



ביה"ס ללימודים
מתקדמים

אוניברסיטת
אריאל
בשומרון

Ariel University

The Faculty of Natural Sciences

**Guidelines
for writing a thesis**

Biological Chemistry

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1. General Guidelines

1.1 Guidelines for writing a master's thesis

A thesis is a report on the study that advanced the progress of science, written according to standards for structure and language that are accepted in the professional literature and in a style that is suited for publication. The responsibility for meeting the standards for preparing a thesis for submission lies solely with the authors.

The guidelines that appear below relate to the technical structure of the thesis. It is the student's responsibility to consult with their department regarding topics that do not appear in these guidelines such as citation styles which vary from field to field. The School of Graduate Studies will answer all questions which relate to the structure of the thesis but not its content.

Each thesis must be checked (only for technical and format requirements) by the School of Graduate Studies after it is given final approval from the supervisor to be printed. The thesis will be submitted electronically to the Administrative Head of the School of Graduate Studies by the Departmental Coordinator of Master Students.

Approval of the format of the thesis by the School of Graduate Studies is an essential condition for the process of completing the course of study.

Take note, in order to improve access to information for the purpose of research and education, the approved version of the thesis will be submitted to the library of Ariel University both in print and digital form.

1.2 Accepted languages for writing the master's thesis

The thesis should be written in Hebrew. The program head for the master's degree can approve writing the thesis in English under the following conditions:

- A. The student is not an Israeli citizen, or is a new immigrant whose knowledge of English is superior to their knowledge of Hebrew.
- B. The topic of the thesis or its content requires that it be written in English. In this case the student and the advisor should approach the program head and request permission that the thesis be written in English.
- C. The request to write in English should be made and granted already at the stage of writing the research proposal.
- D. The final approval for writing the thesis in English can be given only by the program head for the master's degree.

The thesis should be spiral bound, if the length of the thesis does not allow for one spiral bound volume the thesis should be bound in two spiral bound volumes.

1.3 Scope of the work

The scope of the master's thesis is determined based on the departmental committee for master's degrees and may not exceed 70 pages.

1.4 The process of submitting a thesis for review



After the supervisor approves the thesis to be submitted, the student will bring three bound copies of the thesis (if the student has two supervisors the student should submit four copies) to the coordinator of the program. In addition, a digital copy should be submitted to the program coordinator.

The review process for the thesis is directed by the master's program coordinator.

1.5 The process of submitting the thesis to the library

After obtaining a final grade for the thesis defense, the student is obligated to present a digital copy of the final version of the thesis to the master's program coordinator. The program coordinator will ensure that the printed copies are submitted to the university library. The student is required to fill out a thesis deposit form online using their personal site on the university (Meida Ishi) using form 533.

Submitting the printed and digital copies of the thesis are requirements for getting the final approval for the master's degree.

1.6 Special Instructions

Dedication

In the event that a student wants to dedicate their thesis to an individual, the dedication can be composed according to the student's preference. The dedication page should be after the inner title page and should not be numbered.

Acknowledgements

The style for writing acknowledgements is open. If a student received a stipend from the university, the acknowledgements must contain the following sentence "I would like to thank Ariel University for the personal stipend that gave me financial support during the course of my research." Students who were supported by stipends sponsored by a donor are required to thank the donor by name in the acknowledgements. A student whose research was supported by a research grant should mention that fact in the page of acknowledgements.

Note: this page will be written only after the review process is completed, meaning it will not be included in initial copies printed for the reviewers.

Table of contents

One should be meticulous to ensure that the section titles in the table of contents correspond to the section titles in the body of the thesis.

Abstract

The abstract should be written using one and a half or double spacing, correlating to the rest of the text.

The abstract should include:

1. The title of the thesis



2. The name of the author
3. The research question
4. A concise theoretical framework
5. The main hypotheses
6. The central results
7. The scientific conclusions and applications

List of addenda

The list of addenda should be listed at the end of the table of contents, the page numbering of the addenda should be continuous with the numbers in the body of the text.

2. The Academic Research Process

2.2 Initial Communication with the thesis advisor:

A student will be accepted to the program after they have chosen a thesis advisor and their choice of advisor has been approved by the master's degree committee of their department and The School of Graduate Studies.

An internal student who is not working, should submit a request for a research fellowship to the committee for stipends and research fellowships.

2.2 The process of writing a thesis

1. The research student will write a research proposal on the basis of a literature survey and any initial results of the research (according to the criteria for writing a research proposal listed in this document), and will submit one printed copy and one digital copy of this proposal to the departmental coordinator.
The departmental coordinator will submit the research proposal to the departmental committee for approval. The departmental committee will send the proposal for review to a faculty member. After the opinion of the reviewer is received the departmental committee will accept, reject the proposal or request corrections from the student.
2. The student will present their work in the framework of the research seminar in the last semester of their studies.
3. After the research is carried out and written up, the master's student submits their final version of their thesis as three printed and bound copies to the departmental coordinator (if there are two thesis advisors four copies should be submitted).

4. In parallel the thesis should be submitted to internal/external (when needed) reviewers so that they can review the thesis. Upon receiving the comments of the reviewers the departmental committee will determine if the student is worthy to proceed to their final exam and if so a date will be set.
5. During this final exam the student will be tested orally by a committee of reviewers which consists of two reviewers and the thesis advisor/s. (This exam usually lasts 1-2 hours.)
6. In this exam the graduate student will present their research and respond to the committee's questions. It is expected that the student demonstrates knowledge in topics related to their research at the appropriate level.

The final grade for the thesis exam will be according to the criteria of the department and the calculation of different parameters.

96-100 With high honors

90-95 With honors

85-89 Very good

75-85 Good

65-74 Pass

Less than 65- Fail

7. The grade will be given to the student at the end of the thesis exam and must be agreed upon by all the committee members. If the student fails the thesis defense, they will be allowed to be examined one more time within half a year of the date of the first exam. Failing a second time will prevent the student from acquiring the degree.

Comment: The right to proceed to the thesis defense is based on fulfilling all the academic requirements for the master's degree, including obtaining final grades for all the master's courses.

3. Guidelines for Submitting a Research Proposal in the Department of Chemical Sciences.

3.1 Structure and scope of the research proposal submitted for approval to the departmental committee for master's theses.

3.1.1 General guidelines:

8. The research proposal for the M.Sc. will be written according to the standard format (included below) that is 5-10 pages.
9. The proposal needs to be printed with 1.5 spacing between the lines.
10. The proposal should be written using the Hebrew font David and the English font Times New Roman, size 12 pt and with full justification.
11. The margins of the text should be 2.54 cm (1 inch) on each side.
12. The first word of each paragraph should be indented (5-7 spaces). We suggest to use the TAB key to accomplish this.
13. The Hebrew text should be aligned right and the English text should be aligned left.
14. The pages of the proposal should be numbered.
15. One printed copy of the proposal should be submitted.

3.1.2 Required components for the research proposal:

1. A title page which includes the title of the project in English and Hebrew, the department name, name of the student, the student's ID number and the name of the mentor for the work.
2. An abstract including the description of the topic and the methods that will be used with a length of about ten lines.
3. An introduction which contains a detailed description of the research question. It should relate to the current literature and body of research with citations and emphasize open questions and the novelty of the research and its contribution to science.
4. The aim of the research and its importance.
5. A description of the methodology and its process.
6. Preliminary results.
7. A short research plan including a timeline.
8. References must include academic articles that are published in journals. Articles from the research groups associated with the research proposal are recommended.

Note: It is important that if the proposal includes mathematical functions, illustrations or pictures. It is important to format them according to the accepted format. There is a file attached with the accepted format, it is very important to keep to the standard format and not deviate from them.

3.1.3 The structure of the proposal:

1. Abstract
2. Introduction
3. Methodology



- 4. Preliminary results
- 5. Research plan and timeline

| | Topic | Starting date | Ending date |
|----|-------------------|---------------|-------------|
| 1. | Literature Survey | 15.11 | 1.12 |
| 2. | Planning | 1.12 | 1.1 |
| 3. | Construction | 1.1 | 15.1 |
| 4. | Experiments | 15.4 | 15.5 |
| 5. | Completion | | 1.8 |

6. References

A list of books, articles, reports, patents that are referred to in the previous sections in the order that they appeared in the research proposal. The following format should be used:

- 1. R. V. L. Hartley: "Transmission of information", Bell Syst. Tech. J. 7, (1928) 535-563
- 2. R. Hartley: "Modulation System", US Patent 1,666,206, April 1928
- 3. Y. Pinhasi: "Physical foundations of electronic communications", (Amichay, 2006) ISBN 978-965-7376-08-9



Sample title page for Research proposal

אוניברסיטת אריאל בשומרון

הצעת מחקר לתואר שני

Name of Student in Hebrew

Name of student in English

ID Number

Research topic in Hebrew

Research Topic in English

מנחים (Names of mentors in Hebrew)

Hebrew date

English date



4. Instructions and Guidelines for Submitting a Master's Thesis in the Department of Chemical Sciences

4.1 General Guidelines

At the time when the Master's thesis is submitted it is the responsibility of the student to verify that they are registered as a student in Ariel University in the year of submission. A student whose completion date for the degree is the end of a specific academic year, must complete all the requirements for the degree until the day before the new academic year begins including courses and submission of the thesis. A student who only completes their degree requirements after the next academic year has started will be charged tuition as per university regulations. In order to prevent being charged tuition for an additional year, the review of the thesis and the thesis defense will take place within ninety days of submission of the thesis to the department after the approval of the advisor/s.

4.2 The thesis defense

The thesis defense occurs after the thesis is submitted. The right to a thesis defense is on the condition that all of the degree requirements have been fulfilled including getting final grades on all courses required for the master's degree.

The student will be tested orally in front of a thesis review committee, which will be appointed by the head of their departmental committee. At the defense the student should present their results and should show broad knowledge of their research and of the practical obstacles that they faced in their research project.

4.3 Guidelines for writing the thesis

1. The thesis should be printed 1.5 spaced with wide margins (2.5 cm on each side) on A4 size paper. The bibliography, comments and citations should be printed with 1.5 spacing. The font size should be consistent throughout the whole thesis including the bibliography. Recommended fonts include: Times New Roman, David or Ariel. The text should be written using 12 pt. font.
2. The scope of the thesis should not exceed 70 printed pages (or 35 double sided pages). It is recommended that one only binds the thesis after getting approval from the departmental committee for master's degrees.

3. The thesis should include cover pages in Hebrew and English as the cover and the inner cover pages. The signature of the mentor (or mentors) should appear on the inner cover pages. The logo of the university should not appear there.
4. After the cover pages the page for acknowledgements and dedication can appear (optional) and next a Hebrew or English abstract depending on the language of the thesis (1-3 pages). The abstract should include the aims of the study, its importance and the main results. The abstract in the second language should contain the same elements, and should appear on the last pages of the thesis.
5. The table of contents should list the chapters, sections and subsections of the thesis. The table of contents should be generated by the computer and not manually. After the table of contents there should be a numbered list of figures and tables which includes descriptions of each figure or table. There should also be a list of abbreviations. If images of molecules are included in the thesis, they also need to be numbered in agreement with the other figures. The remaining elements of the table of contents those that are necessary for the thesis. The guidelines for the order of the elements of the thesis can be found below.
6. The bibliography should be written according to academic standards. A bibliography program should be used (such as Endnote, Mendeley or Ref Manager). In the body of the text the bibliography should be referenced by a number that relates to the order it appears in the bibliography. The format of the bibliography can be according to one of the accepted formats found in scientific journals as long as it includes the following elements: names of the authors, name of the article, name of the journal, year of publication, volume number, pages. Here are two examples:
 1. Adachi, Y., Yoshikawa, Y., and Sakurai, H. 2007. Antidiabetic zinc(II)-N-acetyl-L-cysteine complex: evaluations of in vitro insulinomimetic and in vivo blood glucose-lowering activities. *Biofactors* 29:213-223.
 2. Adachi Y, Yoshikawa Y, Sakurai H. Antidiabetic zinc(II)-N-acetyl-L-cysteine complex: evaluations of in vitro insulinomimetic and in vivo blood glucose-lowering activities. *Biofactors*. 2007; 29: 213-23.
- 7.

The names of the authors can also appear as Y. Adachi as long as there is consistency throughout all the citations.

Books should be cited as follows: Authors, title, publisher, version (if applicable), city of publication, year of publication, page numbers that relate to the citation.

The outline of page order in the thesis:

1. Cover Page
2. Inner cover page
3. Dedication
4. Acknowledgements (If the student received a stipend, they should add the following sentence on the page of acknowledgements "I would like to thank Ariel University for the personal stipend that gave me financial support during the course of my research." If the student received a fellowship that was sponsored by a donor, the student must thank the donor by name in the acknowledgements.)
5. Table of contents
6. Abstract
7. List of figures
8. List of tables
9. List of abbreviations (written as a table)
10. Introduction (emphasizing the importance and aims of the research)
11. Experimental-
12. Results and discussion
13. Conclusions/concluding remarks
14. Bibliography
15. Addenda
16. Abstract in the second language
17. Inner cover page in the second language
18. Cover page in the second language

8. One should be careful that in all parts of the thesis the language and graphics are correctly edited according to what is commonly accepted in the scientific professional literature. A thesis that does not stand up to these accepted criteria will be returned to the student without approval. Furthermore, one should perform proper editing of the text and define styles for heading and text and maintain consistency throughout the thesis.
9. Any deviation from the accepted protocol requires pre-approval from the departmental committee for master's degrees. Approval of the committee will be granted in exceptional cases in light of a justified recommendation from the student's mentor and the head of the program, before the thesis has been submitted for defense.
10. After the mentor approves the thesis, one unbound copy of the thesis should be submitted to the coordinator of the program for master's degrees in order to obtain approval from the head of the program. Additionally, the student should submit the form for approval for thesis submission.

11. After the approval of the head of the program, the student will submit 3 bound copies that will be sent to the reviewers.
12. The date of the thesis defense will be coordinated to accommodate the members of the committee and the student. The date will be set after the committee deems that the thesis is appropriate for a master's degree.

Note: Approval for completion of the master's degree will not be granted until the master's thesis is submitted according to protocol.

דוגמא לשער-

אוניברסיטת אריאל בשומרון

הפקולטה למדעי הטבע

[Title of the thesis (in Hebrew)]

חיבור זה מוגש כחלק מהדרישות לקבלת התואר "מוסמך למדעים" (M.Sc.)

במחלקה למדעי הכימיה

על ידי:

[Name of the student (in Hebrew)]

העבודה הוכנה בהדרכתו/הדרכתם של [Name of the mentor/s (in Hebrew)]

[Hebrew and English date]



Ariel University

Faculty of Natural Sciences

[The title of the work]

A Thesis submitted in partial fulfillment of the requirements for the degree
of M.Sc.

Department of Chemical Sciences

By

[Name of the student]

This work was prepared under the supervision of

[Name of supervisor/s]

(Month, Year)

