



Graduate School of Biomedical Sciences



Preparing for your Doctoral
Dissertation and Graduation

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Introduction

This document described the procedure for

1. Setting the Dissertation Timeline
2. Scheduling the Dissertation Defense
3. Preparation of the Dissertation

For Detailed policies on requirements for Completion, selecting a Dissertation Examination Committee, and conducting a Dissertation Defense, please refer to the Student Handbook.

Setting the Dissertation Timeline – Basic & Biomedical Sciences

A student who has concluded that their dissertation research is nearly complete, allowing them to prepare and defend a dissertation in a well-defined timeline, must propose a timeline for completion, and meet with the dissertation advisor and the TRAC for review and approval of the proposed timeline.

At the TRAC meeting, the student must present:

- A draft of the thesis abstract
- An outline of the dissertation, including a detailed outline of the Introduction and Discussion
- A summary of published work that will be included in the dissertation
- Any data that are unpublished or previously unseen by the TRAC, that will be included in the dissertation. These data should be presented in publication-ready form where possible.
- A proposed date range for the dissertation defense
- A proposed slate of external examiners who meet the qualifications

The TRAC may **Approve** or **Defer** to a later timeline.

If the TRAC Approves, the student must:

- Return Form GSBS70, with all signatures, to the GSBS office as soon as approval has been granted. Providing the form to the office will NOT initiate any actionable deadlines.
- Begin scheduling defense
- Return the DEC Selection Form (GSBS14) to the office 30 days prior to the defense
- Provide the GSBS office with the Request for Posting of Dissertation Defense (GSBS11) along with an ~250-word research summary. This should be submitted to the office 20 days prior to the defense.
- The defense notice will be posted 10 days prior to the defense. The GSBS office will not post the notice until confirmation that the defense can move forward has been received from the DEC chair.

The student must be enrolled and supported by stipend for the duration of the time remaining to defense, and up to six weeks following the defense.

Questions you may have regarding the preparation of your dissertation that are not addressed in this guide may be directed to the Graduate School Office.

Basic & Biomedical Sciences Forms:

<https://umassmed.edu/gsbs/resources/student-forms/bbs-forms/>

Setting the Dissertation Timeline – Clinical & Population Health Research

Selection of External Committee Member and Formation of Dissertation Examination Committee

When students feel they are close to completion of their dissertation work, they are required to work with their mentor to form a final Dissertation Examination Committee (DEC). This committee can consist of the student's Thesis Research Advisory Committee plus one external faculty member who is approved by the Graduate School. Among the final committee of four faculty members only two of the three internal UMMS faculty can have co-authored any of the dissertation work with the student. Therefore, students and mentors should be careful to have at least two members of the ongoing TRAC committee who do not publish with the student OR must plan to add new UMMS faculty to the final DEC committee who have not been members of the ongoing TRAC committee. Under no circumstances can the external faculty DEC member have a conflict of interest such as a prior publication history with the student.

Mentor and DEC Chair Agree Thesis is Ready to Defend

The CPHR student should have completed all three manuscripts, the overarching introductory chapter, and a discussion and conclusions chapter, and submitted them for review and comment to the mentor and all DEC committee members approximately 60 days before the planned defense date. This gives the DEC members a month to review and comment, and then time for the student to address the DEC comments prior to the final hearing. All members must agree that the work is of good enough quality to proceed to a defense. The student must then submit an "Approval for Dissertation Defense Hearing" form to the CPHR office 30 days prior to the selected date for the public defense. If approved by the CPHR Program Director/Associate Dean, the student must prepare the GSBS Request for Notice of Dissertation Defense and submit it to the appropriate GSBS staff member 20 days before the event in order to have the proper distribution to the academic community.

Dissertation Defense/Seminar Notification

- This must be publicly posted 14 days prior to the exam date
- The Graduate Office should receive the notification at least 20 days prior to defense/seminar to provide sufficient time for posting.

Stipend Continuation after Defense

CPHR students have 30 days of stipend support after the dissertation defense date during which to complete mentor and dissertation work. The student may have up to three months to completely edit and turn in their final manuscript, but no financial support will be provided past 30 days unless special arrangements have to be made with the mentor.

Clinical & Population Health Research Forms:

<https://umassmed.edu/gsbs/resources/student-forms/cphr-forms/>

Timeline for Completion and Graduation - All Students

Submission of Dissertation for Publication

The student has four months post-defense to submit the revised and approved dissertation to eScholarship. If the dissertation is not submitted within four months, the student record will be terminated, and the student will receive no degree. Documentation of extreme extenuating circumstances will be considered.

International Students

As you begin preparing for your Dissertation Defense you should meet with the Immigration Services Office to discuss timelines as they relate to your visa, especially if applying for OPT.

Sample Title Page – Formatting for the Title Page

TITLE (IN CAPITAL LETTERS)

A Dissertation Presented

By

(NAME IN FULL)

Submitted to the Faculty of the

University of Massachusetts Graduate School of Biomedical Sciences, Worcester

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

(MONTH, DAY AND YEAR)

(MAJOR SUBJECT)

Reviewer Page – Formatting for the Page

TITLE (IN CAPITAL LETTERS)

A Dissertation Presented

By

(NAME IN FULL)

This work was undertaken in the Graduate School of Biomedical Sciences

(Graduate Program Name, Typed)

Under the mentorship of

(Name Typed), Thesis Advisor

(Name Typed), Member of Committee

(Name Typed), Member of Committee

(Name Typed), Member of Committee

(Name Typed), External Member of Committee

(Name Typed), Chair of Committee

Anthony Carruthers, Ph.D.,

Dean of the Graduate School of Biomedical Sciences

Month, Day and Year

(Typed)

Contents and Arrangement

A dissertation describes a body of work that displays original scholarship, expressed in literate style and possessing a distinct contribution to a particular field of study. Your thesis may include both published as well as unpublished original materials and should clearly convey all areas of your studies that demonstrate original scholarship and an advancement of knowledge in the domains in which your research was conducted. This thesis, when completed, will constitute a published work, and, as such, should be prepared accordingly.

Document Divisions

The thesis consists of three major sections which will be described below:

1. Front matter
2. Body matter
3. Back matter

Front Matter

- Title Page
The title page should conform to the standard thesis title page adopted by the GSBS (see Sample Title Page).
- Reviewer Page
The reviewer page includes the complete title of your dissertation, the list of your committee members (providing space for signatures), the name of the thesis advisor and the Dean of the GSBS followed by your program affiliation and the date (see Sample Signature Page).
- Dedication (optional)
If you wish, you may include a brief dedication section.
- Acknowledgements
This section is used to acknowledge individuals or groups who made substantial contributions to your thesis work.
- Abstract
This section is limited to 250 words, and should state the main argument of the thesis, introduce the rationale for the thesis research, summarize noteworthy findings, and state how the work advances the knowledge of the field of study.
- Table of Contents
Include all front, body and back matter contained in the thesis excluding the cover page.
- List of Tables
Include all tables contained in the thesis as indicated by table number and the title of each table.
- List of Figures

Include all figures contained in the thesis as indicated by figure number and the title of each figure.

- List of copyrighted Materials Produced by the Author
If any part of the thesis has been published, the student should state that here, including the full citation. The student is responsible for securing permission to use this material from the copyright holder.
- List of Third Party Copyrighted Material
This should summarize all material (Figures, Tables etc) created by a third party (published and unpublished) that are included in the thesis. This list should include the Figure or Table number, the publisher or author. The student is responsible for securing permission to use such material from the copyright holder.
- List of Symbols, Abbreviations or Nomenclature (optional)
- List of Multimedia Objects or Files (optional)
- This section is required should you include references to files that are not easily adapted for inclusion in the final printed copy of the thesis (e.g., video clips, sound recordings, or files).
- Preface

Body Matter

Guidelines for the Introduction

- The introduction establishes the main argument of the thesis work, and provides the background information necessary to evaluate merits of the argument and the significance of the work.
- The Introduction must be an original work written by the student.
- The Introduction must preferentially reference primary sources, and those most relevant to the argument. Reviews may be used to cite background information that is relevant, but not directly related to the thesis argument. Primary literature must be cited to provide support for original ideas, interpretations and conclusions.
- While publication of the Introduction is not required, it must meet the requirements for publication as a review in a major journal.
- The introduction must be current, and focused on the dissertation. While a previously published review, written by the student, may form a substantial part of the introduction, it must be altered as necessary to encompass all data and conclusions presented in the dissertation.
- If any part of the Introduction was previously published (as a review, for example), this must be indicated in the text.

Using Materials and Methods, Results, Tables, Figures and Legends from Student-authored Publications or Manuscripts

Published manuscripts authored by the student may be used heavily to provide text for describing methods, results and conclusions, along with tables, figures and associated legends, so long as the following conditions are met:

- Manuscripts must be adapted to conform to the formatting of the thesis. See guidelines for each section, below.
- All figures must have unique numbers, and no figures should be designated as “supplemental”.
- It is the responsibility of the student to ensure that all copyrighted materials are used in accordance with the stipulations of the copyright holder.
- Appropriate attributions must be given for any written text, figures and data that were not produced by the student.

Guidelines for Results

- The Results can be presented in a single chapter with subsections, or divided into several chapters. Organize chapters or subsections in a manner that best presents the logic of the argument. This may or may not be the way that the information is presented in the manuscript.
- Figures, tables, and associated legends must be embedded in the text.
- Large datasets (eg. RNA-seq, ChIP-seq) should be deposited in publicly available databases eg, ArrayExpress.
- Do not designate any figures as "Supplemental Figures". Decide to use, or not use, any figures from manuscripts as appropriate. Renumber figures according to their order in the dissertation, not according to their order in a manuscript.
- Any text sections and figures that have been previously published must be identified, with proper attributions.

Guidelines for the Discussion

- The discussion must be an original work written entirely by the student, with no co-authors. The author must include the following information:
 - Restate the scientific questions that the work intended to answer.
 - Briefly summarize the major results.
 - State the major conclusions and implications of the work in the context of the field of study, and provide adequate arguments for each.
 - Indicate the caveats of the conclusions, and describe additional experiments and/or directions that may strengthen the conclusions. Discuss the experimental, practical, or other limitations that keep you from making strong conclusions.
 - Discuss the future directions that the research should take.
- If any part of the discussion was previously published, this must be indicated in the text.

Back Matter

- Appendices (optional)
This section may be included to present additional findings of a separable nature to that of the research chapters, which may not constitute an additional chapter. Also, this section may include material that cannot unitarily be included within the overall topic of the thesis, but may include findings that have contributed largely to the thesis research.
- Bibliography

Format all referenced materials contained within the thesis into a concise listing at the end of the document. The format follows that format most common in the journals of the field.

General Formatting

Fonts

The preferred font size is 12 in either the Times New Roman or Arial styles. For clarity, different typefaces (font sizes or styles) may be used within headings, tables, figures, and appendices.

Line Spacing and Margins

All main text should be double spaced (3 lines per vertical inch) and printed only on one side of each page. Single spaced lines may be used for the table of contents, tables, figure legends, long quotations, footnotes, and bibliographical citations. Margins must be at least 1 1/2 inches wide at the top and left, and 1-inch wide at the bottom and right. Illustrations, tables and figures should conform to these margins as well.

Page Numbering

The pages preceding Chapter I should be numbered consecutively in small Roman numerals. The cover page should be considered page “i” but should not be numbered, nor should the title page be numbered (as “ii”). Beginning with the first page of Chapter I and continuing through the bibliography or appendix, pages should be numbered consecutively in Arabic numerals. The numbers should appear in the upper right corner of the page, flush with the upper margin and should not be followed by a period. Chapters should be numbered in Roman numerals consecutively throughout the dissertation, with the word “CHAPTER” used as part of the designation followed by the Roman numeral. This heading should be centered and near the top of the page.

Headings

Chapters should be designated throughout the dissertation with the word “CHAPTER” used as part of the heading followed by consecutive Roman numerals. This heading should be centered and near the top of the page. Headings for main divisions within a chapter should be centered, but should have only the first letter of the principle words capitalized. Sub-divisions within the main divisions should be indicated by side heads.

Tables and Figures

Tables and figures are numbered according to the chapter number followed by a decimal followed by consecutive numbering beginning with 1 (e.g., Table 3.1 denotes chapter 3, table 1). Consecutive numbering for tables and figures is reset at the start of each new chapter.

Third party copyrighted matter

The use of third party copyrighted materials is strongly discouraged and will only be permitted if written permission from the copyright owner is obtained prior to submission of the dissertation for review. The student is responsible for securing permission from the copyright holder.

Third party copyrighted material and permission to use this material should be listed in the Front Matter (see page 9). Examples are included below.

Sample Page

Figure Number	Publisher License	Number
Figure 1-2	Nature Publishing Group	2330811110362

The following figures were reproduced from journals: No permission required

Figure Number	Publisher
Figure 1-1	Theoretical Biology and Biophysics Group, Los Alamos National Laboratory

Dissertation Publication

After a successful PhD Dissertation Defense, the Dissertation shall be finalized, including revisions or corrections based on the decisions of the DEC. The DEC Chair is responsible for verifying that all revisions meet the requirements of the DEC. The DEC Chair's signature on form BBS08 constitutes acceptance of the revisions.

Publication Requirements

To be considered the student's official dissertation, a searchable PDF version of the dissertation must be on file in the UMMS Library. The PDF version will be uploaded by the UMMS Library to the eScholarship website. <http://escholarship.umassmed.edu/>

eScholarship@UMMS is a digital archive offering worldwide access to the research and scholarly output of the University of Massachusetts Medical School community. The goal is to bring together all of the University's research under one umbrella, in full text whenever possible, in order to preserve, promote, and provide access to that research. eScholarship is administered by the Lamar Soutter Library.

BBS Student Checklist

This checklist is provided for your convenience. Please use to keep track of forms and processes required of you before graduation.

All forms for BBS students can be found here: <https://umassmed.edu/gsbs/resources/student-forms/bbs-forms/>

- Dissertation Examination Committee (DEC) Selection (GSBS14)
- Request for Notice of Dissertation Defense (GSBS11)
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- Dissertation Defense Outcome (BBS08)
- Completion of Degree-Stipend Termination Date (GSBS17)
- Graduation Check-out (GSBS20)
- Graduation, Commencement and Post-Graduate Information (ONLINE – GSBS71)
- eScholarship Permission Letter (GSBS19)
- Survey of Earned Doctorate ONLINE
- Certificate of completion for the GSBS cBCD Survey for Exiting Students (Survey Link emailed from GSBS.Career@umassmed.edu)
- Submission of final, revised dissertation to eScholarship.

CPHR Student Checklist

This checklist is provided for your convenience. Please use to keep track of forms and processes required of you before graduation.

All forms for CPHR students can be found here: <https://umassmed.edu/gsbs/resources/student-forms/cphr-forms/>

- CPHR Dissertation Examination Committee (DEC) Selection (CPHR14)
- Request for Notice of Dissertation Defense (GSBS11)
-
- Approval for Dissertation Defense Hearing (CPHR15)
- Dissertation Defense Outcome (BBS08)
- Completion of Degree-Stipend Termination Date (CPHR23)
- Graduation Check-out (GSBS20)
- Graduation, Commencement and Post-Graduate Information (ONLINE – GSBS71)
- eScholarship Permission Letter (GSBS19)
- Survey of Earned Doctorate ONLINE
- Certificate of completion for the GSBS cBCD Survey for Exiting Students (Survey Link emailed from GSBS.Career@umassmed.edu)
- Submission of final, revised dissertation to eScholarship.