



**ARISTOTLE UNIVERSITY OF THESSALONIKI**

**PHARMACEUTICAL DEPARTMENT**

**POSTGRADUATE PROGRAMME**

**INDUSTRIAL PHARMACY**



# Thesis Regulation

The procedure of the Postgraduate Thesis is carried out in accordance with article 34, paragraph 4 of Law 4485/2017 and the updated internal regulations of the MSc 'Industrial Pharmacy'. According to the regulations, the assignments for the supervision of the thesis are made to the faculty members of the courses of the MSc 'Industrial Pharmacy' 1st and 2nd and 3rd semester.

More specifically, at the end of the first semester, the faculty members inform about the number of postgraduate students they can employ and define the topics of the theses. The maximum number of positions per faculty member is 3 (except for exceptions). In order to occupy a place, the graduate student who has passed the first semester courses and has the highest marks will be the first to choose the supervisor he/she wishes, and the others will follow with the same criterion. A prerequisite for taking on thesis supervision duties is that the supervisor must accept the student accordingly. The assignment of a supervisor must be completed by the end of the second semester .

Subsequently, the candidate's application is submitted to the General Assembly of the department for approval, indicating the proposed title of the thesis, the supervisor and the Tripartite Examination Committee. The members of the Tripartite Examination Committee must have the same or related scientific expertise as the subject of the thesis.

For the group of special postgraduate students working in industry, they must have secured the possibility of carrying out the thesis in their professional field when registering for the MSc. The thesis will be carried out under the supervision of a faculty member and a supervisor (holder of a master's or doctoral degree) from their place of work. The two other members of the three-member committee are appointed as required by the law on postgraduate studies. During the course of the Master's thesis and in exceptional cases, it is possible to replace the supervisor or a member of the Examination Committee (following a decision of the Assembly of the relevant Department) if there is an objective impossibility or an important reason (e.g. resignation, illness, etc.).

Part or even the whole thesis may be prepared by the students, in the context of their internship, in a pharmaceutical company, a relevant laboratory or a public institution (Internal Regulations Article 8). In this case, the first stage of the thesis, which refers to the collection of bibliographic data, is carried out at the premises of the MSc, while the second stage may be carried out, as an internship, at the host institution after its consent. The duration of the internship/thesis varies from 3 to 6 months and depends on the hours and days of employment of the intern. In order to achieve the intended learning outcomes, the appointment of a faculty member as a supervisor who will be responsible for guiding the student throughout the internship at the host institution and a supervisor from the host institution who has academic qualifications (at least a Master's degree) is a prerequisite. The successful completion of the internship as a thesis entails the award of 24 credits (European Credit Transfer and Accumulation System ECTS) corresponding to the second stage of the thesis (Catalogue of courses of the MSc). The Master's Thesis is written in at

least five (5) copies and one of them is deposited in the library of the department for archiving. It includes the Preface, Introduction, Object and Purpose, Instruments and Materials used, Experimental part, Results, Discussion, Conclusions and Bibliography. It also includes an abstract in Greek and English. The presentation of the Postgraduate Diploma Thesis (MDT) is supported before the Tripartite Examination Committee at a date and place determined by the Board. After its approval by the Committee, it is obligatory posted on the website of the relevant School. The Master's Thesis is graded in whole points from 0 to 10 with a minimum grade of 6. If a grade of less than 6 is obtained, the presentation of the corrected thesis will be repeated after two months. In case of disagreement between the graders, both in the courses and in the thesis, the Board will appoint a re-evaluator who will give a final grade after an examination (written or oral) of the candidate. The grade of the Diploma of Postgraduate Studies is the weighted average of the courses of the MSc and the Postgraduate Diploma Thesis.



## Guide to writing a postgraduate thesis

The preparation and writing of the thesis is a fundamental principle of academic practice and is assessed according to the following criteria:

- originality of the subject - topic,
- critical understanding of the existing relevant literature and ability to report on it,
- foundation of opinions and arguments,
- ability to abstract and synthesize, logical structure and consistency,
- documentation of opinions and information (footnotes - references - citations),
- completeness of bibliography and sources,
- careful wording, correct writing, correct syntax, overall thoroughness,

- clear and comprehensible structure (clear distinction between chapters, sections, subsections, etc.),
- meticulous adherence to the rules and guidelines for writing and presentation

### **THESIS ISSUE**

The Final Edition includes all the corrections made by the Tripartite Examination Committee, under the responsibility of the Supervisor, and is issued in at least 5 copies (1 for the Program Secretariat, 1 for the library, 1 for each member of the Tripartite Examination Committee).

### **STRUCTURE OF THE THESIS**

The paper is divided into three parts: the opening pages, the main text and the sources/bibliography.

#### **Initial pages**

1. Cover page (the MSc logo is not numbered, see the template in the Annex)
2. The second page (the three-member examination committee and copyright)
3. Dedication (optional, third page, upper right, italics in lower case)
4. Abbreviations (optional)
5. Acknowledgements (optional)
6. Contents
7. Tables (list, optional)
8. Charts (list, optional)
9. Graphs, illustrations, photographs (list, optional)
10. Summary (according to the number of words specified) and keywords
11. Abstract and keywords

#### **Main text (indicative for papers with an empirical part)**

1. Introduction
2. Methodology
3. Results (individual chapters, depending on the topic under consideration)
4. Discussion
5. Conclusions

#### **Sources - Bibliography**

1. Sources (mandatory, where available)
2. Bibliography
3. Annexes (mandatory, where available)

## THESIS FORMAT

<b>TABLE</b>	General formatting principles
page size	<b>A4</b>
Cover	AUTH, School of Health Sciences, Department of Pharmacy, MSc Industrial Pharmaceuticals Title of Thesis Course title Name of the student Thessaloniki, Month, Year
Font	Calibri 12 px, Times New Roman 12 px.
Alignment	full
Paragraphs	Indent or blank line between paragraphs.
A punctuation mark	1 or 1.15. Never more than 1.5
Page numbering	Either at the top, or at the bottom right of the page
Punctuation	e.g. space after a punctuation mark
Captions	In pictures, graphs, tables with their description.

When referring in the text to results presented in a table, graph, chart or annex, the words (Table 1) or (Graph 1) or (Chart 2) or (in the case of a table in an Annex, Table A1, A2, etc.) should be used at the end of the commentary.

### SPECIAL INSTRUCTIONS

#### Cover page

All entries are centred. The logo of the postgraduate programme (provided by the programme secretariat) must be placed at the top edge (with a margin of 2,5 cm). This is followed, at a distance of about 3 cm, by the title of the research project (in bold capital letters, 14 pt. in size), followed by the phrase RESEARCH PROJECT FOR A SPECIALIST DISSERTATION, at a distance of 3-4 cm in the centre, followed by the author's full name (in capital letters), followed by his/her title (chemist, pharmacist, food technologist, etc.). ) and the university where the thesis was written (E.K.P.A., A.P.Th.). At the bottom is the seat

of the university where the thesis was written (ATHENS or THESSALONIKI) and the year of submission of the original (first edition), which is retained in all subsequent editions. The title should be as short, concise and representative of the content as possible, and should not contain any uncommon acronyms/abbreviations. No figures or photographs other than the logo shall be included on the cover. The cover of the 1st and 2nd editions may be plain white paper and the work may be spiral-bound or heat-sealed. The final version shall be printed on light yellow hard paper. The page immediately after the cover is the same as the cover on regular paper. This page also contains the names and ranks of the members of the Examination Board (one below the other) at the bottom. All seven copies of the final version of the thesis shall be signed by the members of the Tripartite Examination Committee. A sample thesis structure is presented at the end of the document. Alternatively, the second page may be identical to the first page and the three-member committee with signatures may be indicated on the next page on which the author's copyright is also indicated.

### **Content structure and page numbering**

- 1) Preface (reference to the laboratory where the thesis was prepared and the postgraduate program, acknowledgements (optional), up to one or two pages. At the end, the University's headquarters (Athens or Thessaloniki) and the year are indicated.
- 2) Contents, in 3 numbered levels (Chapter, Subchapter, Section).
- 3) Table of abbreviations (in case a significant number of non-common abbreviations/acronyms are used).
- 4) Following is the order of the Chapters, numbered in Arabic numerals. The Chapters are divided into 2 parts: Theoretical and Experimental, numbered consecutively. Each chapter is divided into numbered subchapters and each subchapter into numbered paragraphs.

## **CHAPTER. 1 CHROMATOGRAPHY TECHNIQUES (bold capital, size 14 pt)**

### **1.1. Liquid Chromatography (capital, bold, size 12 pt)**

#### **1.1.1. Historical Development (small, bold, size 12 pt)**

The main text follows with a blank line. At the end of the Theoretical Part, in the form of a short (1-2 pages) independent chapter, entitled OBJECTIVE OF THE WORK, the stimuli, causes, difficulties, etc., which gave rise to the research effort, the objectives set and a brief outline of the Experimental Part are described. At the end of the Experimental Part, an overall evaluation of the results and the achievement of the objectives set and the prospects for the future are included.

- Appendices (if there is a need for the description of software programs, proprietary constructions, extraction of mathematical relationships, experimental protocols, etc.).
- Bibliography, numbered in order of appearance in the text.
- Summary in Greek, including the title of the thesis and the author's name (1-2 pages).
- Abstract (Summary in English) (1-2 pages) including the title of the thesis and the name of the author.

### **Bibliography - References**

Citations are numbered in the text in the order of their appearance, in brackets to the right of the word. References should not be presented alphabetically or in any other way other than the numbering system in the order of appearance. In case of a large number of references, the symbol (-) is used. In words followed by a comma or period, the bracket is placed before the punctuation mark. Examples:

Several methods for glucose determination have recently been developed [1,2,8–12], including spectrophotometric [9,10] and electrochemical [12].

The way of writing bibliographic references must be uniform and the following guidelines should be followed:

The writing language is the language of the cited literature.

#### A) Papers in journals:

Journals are not written in full lettering, but in abbreviated form according to Analytical Abstracts' suggestions. Examples:

1. Anal. Chim. Anal. Acta (for the journal Analytica Chimica Acta).
2. Anal. Chem. (for the journal Analytical Chemistry).
3. Analyst (for the journal Analyst).
4. J. Pharm. Biomed. Anal. (for the Journal of Pharmaceutical and Biomedical Analysis).

The title of the work is not indicated. The order of citation of a bibliographic reference to a journal is as follows: Surname (full name) followed by a comma, initials of name and middle name followed by a full stop without a space, followed by a comma and the

details of all authors, and for the penultimate author the word and is put for the penultimate author. This is followed by the title of the journal (written in the correct abbreviation), the date, the volume of the journal in bold, the first and last page of the article followed by a full stop. It is not allowed to mention only a few authors and to use the phrase 'et al'.

Examples:

1. Robins, R.B., and Carouso, J.A., Anal. Chem., 1979, **51**, 889-894.
2. Higashi, T., Takido, N., and Shimada, K., Analyst, 2003, **128**, 130-138.

#### B) Presentations in conference proceedings:

Give the names of the authors, as in the case of journals, followed by the word Proceedings, the title of the conference, the number of the paper and/or the page of the proceedings and the year.

Example:

1. Zweigenbaum, J. and Woodman, M., Proceedings of the 51<sup>st</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Poster WPF 125 (2003).

#### C) Reference to books:

The names of the authors are given, as in journals, followed by the title of the book, the publication number, the publishing house, the city of publication, the year of publication and the page(s).

In the case of authors of chapters in books, the names of the authors of the chapter shall be given, followed by the words 'in', the title of the book, the authors responsible for publication, the publication number, the publishing house, the city of publication, the year of publication and the section, chapter and page(s) of the book.

Examples:

1. Willard, H.H., Meritt, L.L., Dean, J.A., and Settle, F.A. Jr., Instrumental Methods of Analysis, 6<sup>th</sup> ed., Van Nostrand, New York, 1981, pp. 159-178.



- Harrison, W.W., and Donohue, D.L., in *Treatise on Analytical Chemistry*, eds Kolthoff, I.M., and Winefordner, J.D., 2<sup>nd</sup> ed., Wiley, New York, 1989, pt. 1, vol. 11, ch. 3, pp. 189-235.

D). Reference to an online page:

The online page is indicated accompanied by the date of the last visit.

Example:

[www.sedere.com](http://www.sedere.com) (last visit June 2004)

### Figures and Tables

The figures are placed on the page they correspond to or on the next page and there is necessarily a reference to them in the text. They are numbered with Arabic numerals, with the first number being the number of the chapter followed by the serial number of the chapter's shape. For example, Figure 3.12, is the 12th figure of chapter 3. Photographs if available, are included in the figure numbering. They must be legible, drawn in black ink or preferably on a PC. The caption is placed directly below the figure and should be brief but give all the required information and explanations of the symbols appearing in the figure. The letters of the caption must be differentiated from those of the text (*italics*).

Example caption:

**Figure 2.1.** Effect of solution acidity on reaction rate.

**Figure 3.3.** Standard chromatogram of a mixture of paracetamol (200 µg/mL) and caffeine (100 µg/mL), in methanol.

Tables are similarly placed on the page to which they correspond or on the next page, must not be broken (unless they do not fit on one page) and must be referenced in the text. The font size may be smaller than that of the text, but legible. They shall be numbered in Arabic numerals, just like figures. All tables shall have a heading at the top, brief but containing all the information necessary for the understanding of the table. Symbols and conditions are explained in the form of footnotes. All numerical data are in units and include the correct number of significant figures. Particular care is taken not to repeat the same units.

Example:

**Table 2.2.** Experimental data of the calibration curve

*			

\*three replicates

### Equations

They are written with the special program Equation Editor, in the center of the page, separated from the text above and below with a space and numbered per chapter. The numbering is placed at the right end, within parentheses. Equation symbols are explained within the text, unless previously defined.

Example:

$$R = \frac{2(t_{R,B} - t_{R,A})}{(w_A + w_B)} \quad (2.3)$$

όπου:  $t_{R,B}$  .....

### Thesis size

The thesis should be approximately 100 pages in size and the volume of the Theoretical Part should not be larger than the Experimental Part. The Theoretical Part includes chapters on the techniques, samples and analytes of interest to the research work. The Experimental Part contains the experimental work, the results and a discussion of the results, structured in appropriate chapters. A close link between the Experimental Part and the Theoretical Part (references) is recommended.

### Supplementary Instructions

- When writing the thesis, it is recommended to use all the knowledge acquired in the Research Methodology course.
- It is emphasized that in a Greek text the comma is the comma, while in an English text the period. The opposite is true for the thousands sign.

### Examples:

solution concentration 2,45 µg/mL (Greek)

solution concentration of 2.45 µg/mL (English)

quantity 1.567 µg (English)

quantity of 1,567 µg (Greek)

- For symbolizing the product or when writing powers of 10, do not use the Greek  $\chi$  or the Latin  $x$ , but the corresponding symbol  $\times$  (from the WORD symbol table).

Example:

$$\text{Mass} = C (\text{mg/mL}) \times V (\text{mL}) = 3,25 \times 10^{-4} \text{ M.}$$

- Any misconduct or violation of academic ethics is referred to the coordinating committee of the MSc for judgment and recommendation for addressing the problem at the Departmental Assembly (provisions of Law 5343/1932 (articles 120 to 123), PD 160/2008 -23 to 25). Reproduction or adaptation of tables, graphs, charts, diagrams, images and other photographic material require that the relevant permission is granted by the respective copyright holder and submitted with the work. In this case, the full name of the copyright holder shall be indicated in a footnote to the image, photograph, diagram, graph or table. The citation shall be made in the manner indicated by the copyright holder.

## SAMPLE STRUCTURE OF THESIS

ARISTOTLE UNIVERSITY OF THESSALONIKI



FACULTY OF HEALTH SCIENCES

DEPARTMENT OF PHARMACY

MSc INDUSTRIAL PHARMACY



THESIS TITLE IN CAPITAL LETTERS AND CENTERED  
RESEARCH PROJECT FOR A DIPLOMA THESIS

Christos Papadopoulos, Pharmacist ΑΠΘ

Thessaloniki, 2023

ARISTOTLE UNIVERSITY OF THESSALONIKI



FACULTY OF HEALTH SCIENCES

DEPARTMENT OF PHARMACY

MSc INDUSTRIAL PHARMACY



THESIS TITLE IN CAPITAL LETTERS AND CENTERED  
RESEARCH PROJECT FOR A DIPLOMA THESIS

Christos Papadopoulos, Pharmacist ΑΠΘ

Thessaloniki, 2023

**Three-member Examination Committee**

Aikaterini ....., Professor at the A. U. Th (Supervisor)

George....., Professor, A. U. Th, Greece

Konstantinos ....., Professor, A. U. Th

**Signature**



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Approval of the thesis by the Department of Pharmacy of the Aristotle University of Thessaloniki does not imply acceptance of the author's opinions.



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*Dedication*

*(dedication text)*



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### **Abbreviations**

HPLC: High Performance Liquid Chromatography



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## Thanks



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## Text contents



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## Table Contents (optional)

Table 1. ....	240
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## Chart Contents (optional)

Chart 1. ....	250
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## Summary

(summary text in Greek)

Keywords: (at the bottom of the page)



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## Summary

(summary text in English)

Keywords: (at the bottom of the page)



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## Introduction



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## Chapter 1o



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## Chapter 2o



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.....

## Chapter X

.....



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## Conclusions

**(each chapter starts on a different page)**



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## Annex

[Material that is bulky, for example questionnaire results, figures, tables, etc. that prevent the reader from understanding the rest of the text, can be placed in annexes. The numbering of the annexes should be in capital Greek letters A, B, C,... while figures, drawings, tables, etc., which are included should be named Figure A1, Table B2, etc.]



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## **Bibliography**

[The list of works (print, digital) cited within the main text are listed in an alphabetical order based on a known standard such as Harvard, MLA, APA, etc.]



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