IX: The Thesis Dissertation

The graduate Thesis, or Dissertation, is the all-encompassing document describing original research carried out by the graduate student in the laboratory. In general, the research has been structured to answer a question or group of questions, or to explore particular hypotheses, and has resulted in a body of novel data. The historical background, the scientific context of the experiments, and the data are presented and discussed extensively in the Dissertation. It is expected that the research carried out to generate the Thesis Dissertation will also result in published papers in recognized scientific journals, for which the student is the first author. It is not unusual for the Thesis Dissertation research to comprise two to three publications in which the student is the leading author. The Graduate Division requires that at least one first-author manuscript must be submitted before a student may defend the Thesis. If this manuscript is not yet accepted for publication, the submitted draft must be appended to the Thesis. All collaborative work that contributes to the Thesis Dissertation must be clearly indicated in the text.

Manuscript requirement to graduate: Students who entered the PhD program in Fall 2003 or prior to Fall 2003 (Summer 2002 for MSTP), are required to submit at least one first-author paper. If this has not yet been accomplished, then a draft of a proposed manuscript in the style of the intended journal must be appended to the Thesis. The manuscript should be indicated as In press, or Submitted, or In revision, or In preparation for submission, (noting the journal) etc.

Students who entered the PhD program in Fall 2004 (Summer 2003 for MSTP) or after, are required to publish at least one first-author paper, or if not, to document and append to the Thesis, the final draft of a submitted first-author manuscript. The manuscript should be indicated as In press, or Submitted (and to which journal), or In revision (for which journal).

A co-first authorship paper meets the requirement. The Graduate Division does not set a requirement for a specific number of published manuscripts, and it is expected that some of this work may be published following the Thesis Defense. However, it is not unusual for the Thesis Dissertation research to comprise two to three publications in which the student is the leading author. All collaborative work that contributes to the Thesis Dissertation must be clearly indicated in the text. Each Chapter should indicate which publications (if any) are represented by the described work.
Composition of the Thesis Defense Committee:

Every candidate for the PhD degree must submit a Dissertation and pass an oral examination of their thesis (Thesis Defense) by a Thesis Defense Committee (Committee) that consists of a minimum of five members chosen by the student and the mentor. The Thesis Defense Committee must include five faculty members from the departments that comprise the Graduate Division, one of whom must be designated the Committee Chair and two of whom must be members of the student's department. The Chair of the Thesis Defense Committee should be selected by the student and mentor. It is strongly recommended that the Chair be a more senior member of the faculty (Professor or Associate Professor). The student’s mentor cannot serve on the Committee although the mentor is present at the Thesis Defense. Inclusion of an examiner from outside the institution with expertise in the area of the student's research is desirable although the fifth member of the Committee may be an additional member of the Basic Science (or PCI) faculty. Students are encouraged to designate a sixth faculty member as an alternate in the event that an examiner cannot attend the Thesis Defense. Members of the Committee from Einstein must be Graduate Division faculty (Assistant Professor or above, Basic Science or PCI faculty). The name of any member who served as co-mentor or collaborator with the student must be indicated by asterisk on the submitted Thesis Defense Committee Form, which is available on the Graduate Division website at www.einstein.yu.edu/phd.

39) Approval of the Thesis Defense Committee

The Assistant Dean must approve all Thesis Defense Committees, according to the designated criteria established by the Graduate Committee. At least two months prior to the scheduled defense date, a completed Thesis Defense Committee form must be submitted to the Graduate Division office. This form states the title of the Dissertation, the members of the Thesis Defense Committee, the date at which the required public seminar will be held, the signatures of the appropriate Department Chair and the mentor, the abstract of the Dissertation, and a list of publications. The designated Chair of the Thesis Defense Committee must also sign the form, indicating that he or she agrees to act as Chair. International students on a student visa must have their Thesis Defense Committee form approved by the International Students and Scholars Office (ISSO) at the institution. A draft copy of the Thesis Defense Seminar announcement must accompany this form. The Assistant Dean will not consider Defense Committees from students whose course work or Qualifying Examination is incomplete. Once the Thesis Defense Committee has been approved by the Assistant Dean, the Thesis Defense Committee has full authority to recommend the award of the PhD degree to the Assistant Dean.

All changes in Committees must be approved by the Assistant Dean. In the event that changes in the Committee must be made, and the Assistant Dean is not available for consultation, the approval of the appropriate Department Chair should accompany the final report of the Committee.
40) Including Published Work in the Thesis

Students are strongly encouraged to submit their dissertation studies for publication in peer-reviewed journals during the course of their studies. In order to fulfill copyright obligations, papers published by graduate students before the Thesis Defense, that are intended to be included in the Dissertation, should carry the footnote:

"Data in this paper are from a thesis to be submitted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in the Graduate Division of Medical Sciences, Albert Einstein College of Medicine, Yeshiva University".

All publications for which the student is first author should be appended (as reprints) to the submitted Thesis. Co-first authors are allowed. If there are no first-author publications at the time of Thesis submission, a submitted first-author manuscript must be appended in place of reprint(s), even if this draft ultimately requires additional experimental results. The manuscript should be written in the style of a specific (indicated) journal.

41) Instructions for Preparing the Dissertation

Two Dissertation formats are generally accepted by the Departments within the Graduate Division. Students must consult with the appropriate faculty in their Department to insure that their Dissertation format is acceptable by their Department. ‘Format A’ is the traditional organization of a Dissertation. ‘Format B’ is organized with each chapter corresponding to a published (or in preparation) journal article. However, it is emphasized that a collection of published papers cannot be submitted in place of a Dissertation. An improperly prepared Dissertation may be returned to the student by the Committee without review.

General Instructions

In general, successful theses range from 125 – 225 pages without references.

i) Manual of Style: On points of style (including capitalization and punctuation) not covered by the above, follow the recommendations of your Department. The style selected should be adhered to strictly and consistently. If no style is preferred by the Department, the Manual for Writers of Dissertations by Kate L. Turabian, University of Chicago Press, should be used.
ii)  *Line Spacing:* The text of the Dissertation is to be double-spaced except for indented quotations, footnotes, figures, legends and bibliography, which are to be single-spaced.

iii)  *Required font for text:* Arial 11 pt.  
      Helvetica 11 pt.  
      Times New Roman 12 pt.

iv.)  *Paper:* The final copies of the Dissertation are to be printed on 8 1/2" x 11" high quality paper (24 lb.) that is not punched or perforated in any way.

   (a.) Copies submitted to the Thesis Defense Committee may be:

   1.) duplicated on standard (20 lb.) photocopy paper,
   2.) printed double sided and,
   3.) secured using either a three-hole binder or a spring binder.

v.)  *Pagination:* Every paper in a Thesis is assigned a number typed on it. There are two series of page numbers. The first, in small Roman numerals, begins with the title page and ends with the last page preceding Chapter I. The second series, in Arabic numerals, begins with the first page of Chapter I and continues throughout the Dissertation, including graphs, illustrations, tables, bibliography and appendices.

vi)  *Margins:* The margins at the top, bottom and right are to be 1.0 inch; the left-hand margin is to be 1.5 inches. All tables, charts and illustrations are to have left-hand margins of no less than 1.5 inches because of binding requirements. Any over-size material may be folded in from the right, top and bottom in such a way as to leave a 1.5 inch margin on the left side.

vii)  *Spelling:* The spelling given in any standard dictionary may be used. However, whatever forms are adopted should be adhered to consistently throughout the text of the Dissertation.

viii.)  *Quotations:* Quotations of more than three lines should be single-spaced, set off from the text in a separate paragraph and indented four spaces, with double-spacing between paragraphs. Opening and closing quotation marks are omitted. Quotations of three lines or less are enclosed in quotation marks and are run into the text.

ix.)  *Tables, Figures, Reproductions:* The recommendations of the style manual are to be followed in preparing tables, figures and other graphic materials. Tables and Figures and all legends should be embedded into the document.
Tables are numbered consecutively throughout the Thesis. The word TABLE, followed by the appropriate Arabic numeral, is placed above the caption.

Figures are numbered consecutively in Arabic numerals, with the word "Figure" (only the first letter is capitalized) and the appropriate numeral appearing before the caption. If possible, figures should be oriented in the "portrait" configuration. Submitted figures should be of sufficiently high resolution to be interpreted by the reader.

Legends should be placed on the facing page to facilitate the reading of the Thesis.

x.) Digital media or jpeg for high resolution images may be submitted on an accompanying CD-ROM.

xi.) References and Footnotes: References to published articles should be cited by author and year (i.e. Student and Mentor, 1995 or Student et al., 1995). Every reference listed must appear in the bibliography (see below).

Footnotes are to be placed at the foot of the page and numbered consecutively for each chapter.

The generally accepted Thesis formats (Formats A and B) are described below. The format chosen must be maintained throughout the Dissertation. Students must discuss with their mentor the Dissertation format acceptable to their department.

FORMAT A

i.) Introduction: The comprehensive Dissertation begins with a scholarly introduction (Chapter I). This section should include a historical review of the student’s area of research followed by a critical evaluation of the current status of the field. The student should then present working hypotheses and give an introduction to the system and the thesis research. The student should consult with his or her mentor in order to agree upon how extensive a historical review is appropriate to the Dissertation.

ii.) Methods and Materials: The protocols and procedures used in the Dissertation studies should be presented in sufficient detail to allow reproduction of the experiments (Chapter II). A Dissertation provides an appropriate vehicle for experimental details that might be omitted from journal articles due to space limitations.

iii.) Results and Discussion: Chapters III …n of the Dissertation should present the results of the conducted studies followed by a discussion of their significance. The
format for these chapters should follow that in the suggested manual of style or of a highly respected scientific journal, mutually agreed upon by the student and the mentor.

iv.) Conclusions: A Dissertation should end with a general discussion of the studies that have been conducted including an assessment of the significance of the research, arguments of interpretation, evaluation of material included in appendices, and a plan for the experimental resolution of unanswered questions.

FORMAT B

i) Introduction: The comprehensive Dissertation begins with a scholarly introduction (Chapter I). This section should include a historical review of the student’s area of research followed by a critical evaluation of the current status of the field. The student should then present working hypotheses and give an introduction to the system and the thesis research. The student should consult with his or her mentor in order to agree upon how extensive a historical review is appropriate to the Dissertation.

ii.) Manuscripts: The body of the Thesis should be in the form of manuscripts that have been or are ready to be submitted for publication in a scholarly journal. Note that the format and style requirements described above must be adhered to for each and every chapter of the Dissertation. Each manuscript will constitute a chapter and will include a brief Introduction, Methods and Materials, Results, and Discussion. The candidate must be the first author of these manuscripts and must be responsible for their preparation. A footnote to the introduction must give bibliographic information for manuscript constituting the chapter. This information should include the full names of the authors, institutional affiliations, the journal and the status of the manuscript (i.e., submitted, published or in press)

iii.) Separate Chapter for Unpublished Data: If the student is not first author: One of several options may be appropriate in cases in which the student is not first author of a manuscript that is to be presented in the Dissertation as a chapter: 1) The student may extract his or her own work from the manuscript for presentation in the Dissertation; 2) The manuscript may be included as an appendix to the Dissertation; 3) The manuscript may be included as a chapter if the student was responsible for the preparation of a significant portion of the manuscript. For all multi-authored manuscripts, the exact contribution of the student should be stated in an introductory statement or footnote preceding each chapter or in the appendix. If figures from a multi-author manuscript are used, it is imperative to indicate which figures are the student’s work and which represent the work of other authors. In all cases in which figures are used, appropriate acknowledgement must be given. In addition, any contributions of co-authors must also be specified in the acknowledgment section.

Wherever pertinent, coworkers and helpers and other contributors should be acknowledged in the body of the text.
iv.) Conclusions: A Dissertation should end with a general discussion of the studies that have been conducted including an assessment of the significance of the research, arguments of interpretation, evaluation of material included in appendices, and a plan for the experimental resolution of unanswered questions.

The following sections of the Dissertation are common to both formats.

i) Title Page: The title page is to list at the top the title of the Dissertation, student’s full name and signature, the full name and title of the Thesis advisor and, at the bottom, the statement: "Submitted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in the Graduate Division of Medical Sciences, Albert Einstein College of Medicine, Yeshiva University, New York, (month and year)." The title of the Dissertation must not exceed seventy-two letters and spaces.

A sample page is shown at the end of this section which illustrates the format. The date given is not when the Dissertation is submitted, but when the degree is expected to be granted (January, June or September of the appropriate year).

ii) Abstract: The abstract of the Dissertation is to include: a hypothesis, the procedures followed, the significant results and the general conclusions. The abstract is to be presented on a separate page headed with the word ABSTRACT in capital letters centered on the page. On the next line is the title of the Dissertation. The following line is the full name of the student. The length of the abstract must not exceed 600 words. (Please note the separate instructions for the 350 word microfilm copy abstract described in the first section of this manual.)

iii) Acknowledgments: This feature is not required, but offers a convenient opportunity to express the writer's appreciation to persons who have been especially helpful or to the publishers of materials from which data have been drawn and to whomever else acknowledgment should be given. The appropriate training or research grants should also be acknowledged in the Dissertation.

iv) Table of Contents: The table of contents should list the chapters or other division headings of the Dissertation, using the same words that appear in the body of the report. The numbers of the pages on which these items appear should also be given. The table of contents is to be followed by separate page listings for tables and for figures and illustrations.

v) Bibliography: The format for the references included in the bibliography should follow that in the suggested manual of style or a highly respected scientific journal. At a minimum, each reference must include the names of all authors, the title of the article, the name of the journal, the volume number and the pages of the article. Titles of articles must be included. The bibliographies of the Dissertation may be compiled for
each chapter separately or together at the end of the Dissertation, at the discretion of
the mentor and the student.

vi) Supplementary Materials and Methods: It may be appropriate for a more
extensive presentation of Materials and Methods to be given in an appendix where it
may be helpful to other investigators who wish to utilize procedures developed by the
candidate. The candidate may also wish to include as appendix material more detailed
presentations of data than appropriate for a scholarly journal or thesis.

vii.) List of Abbreviations: A full and complete list of all abbreviations used in the text
must be included.

viii.) Appendix: The appendix may include but is not limited to:
- Published papers – reprints
- Submitted manuscripts
- Drafts of manuscripts expected to be submitted shortly
- Surveys of patient or other data
- High resolution figures
- Computer programs
AN EVOLUTIONARY VIEW OF THE MYC NETWORK IN GROWTH CONTROL AND DIFFERENTIATION

by

Nicole Schreiber Agus

Candidate:   Thesis Advisor:

__________________________   ___________________________
Signature   Signature

Nicole Schreiber Agus
Name

Ronald A. DePinho, M.D.
Name

Associate Professor of
Microbiology and Immunology
Title

Submitted in partial fulfillment of the requirements for the
degree of Doctor of Philosophy
in the Graduate Division of Medical Sciences

Albert Einstein College of Medicine
Yeshiva University
New York
June, 1994
42) Submission of the Thesis

Presentation of the Thesis to the Committee. The Thesis must be presented to all members of the Thesis Defense Committee at least three weeks before the scheduled defense. A member of the Thesis Committee may require a postponement of the Thesis Defense if this requirement is not met. However, this requirement may be waived upon the consent of all of the members of the Committee. It is the responsibility of the student to determine suitability of providing less time for review. Within one week after the Thesis is delivered (two weeks prior to the defense) any Committee member may request a pre-defense meeting of the Committee if, in the opinion of the Committee member, the Dissertation is not defensible. Once this deadline passes, the defense must proceed except at the student's request. All expenses related to the defense and the Thesis are the responsibility of the student's Department, although funds may be requested from the Graduate Division office to support travel for an outside reader, pending availability. An honorarium is not appropriate and will not be provided by the Graduate Division.

Presentation of a public seminar. The presentation of a public seminar at the College of Medicine is required for successful completion of the PhD degree. This seminar also fulfills a New York State requirement that a PhD candidate demonstrate his or her ability to present scientific material in public. This seminar should be presented within three months of the date of the examination, but is usually presented immediately preceding the defense. A copy of the announcement of the seminar must be forwarded to the Graduate Division office for inclusion in the student's file. An announcement of the time, place and subject of the public seminar should be widely disseminated at the College of Medicine, and a draft copy of this announcement should be included with the Thesis Defense Committee form submitted to the Graduate Division office.

43) Conduct of the Thesis Defense

The purpose of the Thesis Defense is to demonstrate in an oral form the knowledge and skills acquired to carry out research that provides new information on a significant problem. The following are recommended guidelines for conducting the Thesis Defense:

The Thesis Seminar, whenever possible, should immediately precede the Thesis Defense.

The Chair of the Defense Committee should be selected by the student and mentor. (See previous: Composition of the Thesis Defense Committee). At this member's discretion, a different Chair may be chosen to run the defense, with the original Chair remaining as an examiner. The Chair will have been sent the Thesis Defense Report Form and will bring this to the defense. The form is also available on the Graduate Division website. The Chair will identify to the group any members of the Defense Committee who have acted as co-mentors or collaborators during the course of the
student’s research, and will confirm that the manuscript submission requirement has been sent.

At the commencement of the defense, the student should be excused and the Chair (and/or mentor) will then provide a profile of the student’s background, course work, and publication record.

The Chair, in consultation with the examiners, will then determine how the Thesis Defense will be conducted.

If any of the examiners expresses a serious concern with the content of the Thesis, a strategy should be developed whereby the questioning can address these concerns in a constructive manner.

The student will then be asked to return and the exam can commence. If a Thesis Seminar was not given immediately prior to the defense, the student should give a short (~10 minutes) synopsis of the major findings of his or her research.

It is strongly recommended that an external examiner be invited to the Thesis Defense. If an external examiner has been invited to participate in the Thesis Defense, it is recommended that this examiner be invited to commence the questioning period. Examiners will be allowed a ~10 min question period in turn, with the opportunity to have a second round of questioning. Alternatively, questions will be permitted to follow logically from the initial set of questions, with examiners sharing the examination period.

The mentor or co-mentors may be present during the defense, but cannot ask questions, and are not expected to answer any questions for the student unless clarification is asked for from the examiners.

It is inappropriate for food or beverages to be provided by the student during the defense, although the Department may offer lunch if timing requires it.

The Chair should ensure that the defense is conducted in a professional manner, and that each examiner has the opportunity to ask questions. The Chair should also ensure that the length of the exam is appropriate. A typical exam period is 1 to 2 hours.

After the Chair has determined that the defense is at an end, the mentor and the student are asked to leave the room. The Thesis Defense Committee vote is confidential and the mentor should leave the room together with the student during the voting procedure. The defense is discussed, and a decision is made. The decision is determined by majority vote. If the vote is for "minor revision" then the mentor is usually given the responsibility of checking the final document. If the vote is for “major revision”, a member of the Committee or subcommittee is usually assigned to review and accept the corrections on behalf of the parent committee. A decision for “major revision” results in the grade of Conditional Pass (see below).
44) Evaluation of the Dissertation and the Thesis Defense; Conferring of the Degree

A Thesis Defense Report form is available on the Graduate Division website at [www.einstein.yu.edu/phd](http://www.einstein.yu.edu/phd). When the examination is complete, the members of the Committee will sign the form, and the Chair of the Thesis Defense Committee will return the completed form immediately to the Graduate Office for the Director of the Graduate Division who will provide a copy to the appropriate Departmental Chairperson. Students may receive a grade of 'Pass', 'Conditional Pass' or 'Fail' for the examination by majority vote of the Committee. A grade of 'Conditional Pass' will require the student to complete additional work set forth by the Committee. The report of the Committee will contain any recommendations for rectifying deficiencies if a grade of 'Conditional Pass' has been given. Unless specified otherwise by the Committee, all deficiencies must be corrected within a period of three months of the date of the examination. If the deficiencies are not corrected to the satisfaction of the Committee (or the designated sub-committee), the grade of 'Conditional Pass' will be changed to 'Fail'.

In the event of a grade of Fail, re-examination is at the discretion of the appropriate Department. The Department and the student’s Advisory Committee, working together with the student and mentor, must submit a written plan to the Assistant Dean for completion of the Degree. In some cases, the grade of Fail for the defense may lead to review by the Academic Affairs Committee and possible dismissal from the PhD program.

Following successful completion of the Thesis Defense, the student and mentor will be notified in writing of the award of the PhD degree by the Assistant Dean.

**More paperwork absolutely required for the degree.** The following paperwork must be submitted in order for the student to receive the doctoral degree.

Thesis copies:

No diploma will be granted until five copies of the Thesis, printed on good quality paper, in final form, (including the signatures of the candidate and his/her major advisor on the title page), as well as authorization for funds to cover microfilming and binding of the Thesis, are submitted by the student’s home Department. Copies of the Thesis must be distributed as follows: a bound copy to the student’s advisor; a bound copy to the student's home Department; a bound copy to the student; a bound copy for the Samuel Gottesman library; an unbound copy to the student’s home department for microfilming (this copy will be returned to the student after microfilming).

The following documents must be submitted to the student's home Department:
• Two copies of a 350-word dissertation abstract are required for the microfilming copy. This reduction in length will allow University Microfilms International (also referred to as “ProQuest”) to provide an on-line, computerized version for Dissertation Abstracts International. (The following method for counting to remain within the 350 word limit may be helpful - maximum 2,450 typewritten characters for the abstract, averaging 70 characters per line with a maximum of 35 lines.).

• A signed and completed University Microfilms International Agreement form. This agreement provides for copyrighting of the Thesis.

• Written permission from the copyright holders if copyright material by the student (e.g. publications) or other authors, (e.g., tables, charts, pictures, etc.) are included in the Dissertation. All thesis requirements must be fulfilled before a candidate can be recommended for a PhD degree.

The following documents are to be submitted to the Graduate Division office:

• The PhD Diploma Form indicating the student’s full name as it should appear on the final document.

• A copy of the signed title page of the student’s Thesis. All signatures must be present.

• A signed and completed Survey of Earned Doctorates form.

• An internal data sheet providing a forwarding address and a description of the student’s next professional position.

Completion of all requirements. All corrected copies of the Thesis and all additional paperwork must be filed within 3 months after the successful Thesis Defense. Permission to remain in the program beyond three months requires written approval from the Assistant Dean. In the absence of such approval, the student may be placed on unpaid Academic Leave. All requirements must be fulfilled within one year of the Thesis Defense.

Granting of the PhD degree. All academic requirements must be fulfilled and communicated to the Assistant Dean on or before April 30th. This includes completion of all coursework and other Departmental requirements, successful defense of the thesis (Conditional Pass is not sufficient), completion of all revisions, deposit of five copies of the Thesis in the Department Office, and completion of all required paperwork. Certification of receipt of the PhD degree may be made by the Assistant Dean at any time during the year and formal award of the degree will then be made at the subsequent regular commencement exercises of the College of Medicine. The degree granting dates are the last days of September and January and the date of the College
of Medicine Commencement exercises conducted at the beginning of June. All financial obligations to the College of Medicine must be met prior to the release of the diploma.

**Participation in the June Commencement Ceremony.** In order to participate in the Commencement Ceremony, all academic requirements must be fulfilled and communicated to the Assistant Dean on or before April 30th. This includes completion of all coursework and other Departmental requirements, successful defense of the thesis (Conditional Pass is not sufficient), completion of all revisions, deposit of five copies of the Thesis in the Department Office, and completion of all required paperwork. There will be no exceptions to this deadline.

**Change in status after successful Thesis Defense.** Occasionally students who have successfully defended the thesis may elect to delay final submission of documents for a short period of time as they complete arrangements to move on. Students may remain as “active students” for a maximum of three months after the defense. This requires formal notification of the Assistant Dean and Registrar. If all paperwork and corrected Thesis copies have not been submitted at the end of this period, students may be placed on unpaid Academic Leave of Absence until such requirements have been fulfilled. Note that students on an F1 visa are not eligible for an Academic Leave of Absence. All requirements must be fulfilled within one year of the Thesis Defense.

A student, who has successfully defended the thesis and completed all requirements for the PhD, will no longer be an “active student.” If the student is to remain at the institution, the student’s status must be changed to that of “Postdoctoral Fellow.”

**Change in status for international students.** International students who have been studying at the Institution on a student visa and intend to remain in the U.S. for further training must apply for “practical training” at least 3 months prior to the date of the PhD Thesis Defense. Visa restrictions and requirements change frequently. Students are strongly advised to consult the International Students and Scholars Office at the institution well in advance of any anticipated change in status.