Preparing for your Doctoral Dissertation and Graduation
AY2017/18
TABLE OF CONTENTS

INTRODUCTION ....................................................................................................................... 3
  Background ............................................................................................................................ 3

TIMELINE FOR COMPLETION AND GRADUATION FOR BASIC & BIOMEDICAL SCIENCES ................................................................................................................................ 4
  TRAC Authorizes Student to Write Dissertation (BBS) ............................................................ 4
  Procedure for Authorization to Write the Dissertation Preparation ......................................... 4
  Affirmative Review of the Submitted Dissertation Prior to the Examination ......................... 6
  Dissertation Defense/Seminar Notification (BBS) ................................................................... 6
  Stipend Continuation after Defense (BBS) .............................................................................. 6

TIMELINE FOR COMPLETION AND GRADUATION FOR CLINICAL & POPULATION HEALTH RESEARCH (CPHR) .................................................................................................. 7
  Selection of External Committee Member and Formation of Dissertation Examination Committee (CPHR) ................................................................................................................. 7
  Mentor and DEC Chair Agree Thesis is Ready to Defend (CPHR) ........................................... 7
  Dissertation Defense/Seminar Notification (CPHR) ................................................................ 7
  Stipend Continuation after Defense (CPHR) ........................................................................... 7

TIMELINE FOR COMPLETION AND GRADUATION (CONTINUED) FOR ALL STUDENTS ... 8
  Submission of Dissertation for Publication .............................................................................. 8
  Health Insurance Coverage .................................................................................................... 8
  International Students ............................................................................................................. 8

SAMPLE TITLE PAGE – FORMATTING FOR THE TITLE PAGE ............................................ 9

REVIEWER PAGE – FORMATTING FOR THE PAGE..................................................................10

CONTENTS AND ARRANGEMENT ...........................................................................................11
  Front Matter ...........................................................................................................................11
  Body Matter ...........................................................................................................................12
  Back Matter ...........................................................................................................................13

GENERAL FORMATTING ...............................................................................................................14
  Sample Page .........................................................................................................................15

DISSERTATION PUBLICATION .................................................................................................16

BBS STUDENT CHECKLIST ......................................................................................................17

CPHR STUDENT CHECKLIST ..................................................................................................18
INTRODUCTION
This document describes the procedure for:

1) Seeking authorization from the TRAC to focus on thesis writing (aka Terminal TRAC meeting)
2) Preparation and submission (including timeline) of the Dissertation to the DEC for review

The procedure described here will be effective September 1, 2015. Anyone seeking authorization from the TRAC on or after September 1, 2015 must follow this procedure. Students who were authorized before September 1, 2015, and who are currently writing, preparing to defend, or revising their dissertation are not required to follow this procedure. However, all will benefit from doing so.

Background
The Academic Standards Committee, composed of Faculty members and student representatives, was charged with defining best practices to streamline and standardize the Dissertation authorization and approval process and to clarify the expected standards for dissertation preparation and evaluation. The committee presented a proposal to the GSBS Assembly, the governance body of the GSBS composed of faculty representatives from each graduate program and student representatives from the GSBC. After discussion and revision, the following procedure was approved by GSBS Assembly in May of 2015.

It is our expectation that this procedure will ensure that:

a. No student enters the Dissertation Exam unprepared to present and successfully defend the thesis research;
b. All students are held to an appropriately high standard for doctoral research;
c. DEC members hold and effectively communicate a common set of expectations by which performance is assessed;
d. Thesis revisions and completion of degree requirements can proceed with a predictable timeline.

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/

Clinical & Population Health Research Forms:  
https://umassmed.edu/gsbs/resources/student-forms/cphr-forms/
# TIMELINE FOR COMPLETION AND GRADUATION FOR BASIC & BIOMEDICAL SCIENCES

<table>
<thead>
<tr>
<th>Action</th>
<th>Time Period</th>
<th>Extensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write and defend Dissertation (BBS)</td>
<td>17 weeks from date approved by TRAC</td>
<td>One-time extension up to two months, with Dean's approval</td>
</tr>
<tr>
<td>DEC Selection (BBS)</td>
<td>30 days prior to defense date</td>
<td>Less time only with Dean’s approval</td>
</tr>
<tr>
<td>Approval for Dissertation Defense Hearing (CPHR)</td>
<td>30 days prior to defense date</td>
<td>Less time only with Dean’s approval</td>
</tr>
<tr>
<td>Submission of Dissertation Defense/Seminar Notification</td>
<td>This must be submitted to the Graduate School office at least 20 days prior to the exam date to allow time to meet public posting deadlines.</td>
<td></td>
</tr>
<tr>
<td>Submission of Dissertation to DEC</td>
<td>The dissertation must be submitted to the DEC at least 21 days prior to the Dissertation Defense Date</td>
<td></td>
</tr>
</tbody>
</table>

See below for detailed information on each policy.

## TRAC Authorizes Student to Write Dissertation (BBS)

### Procedure for Authorization to Write the Dissertation Preparation

**Purpose:** To provide a standardized procedure for the Authorization to Write the Dissertation, also known as the Terminal TRAC meeting, that guides both the student and TRAC to prepare and execute a thorough assessment of the degree of completion of research, clarifies timeline and expectations for writing the dissertation, and reinforces high standards for dissertation preparation.

1. The student shall formally petition the TRAC for authorization to cease experimental work and begin preparation of the dissertation by:
   - Informing all TRAC members of his or her intention to seek authorization, prior to the scheduled meeting.
   - Scheduling a Dissertation Preparation Authorization meeting
   - Informing the GSBS Office of Academic Affairs that the Dissertation Preparation Authorization meeting has been scheduled

2. The student shall prepare and present at or before the meeting:
   - A written copy of the Thesis Abstract, presented to the TRAC in advance of the meeting. The abstract should be as complete as possible from the student’s perspective, and should not rely on uninitiated or incomplete experimental data.
The purpose of this meeting is **not** to contractually obligate the students to using these versions of the abstract and outline in their dissertation. The purpose is to seek specific feedback from the TRAC on the student’s plans for the dissertation. It is understood that the Thesis Abstract, the Outline of the Introduction and Discussion, and even decisions about the data to be included, may be impacted by the TRAC review.

3. In lieu of the usual TRAC meeting form, the student shall provide the TRAC chair with a checklist (Form GSBS70: Authorization To Write TRAC Meeting (Terminal TRAC)), designed specifically for the Authorization meeting and available on the GSBS website Forms page, to certify unanimous agreement that:

   - The data that will be included in the thesis, both published and unpublished, are sound, complete, and adequate for a dissertation.
   - The committee is satisfied that the student’s publication record, including submitted manuscripts, is adequate for completion of the PhD degree.
   - The student may cease experimental work and focus on preparing the dissertation.
   - The committee provided written feedback regarding modifications to the abstract and outline.
   - The committee provided written feedback regarding modifications to the unpublished data that will be included in the thesis.

The TRAC may delay approval until specific benchmarks are met, such as limited and specified experiments or analysis, submission, or acceptance of manuscripts. The TRAC may authorize the chair to give final approval, or determine that an additional meeting is required.

The student has 17 weeks to complete and defend his/her dissertation from the date that the TRAC approved the end of dissertation bench work and authorized the writing of the thesis. (This is the date indicated on the TRAC Meeting Form.)

Additional time of up to two months may be granted (with stipend), but requires strong recommendation from the Thesis Advisor and TRAC chair and approval by the Dean. Extensions beyond two months will not be granted.
Affirmative Review of the Submitted Dissertation Prior to the Examination

Purpose: To formalize approval by the DEC to proceed with the Dissertation Presentation and Examination as scheduled, thus preventing presentation of an inadequate document requiring substantial revision, and decreasing the likelihood of a negative Examination outcome.

- The student shall submit the completed dissertation to the DEC three weeks before the scheduled defense.
- The thesis mentor shall certify that the student independently wrote the Introduction and Discussion sections.
- The DEC shall review the thesis document in one week, and affirmatively approve the scheduled defense. The committee members will not be required to meet, though they maintain the option to do so. The chair will submit a checklist that identifies any problems, beyond the normally acceptable textual revisions, that would prevent the defense from going forward. Problems include unsound or inadequate data, unacceptable or absent analysis, improper citations, overreliance on secondary sources in Introduction and Discussion, plagiarism, and written English or formatting deficiencies that preclude evaluation of the body of work.
- The DEC shall inform the student of the approval, or lack thereof, to proceed with the Dissertation Defense and Examination.
- The student is responsible for informing Department or Program staff of any schedule changes.

Dissertation Defense/Seminar Notification (BBS)

- This must be submitted to the Graduate School office at least 20 days prior to the exam date to allow time to meet public posting deadlines.
- This must be publicly posted 14 days prior to the exam date, once affirmative review has been completed and reported.
- The Dissertation Examination Committee must receive the dissertation at least 21 days prior to the defense date.

Stipend Continuation after Defense (BBS)

Following successful oral defense of the thesis, the student's stipend may be continued for a period of three to six weeks.
TIMELINE FOR COMPLETION AND GRADUATION FOR CLINICAL & POPULATION HEALTH RESEARCH (CPHR)

Selection of External Committee Member and Formation of Dissertation Examination Committee (CPHR)
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 (CPHR)
The CHPR 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 (CPHR)
- 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)
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 be made with the mentor.
TIMELINE FOR COMPLETION AND GRADUATION (CONTINUED) FOR ALL STUDENTS

Submission of Dissertation for Publication
Following the oral defense, the student has a period of up to 3 months to complete thesis dissertation edits.

- If edits are not completed within the 3 month period, the student and the thesis dissertation committee chair must request (in writing) an extension of three (3) additional months from the Dean.
- If edits are not completed within 6 months of the oral defense, the student, the Thesis Committee chair, and the principal investigator will meet as a group with the Dean to establish a deadline for thesis completion. Further extensions are only at the discretion of the Dean.
- This policy does not supersede the 4 month stipend termination policy (for BBS students only).
- The student may be placed on a Leave of Absence for the three months or may continue as a Graduate Student, depending on circumstances.

NOTE: The student will not have met all graduation requirements and will be unable to graduate until all forms/documents have been received, the final dissertation has been submitted for publication and the final dissertation has been signed by the Dean and submitted for publication.

Health Insurance Coverage
The student health insurance policy dates are 09/01 to 08/31. Coverage continues until 08/31 even if the student graduates prior to that date.

Student health insurance is part of compensation and not a benefit, and is therefore not eligible for COBRA.

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 stat 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:
  o Restate the scientific questions that the work intended to answer.
  o Briefly summarize the major results.
  o State the major conclusions and implications of the work in the context of the field of study, and provide adequate arguments for each.
  o 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.
  o 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

<table>
<thead>
<tr>
<th>Figure Number</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1-2</td>
<td>Nature Publishing Group</td>
</tr>
<tr>
<td></td>
<td>License Number: 2330811110362</td>
</tr>
</tbody>
</table>

The following figures were reproduced from journals: No permission required

<table>
<thead>
<tr>
<th>Figure Number</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1-1</td>
<td>Theoretical Biology and Biophysics Group, Los Alamos National Laboratory</td>
</tr>
</tbody>
</table>
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)
☑️ DEC Certification of External Member (GSBS15)
☑️ 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
☑️ NIH BEST Survey for Exiting Students: This survey is part of a longitudinal evaluation of GSBS initiatives funded by an NIH BEST grant. The survey link will be sent to you at the time of your defense via email from Katherine.Shields@bc.edu. The survey is voluntary, but you must provide a certificate of completion. The certificate is provided at the end of the survey, or after you have declined to participate.
☑️ 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)
- DEC Certification of External Member (GSBS15)
- Approval for Dissertation Defense Hearing (CPHR15)
- Dissertation Defense Outcome (CPHR16)
- 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

- NIH BEST Survey for Exiting Students: This survey is part of a longitudinal evaluation of GSBS initiatives funded by an NIH BEST grant. The survey link will be sent to you at the time of your defense via email from Katherine.Shields@bc.edu. The survey is voluntary, but you must provide a certificate of completion. The certificate is provided at the end of the survey, or after you have declined to participate.

- Submission of final, revised dissertation to eScholarship.