellings exist, the American-English spelling is required over the British-English spelling. For example, behavior is required over behaviour, discretization over discretization, nonlinear over non-linear, etc. You may use first, second, or third person in your writing. Either active or passive voice is acceptable. Choose your style and be consistent.

All decimal fractions should be preceded by a leading zero, e.g., 0.05 second (note that seconds was not used because the amount is less than one). If you prefer to use an abbreviation for units, e.g., 0.05s, do so, but be consistent in your usage.

Do not begin a sentence with a numeral, a symbol, or an abbreviation.

Do not use a one-sentence paragraph. One sentence cannot stand alone as a paragraph; this is commonly attempted in the Acknowledgements and in the introduction or summary of a chapter. Do not do it.

In the References section, when titles of articles are listed, these should be enclosed in quotation marks, titles of books should be underlined and names of journals should be italicized.

R. Equations. Equations frequently present a challenge to the technical writer. A helpful hint concerning equations is to consider them as a part of the sentence where they are used. Equations do not represent stand-alone entities. Several simple examples follow.

Newton's second law is

$$F = ma, \tag{1}$$

where F is force (or $F = \text{force}$), m is mass, and a is acceleration.

Newton's second law can be expressed as

$$F = ma. \tag{2}$$

Newton's second law is given by

$$F = ma. \tag{3}$$

Note that there is no punctuation before the equation in any of the three examples. Also note the spaces on either side of the equal sign and the double spacing above and below the equation. In the first two examples, the equation is the object of the predicate (verb); in the last example, the equation is the object of the preposition.

Punctuation should be used with an equation when the equation is the complement of the preceding word(s).

An example follows.

The governing equation is Newton's second law,

$$F = ma. \tag{4}$$

Engineers frequently misuse the colon. The presence of a colon implies a list. The correct use of a colon appears in the next example.

The boundary conditions for equation (7) are as follows:

$$u = 0 \text{ at } x = 0, \tag{8-a}$$

$$u = U \text{ at } x = h, \tag{8-b}$$

$$v = 0 \text{ at } y = 0, \tag{8-c}$$

and

$$v = 0 \text{ at } y = d. \tag{8-d}$$

An incorrect usage would be to put the colon after "are" with "as follows" deleted. The reasoning is that the thought isn't complete in this example unless "as follows" is included. Another example involves a word list in the sentence.

The list of variables describing the pressure drop of the flow of a fluid in a pipe is the following: average velocity, density, viscosity, pipe diameter and length, and surface roughness.

Note that the above equations are centered on the page as much as is possible and that the equation numbers are right-justified.

- S. Numbers and Numerals.** Always use a numeral (symbol for the number) when expressing the number of units of a dimension, e.g., *7 feet, 12 cm, 100 watts, 10⁵ kg*. When expressing a quantity of something, use the word when the quantity is ten or less, e.g., the last *three* figures; use the numeral when the quantity is ten or more, e.g., the *12* variables.
- T. Units.** Adopt a consistent style to express units. Abbreviations are acceptable, e.g., ft (or ft.) for either foot or feet. Avoid using symbols like " for inch to express units.

REMINDERS

1. Title Page –must show end of semester date.
2. Approval Form- The thesis committee members will no longer sign a signature page when they approve the thesis. Instead, committee members will sign an approval form, stating that they have read and examined the manuscript. The committee members will certify that it is adequate in scope and quality as a thesis/dissertation for a graduate degree and indicate their approval or disapproval of the content prior to being submitted to the college/department for processing and acceptance.
3. **ALL MANUSCRIPTS WILL BE BOUND AS SUBMITTED BY THE STUDENT.**
4. Your research committee should not be formed right before your thesis defense. The appointment of the research committee requires approval of the Dean's Office. The committee should be appointed at least two weeks (the very minimum time) before your defense. Your committee should be given at least two weeks to read your thesis prior to the defense.
5. Choose a style of presentation and stay with it. For example, if you adopt the style of using an abbreviation, for example, eqn., for the word equation, use it exclusively. The only time you would not use the abbreviation (or whatever your choice of style is) is at the beginning of a sentence where the full word would be used. The first line of every paragraph should be indented (5 spaces).
6. Equations should be numbered. The equation number should be at the right hand margin and it should be placed in parentheses. Do not use letters in numbering equations unless they are defining parts of the equation.
7. The choice of style in numbering equations, figures, tables, etc., is yours. You may number these consecutively (eqn. (1), eqn. (2), Fig. 7, etc.), or you may number them chapter by chapter (Fig. 1-1, Fig. 1-2, Fig. 4-1, eqn. (3-2), etc.). Be consistent.
8. Read all of these guidelines and suggestions carefully. If you have questions, ask before you submit the thesis. Don't wait until you turn in the thesis to find out that you did something wrong.

COMMON MISTAKES

The following are common (but not necessarily all) mistakes which have occurred in theses submitted to the Dean's Office.

1. Incorrect margins. Use 1.5 inch left margin and 1 inch for right, top, and bottom margins only.
2. Photocopy mistakes. Such effects as gray tones, mottling, variations in darkness of copy (on a page or from page to page) and improper orientation of page (slanting, transportation across a margin) are not acceptable.
3. Incorrect or inconsistent references. Use of et al. for referencing articles with more than two authors is acceptable within the body of the text; however, use of et al. in listing authors in your References is not acceptable.
4. Abstracts are too long. There is a limitation of 350 words for an abstract.
5. Wrong page numbering. Page numbers are in the wrong place. Page numbers should be centered in the bottom margin of the page. Wrong type of numeral used; i.e., Roman versus Arabic.
6. Table of Contents, List of Tables, and List of Figures. Title and page numbers do not match with the text. Table of Contents must begin with Dedication/Epigraph (if available), Abstract, Table of Contents, List of Tables and List of Figures.
7. Wrong date on title page. The date on the title page is the month and year in which the degree is to be conferred. The date is not the date of your defense.
8. Freehand drawings and hand lettering. Do not submit freehand drawings. Do not submit drawings with freehand lettering.
9. Numerous mistakes resulting from following an old thesis. Changes in requirements and upgrading of standards make this procedure perilous. Even if the thesis is very recent and approved by the same committee, there is a chance that they might have overlooked something which does not meet these standards, but likely will not be overlooked again.
10. Inconsistency. Everything should be uniform including spacing (before and after titles), selection of subtitle styles, paragraph indention, top margins, placement of page numbers, etc.
11. Incomplete sentences. An equation is not a sentence; it must be a part of a sentence. The equal sign in an equation does not serve as the predicate in a sentence.

12. Figures and tables. Figure captions go beneath a figure. Table headings go at the top of a table. Tables must have headings. Figures must have captions. Figures and tables go right after their mention in the text. They are not collected at the end of a section or chapter.
13. Line spacing. Entire thesis/dissertation must be double-spaced, except figure captions and table headings within the body of the thesis.
14. Indenting. Be consistent with indentation of paragraphs. If you have questions, ask.
15. Orphan/widow lines or paragraphs. Watch the spacing of your text so you do not leave a single line or very short paragraph by itself on a page.

UPDATES

Starting in Fall 2019, graduate students should use the new UHGS Written Thesis/Dissertation Approval Form.

Graduate students should use the new UHGS template for the front matter (Title page, Acknowledgements, Table of Contents, etc.)

<http://www.uh.edu/graduate-school/academics/thesis/>

**WRITTEN THESIS/DISSERTATION
(DOCTORAL, MASTERS) APPROVAL FORM**

Student's Name:
(Name must match UH student records)
Student Email:

UH PeopleSoft ID:

Degree (check one):

- Doctoral
- Masters

Program:

Defense Date:

Anticipated Date of Graduation (Month/Year):

Thesis/Dissertation Title:

We, the undersigned committee members have read and examined this manuscript. We certify that it is adequate in scope and quality as a thesis/dissertation for this graduate degree and indicate our approval of the content of the document to be submitted to the college/department for processing and acceptance, OR we indicate our dissent below.

		Approve	Disapprove
Chair: _____ Printed Name	_____	<input type="checkbox"/>	<input type="checkbox"/>
	Signature		
Member: _____ Printed Name	_____	<input type="checkbox"/>	<input type="checkbox"/>
	Signature		
Member: _____ Printed Name	_____	<input type="checkbox"/>	<input type="checkbox"/>
	Signature		
Member: _____ Printed Name	_____	<input type="checkbox"/>	<input type="checkbox"/>
	Signature		
Member: _____ Printed Name	_____	<input type="checkbox"/>	<input type="checkbox"/>
	Signature		
Member: _____ Printed Name	_____	<input type="checkbox"/>	<input type="checkbox"/>
	Signature		

Collegiate Dean or Associate Dean (as required by program)

Once approval has been received from the college, students must submit the college-approved thesis or dissertation. Students will submit the work and faculty will approve it using Vireo, following the instructions found at the following link: <http://www.uh.edu/graduate-school/thesis/>. Students must submit their documents in Portable Document Format (PDF) per the guidelines on the web site, following all program, department, and/or college-specific requirements. This form should be submitted as "image only" to the Graduate School via IRIS by the Graduate Coordinator/Advisor.

{Replace text in “< >” with your text; remove all blue text before finalizing}

<Title of Work, Centered, Capitalize Each Word>

by

<First Name Middle Name Last Name>

A <thesis/dissertation> submitted to the <Department>,
<College>
in partial fulfillment of the requirements for the degree of

<Degree >

{MASTER OF ARTS, MASTER OF SCIENCES, DOCTOR OF PHILOSOPHY, DOCTOR OF EDUCATION, etc}

in <Major>

Chair of Committee: <Name>

Co-Chair of Committee: <Name> (Optional)

Committee Member: <Name>

Committee Member: <Name>

Committee Member: <Name>

Committee Member: <Name>

University of Houston
Month Year

Copyright <Year>, First Name Middle Name Last Name

(Optional)

DEDICATION/EPIGRAPH

Students may optionally include a dedication or epigraph and if included, each should be denoted with a separate page.

(Optional)

ACKNOWLEDGEMENTS

The purpose of this page is to recognize scholarly and professional assistance, support and advice; the inclusion of references to persons who provided clerical help, help with field studies, financial assistance, and permission to use copyrighted materials is also acceptable. Acknowledgments should be brief, in a professional style, and should not exceed two pages.

(Optional)

ABSTRACT

The abstract should be a concise description of your thesis/dissertation. Typically, the abstract should be no more than 350 words in length. The text of the abstract should be double-spaced.

TABLE OF CONTENTS

DEDICATION/EPIGRAPH	ii
ACKNOWLEDGEMENTS.....	iii
ABSTRACT	iv
LIST OF TABLES (HEADING 1).....	vi
LIST OF FIGURES (HEADING 1).....	vii
I. CHAPTER TITLE (HEADING 1).....	1
Second level subheading (Heading 2).....	4
Third-level subheading (Heading 3)	8
II. CHAPTER TITLE (HEADING 1)	10
Second level subheading (Heading 2).....	15
Third-level subheading (Heading 3)	15
III. CHAPTER TITLE (HEADING 1).....	20
Second level subheading (Heading 2).....	25
Third-level subheading (Heading 3)	29
IV. CHAPTER TITLE (HEADING 1).....	30
Second level subheading (Heading 2).....	35
Third-level subheading (Heading 3)	39
IV. CHAPTER TITLE (HEADING 1).....	40
Second level subheading (Heading 2).....	45
Third-level subheading (Heading 3)	59
REFERENCES.....	60
APPENDICES	
A. APPENDIX TITLE	89
B. APPENDIX TITLE	99

{This is an automatically generated Table of Contents made with Microsoft Word as an example}

LIST OF TABLES

2.1	This is the Title for the First Table.....	20
2.2	This is the Title for the Second Table	21
2.3	This is the Title for the Third Table	23
3.1	This is the Title for the Forth Table	29
4.1	This is the Title for the Fifth Table	35

{This is an automatically generated List of Tables made with Microsoft Word for an example only}

LIST OF FIGURES

1.1	This is the Title for the First Figure	50
3.1	This is the Title for the Second Figure.....	51
4.1	This is the Title for the Third Figure.....	52

{This is an automatically generated List of Figures made with Microsoft Word for an example only}