



School of Chemical Engineering AUTH

**Postgraduate Studies Programme:
"Chemical and Biochemical Engineering: Health & Food"**

A12. Regulations for studies, internships, mobility, thesis preparation of the MSc

19 January 2024

Regulations for studies

Article 1: Purpose and scope

1.1 This current regulation serves as an additional and detailed set of guidelines to complement the existing regulation governing the Postgraduate Program of Studies titled "Chemical and Biochemical Engineering: Health & Food" administered by the School of Chemical Engineering at Aristotle University of Thessaloniki. It addresses and provides specificity to various aspects of the academic journey, including the study procedures for students, the preparation of theses and dissertations, and considerations related to practical training and mobility. In addition, this regulation complies with and applies the provisions of Chapter I [Organization and Operation of the Second and Third Cycle of Studies] of Law 4957/2022 (A 141).

Article 2: Procedure of notice and admission to the Program

2.1. The number of admissions per year is set at a **minimum of 10 and a maximum of 20 postgraduate students**. The MSc **cannot operate with less than 10 postgraduate students**.

2.2 The MSc, following a decision of the School Assembly (approximately in May of each year), announces open admission to the Program. In particular, the invitation specifies the admission requirements, the number of admissions, the number of candidates, the categories of candidates, the mode of admission, the selection criteria, etc., the deadlines for submitting applications and the supporting documents required. The notice of admission of postgraduate students is published on the School's website.

2.3 Applications (Departmental form) accompanied by the necessary supporting documents are submitted to the Secretariat of the School's MSc program, either in paper or electronic form.

The admissions selection criteria include:

1. Possession of a national or international undergraduate degree/diploma.
2. Grades in the undergraduate courses that are related to the Program.
3. Relevance and performance in the undergraduate Diploma Thesis, when this is applicable, i.e., undergraduate diploma thesis is part of the curriculum.
4. Adequate knowledge of the English language (at least level B2), as a necessary condition. Alternatively, an English-language bachelor's or master's degree from a Greek or foreign University can be submitted.
5. Two (2) letters of recommendation.
6. Interview by the relevant Committee.
7. Documentation of relevant research or work experience and publishing activity.
8. In addition to the above supporting documents, the candidate may submit:
 - a) Diploma or diplomas of postgraduate studies at a Greek University or a similar institution abroad.
 - b) Doctoral degree from a Greek University or a similar institution abroad.
 - c) Certificates for possible good knowledge of the French, German, Italian or Spanish language.

If the candidate is a foreigner, he/she can submit certificates for the knowledge of the Greek language, which will allow the Program to run in Greek language.

The aforementioned supporting documents can be submitted either as an exact copy or a simple photocopy. Additionally, applicants are required to submit their CV and a photocopy of their ID/passport.

Candidates can also be final year students of the Schools, by submitting a Certificate of Completion of Studies from the Secretariat of their School, together with their supporting documents. Students are required to submit their diploma/degree to the Secretariat of the MSc as soon as they receive it.

2.4 The initial stage of the candidate selection process begins with the Program Secretariat, which verifies the completeness of each file. Subsequently, a list is compiled, including candidates who have submitted all necessary supporting documents by the stipulated deadline.

Upon the decision of the School's Assembly, a Selection and Examination Committee is established. This committee comprises members of Teaching Research Staff, who are actively involved in postgraduate projects. The Committee creates a comprehensive list of candidates possessing the requisite qualifications. After a thorough examination based on a scoring table, candidates failing to meet the minimum criteria set by the School are excluded. Qualified candidates who fulfill the prerequisites are then invited for an interview.

The evaluation and scoring are carried out in two phases:

In the first phase, the evaluation of the candidates is based on the standard qualifications, as follows:

- Diploma/Graduate Degree (grading is given in the table below) (30 points)
- Number of undergraduate courses that are relevant to the Program and corresponding grade (15 points)
- Documented relevant research or work experience (15 points)
- Two letters of recommendation (10 points)

The second phase includes an interview with the candidates.

Personal interview of the candidate (by Coordinating Committee) (30 points)

Total: 100 points

Diploma/Degree grade	Points
10	30 (100%)
9	30
8	27
7	23
6	20
5	0

Candidates scoring thirty-five (35) points or more in the initial phase proceed to a personal interview conducted by members of the Selection and Examination Committee. Using the cumulative absolute score from both evaluation phases, the Committee selects the Program's new students who have achieved a minimum of sixty-five (65) points out of a total of 100. Subsequently, a list of successful candidates is compiled.

Upon the conclusion of the process, the final list of successful candidates undergoes approval by the School's Assembly and is published on the Program's website. In the event of a tie, candidates with the same grade as the last successful candidate are accepted as supernumerary students.

Objections to the results can be submitted within a two-day period following the publication of the results. The evaluation of objections is performed by the Selection and Examination Committee. If the objections are accepted, the final list of successful candidates is compiled and is approved by the Department's Assembly and posted on the Master's website

2.5. The registration of admitted postgraduate students begins after the announcement of the Secretariat of the MSc, which also specifies the duration of the registration and other details.

The registration documents are the following:

- Application form (Departmental form)
- Copy of Diploma or Degree (or certificate of completion for final year students)
- Copy of the certificate of analytical marks
- Documentation of relevant research or work experience (e.g. copy of relevant thesis, publications, conference proceedings, certificate of work experience, employer's certificate, etc.)
- Certificate of knowledge of English language (at least B2 level)
- Two letters of recommendation
- Curriculum vitae
- Photocopy of Identity Card/Passport

If you do not register within the deadline, you will be deemed to have refused to accept the post and it will be filled by the next successful candidate.

Article 3: Duration and conditions of attendance, suspension of attendance, deletion of students

3.1 The duration of the course of study leading to the award of the degree (D.M.S.) is defined in four (4) semesters. The preparation and writing of the thesis is carried out entirely during the 3rd and 4th semesters in parallel with other academic obligations (within the 3rd semester).

3.2 The maximum time allowed for the completion of studies is set at 6 semesters.

3.3. Postgraduate students are not given the option of **part-time study**, due to the sequencing of courses per semester.

3.4. Graduate students have the option, upon application and justification at the semester's commencement, to request a **suspension of studies**, lasting for two (2) semesters not exceeding two (2) consecutive semesters. During the suspension, the graduate students lose their student status, and this period does not count toward the maximum study duration. Consequently, the graduate students will attend courses missed in corresponding semesters during the next academic term, provided the Program is conducted.

3.5 Furthermore, a graduate student may request an **extension of studies** for either completing the Program or preparing the postgraduate thesis. This request must be submitted before the completion of the normal duration of studies and be accompanied by a letter detailing the reasons for this request. If the graduate student does not successfully complete the study cycle by the end of the extended period, he/she is removed from the Program by a decision of the School's Assembly.

3.6.¹ Decisions regarding removal are made by the School's Assembly, based on the recommendation of the Coordinating Committee, which provides the justifications for removal.

¹ Reasons for removal could be: a) the insufficient progress of the postgraduate student (which is documented by non-participation in the educational process: attendance, examinations), b) inadequate fulfilment of other obligations defined by the Regulations, c) behaviour that violates academic ethics such as plagiarism, and d) the request of the postgraduate student himself/herself.

3.7 Postgraduate students are enrolled and participate in the MSc under the terms and conditions provided in the Regulations for Postgraduate Studies. Postgraduate students have all the rights, benefits and facilities provided for first cycle students, **except for** the right to free textbooks.

For postgraduate students with disabilities or special educational needs, the School's infrastructure is used to provide access to the course venue. The possibility of longer written examinations, oral examinations and extended submission of assignments is also given and the arrangement is made by decision of the School Assembly and depending on the special educational needs of the student concerned.

The graduate students who are admitted to the Program are obliged to:

1. To continuously attend the courses of the Program. Attendance of classes, workshops and exercises is mandatory. The limit of absences to which each postgraduate student is entitled is 10% of the total hours per course. They can rise to 20% in the event of an inflexible reason requested in writing by the interested party and proven in writing and approved by the Coordinating Committee.
2. To participate in all educational and research activities.
3. Timely course enrollment each semester.
4. To submit within the prescribed deadlines the assignments required for each course.
5. To participate in the exams.
6. To submit to the Secretariat, together with their diploma thesis to be evaluated, a legal declaration that they have not committed plagiarism.
7. To pay the tuition fees within the set exclusive dates.
8. To have settled all their financial obligations, as well as any other obligation to the Institution, before the swearing-in. Otherwise, they waive the right to graduation.
9. If they have received a scholarship, to offer remunerative work, as long as this is foreseen (tutoring, contribution to the library and research activities and wherever there is a need in the services of the University).
10. To respect and abide by the decisions of the postgraduate bodies, as well as academic ethics. Failure to comply with the above, without documented justification, may result in failure in a course or exclusion from the Program.

Failure to comply with all of the above without a serious and documented justification is grounds for the graduate student's removal from the Program.

3.8 A graduate student who fails an exam in a course is assigned a "Repeat" grade ("E"). The student with an "E" grade is eligible for re-examination only once during the repeat examination in July. If the student fails again in any course during the re-examination, it is considered that he/she has not successfully completed the Program and is expelled from the Program by decision of the School's Assembly. In the event of a failure in the examination of one or more courses, leading to the student not successfully completing the Program, the student has the right to request an examination by a

three-member committee of the Teaching Research Staff from the School's Faculty. These members should specialize in the same or related subject area as the course being examined and are designated by the School's Assembly in September of the same calendar year. The teacher in charge of the original examination is excluded from the committee. Students that fail again in any course during this examination are expelled from the Program by decision of the School's Assembly.

Article 4: Course program

4.1 The MSc is structured in four (4) semesters. The courses taught per semester and the credit hours per course are presented in the table below. Note that each semester corresponds to 30 ECTS.

A) Indicative curriculum

1st semester (Total ECTS 30)			
yNo	Course title	Course type (Required/Optional)	ECTS
11	Process analysis	R	12
22	Data mining and numerical analysis	R	7
33	Design of Food Industry Production Units	R	7
44	Functional Food Technology	R	4
2nd semester (Total ECTS 30)			
yNo	Course title	Course type (Required/Optional)	ECTS
11	Bio-Pharmaceutical Technology	R	7.5
22	Production processes of advanced biomaterials	R	7.5
33	Design of Manufacturing Processes for Pharmaceutical products	R	7.5
44	Management of Manufacturing Industries & Medicines and Food Legislation	R	7.5
3rd semester (Total ECTS 30)			
yNo	Course title	Course type (Required/Optional)	ECTS
11	Biomedical Engineering, Regenerative Medicine, Tissue Engineering	R	7.5
22	Bioanalysis and -OMICS	R	7.5

33	Master's Thesis (Literature review and experimental or computational study design)	R	15
4th semester (Total ECTS 30)			
Course title		Type of work	ECTS
Master Thesis		R	30

Depending on the subject area of the candidates selected for the MSc, the Board may decide to conduct supportive teaching of Mathematics.

4.2 The official languages of the Postgraduate Program are Greek and English. The language of instruction of each course is chosen according to the composition of the audience (e.g., pure Greek-speaking or English-speaking students) or any other particularities and requirements of the course. The writing of the thesis may take place either in Greek or in English.

4.3 The start and end of the courses and the duration of the examination periods are determined by the academic calendar or by a decision of the Assembly of the School.

Article 5: Teaching work

5.1 Attendance at classes or any other educational activity is compulsory. Graduate students are considered to have attended a course, and thus are eligible to take the exam, only if they have attended at least 90% of the hours for each course. In exceptional cases, and upon written proof of an inflexible reason, a request for approval to consider 80% of the total hours per course as the attendance threshold may be submitted. The approval of the Coordinating Committee is required for such requests, and if not granted, the matter is reviewed by the Coordinating Committee, which provides its opinion to the School's Assembly for a decision on removal.

5.2 Courses are typically conducted in person, and only in exceptional cases or for seminar-type courses involving members from outside the School, modern distance education methods may be employed, subject to the approval of the Coordinating Committee.

5.3 All courses are described in detail in the Program's study guide and website, which includes in each case the learning outcomes, the lecture sequences and the recommended bibliography.

5.4 Should there be any postponement of a course, it will be rescheduled within a reasonable timeframe. Announcements regarding both the postponement and rescheduling of the course will be communicated through the Program's website and other suitable channels.

Article 6: Examinations and grading

6.1 The evaluation of postgraduate students is carried out exclusively by the teaching staff of the MSc. The assessment in individual courses will be carried out by written or oral examinations, assignments or a combination of the above. The examinations may be conducted either online, using electronic certified applications or in person.

The method of assessment is determined by the instructor of each course at the beginning of the academic semester. The percentage of participation in other educational activities (in laboratory exercises, assignments and seminars where foreseen) is determined in the final grade of each course for each course separately, following the recommendation of the lecturer of each course and approved by the Coordinating Committee of the MSc.

6.2 The grading scale for the evaluation of the performance of postgraduate students is defined from zero (0) to ten (10), as follows:

- Excellent (8.5 to 10)
- Very Good (6.5 to 8.49)
- Good (6 to 6,49)
- The qualifying grade is six (6) and above.
- In order for a course to be considered successfully completed, both the average and the examination grade for each course must be at least six (6).

6.3 A graduate student who fails the examinations of a course is given a grade of "E" (Repeat). A student who receives a grade of "E" is re-examined once only in the July re-examination. In case of a new failure in even one course, the student is considered to have not successfully completed the program and is expelled from the MSc by decision of the School Assembly.

In the event of a failure in the examination of one or more courses, leading to the student not successfully completing the Program, the student has the right to request an examination by a three-member committee of the Teaching Research Staff from the School's Faculty. These members should specialize in the same or related subject area as the course being examined and are designated by the School's Assembly in September of the same calendar year. The teacher in charge of the original examination is excluded from the committee. Students that fail again in any course during this examination are expelled from the Program by decision of the School's Assembly.

6.4 The grade of the Master's degree is the weighted average of the courses of the Master's degree and the Postgraduate Thesis (the weighting is based on the credits of the courses and the Master's thesis) and is calculated, to the second decimal place, in the following way:

The grade of each course and the Master's Thesis is multiplied by the corresponding number of credits (ECTS) and the sum of the products is divided by the number of credits required to receive the MSc Degree.

The mathematical formula is as follows:

$$\text{Grade of MSc Degree} = (\text{Grade of course 1} \times \text{ECTS of course 1} + \text{Grade of course 2} \times \text{ECTS of course 2} + \dots + \text{Grade of master thesis} \times \text{ECTS of master thesis}) / \text{Total number of ECTS}$$

6.5 In the event of breaches of examination regulations, such as copying during exams or plagiarism in assignments, the affected paper or assignment will receive a zero mark. Upon a justified recommendation from the supervising professor, the School Assembly may decide to dismiss the postgraduate student.

Any form of misconduct or violation of academic ethics is brought before the Program Committee for assessment and recommendations for addressing the issue to the School Assembly. The Ethics Committee of the Foundation is responsible for addressing violations related to ethics and study quality.

Article 7: Preparation of work

7.1 The Coordinating Committee of the MSc prepares and publishes on the website of the Program a guide for the preparation of assignments that the students of the Program must follow.

7.2 All assignments are prepared and written by the students who sign the assignment.

When submitting a graduate thesis, it is mandatory for the graduate students to disclose whether they have incorporated the ideas or work of others.

7.3. Plagiarism is viewed as a severe form of academic misconduct, encompassing the replication of someone else's work and the utilization of published or unpublished material without appropriate acknowledgment. Even quoting from the graduate student's own studies without proper referencing may warrant a decision by the School's Assembly to expunge the material.

In cases of plagiarism or other misconduct, the School's Assembly, upon a well-founded recommendation from the supervising Professor, holds the authority to expel the graduate student. Instances of academic transgressions are reported to the Coordinating Committee of the Program, which provides judgment and recommendations for addressing the issue in the School's Assembly. Violations such as copying, plagiarism, or any breach of intellectual property regulations in the creation of assignments or the preparation of a postgraduate diploma thesis are considered infractions. The Institution's Ethics Committee is entrusted with overseeing breaches of ethical rules and maintaining study quality.

7.4 Concerning specific disciplinary measures, it is pertinent to reference the resolution of the Senate of Aristotle University of Thessaloniki (Protocol A 11508/14-6-1989 in its meeting number 2562/7-6-1989. According to this resolution, the Senate "empowers the University Schools, in instances where a student is caught cheating, to impose a penalty of exclusion from all courses in the subsequent examination period. This decision will be reported to the Senate. If the student contests the accusation of cheating, or if there are witnesses attesting that the offense did not occur, the matter will be forwarded to the Senate after the student offers an apology and witnesses are examined. Instances of specific cheating, such as impersonation or repeated copying by the same student, will be reviewed by the Senate, based on the School's recommendation, for the potential imposition of a more severe penalty."

7.5. This provision is communicated electronically (together with the entire examination regulations) to the students of the program before the examinations begin.

Regulation for theses

Article 8: Postgraduate Thesis (thesis)

8.1 Upon successfully completing examinations for all courses in the 1st and 2nd semesters of the Program, a postgraduate student is eligible to commence the preparation of their postgraduate thesis in the 3rd semester. To initiate this process, the student formally requests permission to begin the postgraduate thesis, submitting the proposed title, suggested supervisor, and a summary of the planned work along with the application.

Upon receiving the application, the Coordinating Committee reviews it, and if approved, establishes a Three-member Advisory Committee. Alternatively, the committee may propose the formation of such a committee to the School Assembly for further consideration.

8.2 The Coordinating Committee develops and posts on the Program's website a guide for the preparation, formatting standards, and a template for the cover page of the theses that students of the Program are required to follow (a thesis preparation regulation for the MSc program is attached), along with the criteria for the evaluation of the thesis.

The preparation of the Master's Thesis is governed by the Code of Academic Ethics of A.U.Th.

8.3 At the end of the third semester, the student presents to the Three-Member Advisory Committee the theoretical part and a plan of experiments or simulations.

8.4 During the fourth semester, students continue preparing their thesis. The presentation of the master's thesis occurs only after successfully completing this semester and receiving a positive recommendation from the Three-member Examination Committee. The presentation is conducted

publicly and takes place at a designated date and venue set by the supervisor and approved by the Coordinating Committee.

Following the support of the Master's Thesis, a report is generated, detailing the individual grades of each Three-Member Examining Committee member, the average score, and any observations or remarks.

Once the Committee approves the postgraduate thesis, the document must be published on the website of the Central Library of A.U.Th. If requested by the supervisor, the publication of the master's thesis may be postponed for a period of up to two (2) years, particularly if there are considerations related to applying for copyright protection or an impending publication concerning the research results of the work.

Should the Examining Committee provide a negative recommendation, the graduate student has the opportunity to revise and resubmit their thesis, incorporating the suggested improvements within a timeframe determined by the Three-Member Examining Committee. If the subsequent evaluation remains unfavorable, the postgraduate student forfeits the eligibility for the MSc Degree.

8.5 Under exceptional circumstances, such as an objective weakness or significant reasons like resignation, retirement, illness, or leave of absence, it is permissible to replace the supervisor or a member of the Three-Member Examining Committee. This requires a decision from the School's Assembly.

8.6 Changing the topic of a student's postgraduate diploma thesis is allowed only in special circumstances and necessitates a decision from the Coordinating Committee, supported by a well-founded proposal from the supervising professor. It's important to note that altering the subject of a postgraduate diploma thesis does not warrant an extension of the specified deadlines under any circumstances.

Article 9: Evaluation of teachers and courses

9.1 With the exclusive aim of enhancing the quality of the Program's academic offerings, students are encouraged to assess courses and instructors each semester, ensuring their responses remain completely anonymous.

For consistency in observing statistical data and extracting valuable insights for the educational efforts of Schools and the Foundation as a whole, evaluation questionnaires are formulated by MO.DI.P. They may be partially tailored to the specific characteristics and requirements of each academic unit or course. The completion of these evaluations is done electronically.

9.2 The evaluation process is overseen by the Internal Evaluation Team (OM.E.A.) within each School of A.U.Th., in collaboration with the MO.DI.P. of A.U.Th.. This assessment is conducted through the university's Informational Quality Management System (QMS). The School's Administration and OM.E.A. must systematically ensure student participation in the evaluation following MO.DI.P. guidelines and relevant decisions of the Senate.

9.3 OM.E.A. of each School monitors the level of student engagement in the evaluation process through MO.DI.P.'s Quality Management Information System (QMS). They analyze the results and inform the University's Administrative Bodies and the corresponding academic unit. The evaluation questionnaires are specific to each taught course and individual teacher.

Administrative bodies of the Program and the academic unit, in collaboration with the respective OM.E.A., are required to review the evaluation results, announce their findings, decide on the publication of summary results (when deemed necessary and always after the announcement of semester course grades), and take necessary actions, all in accordance with prevailing legislation for the protection of personal data.

Article 10: Complaints and objections management mechanism

10.1 Regarding concerns, complaints, and objections raised by students of the Program during their studies at AUTH, the in-force regulations governing the management of student complaints and objections, as approved for the MSc program within the School of Chemical Engineering at AUTH, will be applicable.

Article 11: Regulation of academic advisor institution

11.1 Regarding matters related to the functioning of the Academic Advisor institution during their studies at AUTH, the regulations governing the operation of the academic advisor, as approved for the MSc in Chemical and Biochemical Engineering: Health & Food within the School of Chemical Engineering at Aristotle University of Thessaloniki, will be applicable as per their current provisions.

Regulation for Internships & mobility

Article 12: Internships and mobility

12.1 Given the operation and rationale of the Program, the internship is not part of the Program. Students may seek an internship during their studies as long as the specific form of internship does not affect their participation in the educational activity.

12.2 Students of the Program may, under the same terms and conditions as other students of the School of Chemical Engineering, move for an Erasmus+ Placement internship (Erasmus+ Placement) as long as this does not affect their participation in the educational activities of the Program.

12.3 The students of the Program will follow the Erasmus+ Placement mobility arrangements that are applicable to other students in the School of Chemical Engineering, with necessary adjustments. The Erasmus+ Placement coordinator appointed by the Assembly of the School of Chemical Engineering shall also be responsible for the students of the Program.

12.4 Given the operation and rationale of the Program, no other form of mobility is possible.

Article 13: Entry into force and revision of the curriculum

13.1 This regulation comes into force from the date of its approval by the Assembly of the School of Chemical Engineering and

13.2 The regulations are revised by the proposal of the Coordination Committee of the MSc and approved by the Assembly of the School of Chemical Engineering.



General

The MSc thesis constitutes the culmination of the educational process of the MSc **CHEMICAL AND BIOCHEMICAL ENGINEERING: HEALTH & FOOD**, offered by the School of Chemical Engineering. Throughout the duration of their MSc Research projects, students receive training from their respective **Supervisor** in order to address as comprehensively as possible, a specific scientific question by making combined use of their undergraduate and postgraduate knowledge. In addition, students are allowed and encouraged to develop their own initiatives, engage with international literature, operate as members of a scientific team, and become familiar with the scientific research process.

Each thesis is assigned a Supervisor who, in addition to providing scientific guidance to the student, is responsible to the School for ensuring the smooth progress and completion of the thesis.

The diploma thesis is conducted, authored, submitted, and presented individually by each student. In cases where the subject of the thesis is part of a broader scientific topic with other students working on related theses, each student submits and presents their thesis with an emphasis on the activities under their own responsibility, which are ultimately evaluated.

1. MSc Research Project (Thesis) Topics

Supervisors prepare brief research project proposals which are communicated to the students, as well as announced on the School's website. The research project proposals provide basic information about the supervisor's name, the topic, objectives, minimum duration, and expected results of the diploma thesis, as well as eligibility requirement in terms of prior knowledge. Students interested in a particular topic may contact the respective supervisor for additional details. Students are allowed to choose their topic of interest, subject to the respective supervisor's approval.

It should also be noted that the extent of the scientific subject should be such that, under conditions of full-time student engagement, the completion of the diploma thesis can be achieved within two academic semesters.

The number of diploma theses supervised annually by each member of the School's academic staff should be approximately proportional to the number of students divided by the number of academics, so that supervision load is evenly distributed.

2. MSc Thesis Enrollment

Students may enrol for a MSc Research Project at the beginning of the 3rd semester if they have successfully passed all courses of the 1st and 2nd semesters of the MSc program. For this purpose,

students must submit an MSc Research Project enrolment application form. In the application (attached in Annex A), the proposed title, the proposed supervisor, and a summary of the proposed work are stated. The application is submitted to the School's Secretariat (in person or electronically to the Secretariat of the MSc Program).

Upon approval for the enrolment application form, the Coordinating Committee forms or proposes to the School Assembly the establishment of a three-member Advisory Committee. The members of the Three-Member Advisory Committee must have scientific expertise within or closely related to the scientific topics covered by the MSc program.

3. Conducting the MSc Thesis

All required experiments, calculations, simulations and relevant scientific activities are performed under the responsibility of the student, with continuous monitoring and guidance from the supervisor. The School, its Departments, and laboratories are obligated, within their capabilities, to provide the necessary resources for the smooth completion of the MSc thesis.

The nature of the MSc thesis can vary depending on the scientific subject and may involve experimental, computational or theoretical approaches, or a combination thereof. A scientific literature review, as and if required, along with a proposed experimental/simulation plan are presented to the three-member Advisory Committee at the end of the 3rd semester. Consequently, MSc theses consisting solely of a literature review on a scientific topic are not encouraged. On the contrary, the completion of theses demonstrating elements of originality and generating new knowledge, to a small or large extent, is encouraged.

The intellectual property rights of the master's thesis are governed by academic ethics, practice, and the applicable laws and regulations. Supervisors should clearly communicate to students the conditions for utilizing the research results, as well as the means (e.g., conference presentations, publications, patents).

4. MSc Thesis Presentations and Examination

The presentation and examination of MSc theses are oral and public.

Students who have completed their Research Project, written their MSc Thesis which has been corrected and approved by their Supervisor, and have successfully completed all other obligations of the MSc program, have the right to present their theses in the fourth semester.

Each master's thesis is allocated a total time of 30 minutes, of which approximately 15 minutes are devoted to the presentation, and the rest to questions from the three-member examination committee.

The members of the examination committee must have access to the master's thesis (in electronic or printed form, depending on their preference) at least seven days before the presentation date.

5. MSc Thesis Language

MSc Thesis are written and examined either in Greek or English (with the approval of the Supervisor of the thesis).

6. MSc Thesis Assessment Criteria

MSc Theses are evaluated based on:

- their **scientific quality** (Positioning and scientific documentation of objectives in relation to current international literature; Design, organization, and execution of the methodological approach; Processing, interpretation, and critical assessment of results; Drawing conclusions and creating reasoned proposals for further study)
- the **quality of writing** (Appearance of text and diagrams; Coherence of the text; Proper use of language and scientific terminology; Correct citation of references)
- the **oral presentation** (Appearance and organization of the presentation; Articulation and fluency in speech; Adherence to time limits; Responsiveness to questions from examiners)

After the examination, the members of the three-member examination committee grade the thesis, taking into account all the criteria mentioned above, and complete the special evaluation form (Appendix B), which they submit to the Secretariat.

The final grade for the thesis is the average of the grades given by each of the three members of the examination committee, rounded to the nearest whole number.

Theses titles, names of graduating students along with the names of their respective supervisors are added to the theses archive on the Departmental MSc website.

7. Evaluation of Theses Quality

After the completion of the thesis presentations during the examination period in September, the Coordinating Committee proceeds with the evaluation of Thesis Quality.

8. Curriculum Committee

For the resolution of any issue that may arise during an MSc Research project if not already covered by the provisions of the postgraduate program's regulations, the Coordinating Committee of the program makes recommendations, as appropriate, to the School's General Assembly.



Appendix A

MSc Research Project Enrolment Application Form

MSc CHEMICAL AND BIOCHEMICAL ENGINEERING: HEALTH & FOOD

SCHOOL OF CHEMICAL ENGINEERING, FACULTY OF ENGINEERING AUTH

Surname:

First Name:

Father's Name:

Student ID#:

Semester:

Contact Telephone:

Supervisor:

Co-supervisor:

Alternative. Supervisor:

Scientific Area / Title:

Abstract.....

The student

The Supervisor

The Co-supervisor

(signature)

(signature)

(signature)

Date:

The MSc Thesis will be carried out in collaboration with:

- I) An Industrial/Commercial Partner,
- II) Another University or Research Centre
- III) As part of a funded research project
- IV) None of the above



Appendix B



MSc Thesis Assessment and Evaluation Form

MSc CHEMICAL AND BIOCHEMICAL ENGINEERING: HEALTH & FOOD

SCHOOL OF CHEMICAL ENGINEERING, FACULTY OF ENGINEERING AUTH

Scientific Field:	
Academic Year/ Examination Period	
Title:	

Student Details			
Surname	First Name	Father's Name	Student ID#

Evaluation Committee Details			
Surname	First Name	Division	Signature

Assessment	Average	Good	Very Good	Excellent
Scientific Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral Presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final Grade:	Final Grade in written format:			



MSc Thesis Guidelines

MSc CHEMICAL AND BIOCHEMICAL ENGINEERING: HEALTH & FOOD SCHOOL OF CHEMICAL ENGINEERING, FACULTY OF ENGINEERING AUTH

1. General

The MSc Thesis is the final obligation of the students on the MSc Chemical and Biochemical Engineering: Health & Food programme and marks the completion of their studies. Throughout the MSc Research Project, postgraduate students are required to demonstrate professional competency as engineers by: (i) applying an independent and integrative approach to address scientific issues, (ii) taking initiatives in planning and executing activities (experimental or computational), (iii) interpreting and critically evaluating results, formulating conclusions, and providing documented proposals for further studies. The MSc thesis provides an opportunity for students to practice and showcase their ability to combine skills and knowledge from diverse fields, their research abilities, and to cultivate a collaborative spirit with other scientists.

The significance of the MSc thesis is reflected in the curriculum, as it is allocated time during the third semester alongside other educational activities and throughout the fourth semester. Consequently, its contribution to the final GPA is equal to 15+30 ECTS units.

2. MSc Thesis: Desirable Traits

2.1 Originality

While the MSc thesis has been introduced as a quintessential educational element in engineering programs, the topic of the thesis should contain some elements of originality. A simple descriptive synthesis of bibliographic data and information does not constitute a master's thesis. To some extent, the thesis should generate new knowledge and contribute to answering scientific questions that have not been sufficiently studied.

The elements of originality vary depending on the nature and scientific field of the MSc thesis. They can relate to the (experimental or computational) exploration of aspects of a topic/phenomenon that have not been adequately studied, the development of new or improved materials, processes, methods, and techniques, or the development of new applications for existing materials, processes, methods, and techniques.

2.2 Academic Integrity

Anything that directly or indirectly implies the appropriation of ideas and scientific findings drawn from literature without appropriate acknowledgement and/or citation constitutes a serious violation of academic ethics, intellectual property theft.

In the context of MSc theses, the most common form of intellectual property theft is plagiarism. Plagiarism involves the verbatim copying of texts from bibliographic sources without proper citation. However, even with citation, extensive copying of texts and ideas may still constitute plagiarism. For this reason, it is recommended that references be made with original wording rather than copying.

It is worth noting that the University possesses specialized plagiarism detection software available to all members of academic staff. For example, an MSc thesis can be checked for plagiarism not only against international literature but also against other theses.

The detection of plagiarism is a serious offense, and those who commit it, besides facing ethical consequences, may also be legally liable.

2.3 Formatting - Structure

Formatting details for MSc theses, with the exception of some general specifications mentioned in the following paragraphs, are left at the discretion of the author. However, in any case, the formatting of the text should pleasantly engage the reader and ensure uniformity, order, and structured hierarchy.

As for the content of the thesis, it should be coherent and follow a logical sequence both between chapters and within paragraphs of the same chapter. Emphasis should be placed on the aim and objectives of the thesis, avoiding redundancies, digressions, and repetitions (the quality of a MSc thesis is not proportional to the number of pages).

Diagrams and tables should be presented in a way that facilitates the reader's evaluation of the presented data (e.g., using combined diagrams where possible) and allows for drawing conclusions supported by the results.

Finally, attention should be given to the proper (grammatical and syntactical) use of the Greek language. Language tools available in modern word processors can assist in achieving this.

3. Key elements of an MSc Thesis

3.1 Defining Aim and Objectives

The first key stage for any MSc Research Project, in which the Supervisor plays a significant role, is the student's introduction to the research topic and to the comprehensive presentation and understanding of the stated research objectives. Essentially, it involves addressing the question: "What do we want to do and why?". Generally, the student's understanding of the research topic and set objectives evolves over time but should be complete before starting the writing process. Often, the subject of a master's thesis is part of a broader scientific investigation. In such cases it is advisable for the student to be introduced so that they can better define the thesis's scope, and

the objectives can be clearly defined.

An integral part of understanding the research topic and clarifying the set objectives involves answering questions along the lines of: "What have others done on the same topic, how have they done it, and what have they found?". Answers to such (and other similar) questions can emerge from the literature review. Through the literature review, various elements of originality in the MSc thesis can be identified and precisely documented. These elements are presented to the three-member committee at the end of the third semester, along with proposals for an appropriate experimental or computational plan for the thesis.

Bibliographic sources vary and may range from general background textbooks to scientific publications, doctoral theses, previous MSc theses, reports from organizations, or online websites. The literature review begins with the introduction of the subject but continues throughout the entire process of the MSc thesis, gradually focusing on more specialized topics as the thesis progresses. Additionally, the results of the literature review may prompt adjustments to the set objectives.

3.2 Experimental/Simulation Plan

After defining and understanding the research topic and thesis objectives, the main part of the research project can commence. This involves the formulation of and appropriate experimental/simulation plan and its subsequent execution. The formulation of the plan encompasses not only the preparatory actions required for conducting experiments and calculations but, more importantly, the determination of the content of the actions and the definition of the system and/or parameters to be studied.

Almost simultaneously with the execution of activities, the interpretation and qualitative assessment of the results takes place. This process may lead to the formation of preliminary conclusions or present arguments for the redesign of activities, possibly even the redefinition of the set research objectives.

3.3 Writing the MSc Thesis

A master's thesis is considered complete only when it has been written, corrected, and approved by the supervisor (at the end of the fourth semester of studies). The writing should never be considered of lesser significance, as it can both devalue and/or highlight the work and results of a MSc Research Project. Ultimately, what remains from any given research project is the accompanying written text (i.e. the MSc Thesis).

Apart from some self-contained sections, the writing of which can proceed concurrently with the experimental/computational work, it is recommended that the writing of the thesis takes place after the execution of the experimental/simulation plan and the comprehensive evaluation of the produced data and/or results. This should happen when the student has gained a comprehensive understanding of the subject, relevant literature, and their own results. This approach ensures a proper and integrative utilization of multiple bibliographic sources related to the same topic. The citation of bibliographic elements should not be sequential; rather, they should be placed in an original text that evaluates, compares, and contrasts bibliographic data both against each other and in relation to the findings of the thesis. This can be achieved when the writing of the main chapters of the thesis is performed towards the end of the process.

4. MSc Thesis - Structure Guidelines

4.1 MSc Thesis Structure

The structure of each thesis exhibits its own specificities dictated by the research area and topic. However, there are some common characteristics that appear in almost all theses. The following paragraphs provide some guidelines for writing a "typical thesis," although this does not mean that there cannot be deviations in specific cases.

The elements that constitute the written text of a typical thesis are:

- Thesis Cover Page (Appendix C) with relevant details
- Abstract
- Table of Contents
- List of Symbols
- Thesis main chapters
- References
- Appendices

4.2 Thesis Cover Page

For the sake of uniformity, the thesis cover page should follow the format available in Appendix C.

4.3 Abstract

The thesis abstract should ideally be one page and should not exceed two pages. The abstract should include the motivation behind the conducted research project, its aim and key objectives, the methodology followed, the main results achieved, and the key conclusions drawn. Additionally, any elements of originality in the thesis should be highlighted. The abstract should be written in a way that can provide a concise and informative overview of the purpose, significance, and results of the thesis on its own.

Immediately following the Greek abstract is the abstract in the English language. In the case of writing the thesis in the English language, an extended abstract in the Greek language is mandatory.

4.4 Table of Contents

The table of contents should be presented in a two-column table format, with the left column showing the titles of the chapters and subchapters of the work, and the right column indicating the corresponding page numbers where each chapter or subchapter begins.

4.5 List of Symbols

This particular element is included in the thesis only if its presence is deemed necessary due to the nature of the investigated topic. Typically, it involves computational tasks such as simulation, modelling, or optimization of systems and processes where a multitude of parameters are introduced. These parameters are either not sufficiently explained in the text, or their concise mention is deemed expedient for the reader's convenience.

In the list of symbols, all symbols representing quantities are listed, accompanied by their explanations and respective units of measurement. Generally, Latin character symbols are listed first in alphabetical order, followed by Greek character symbols (also in alphabetical order). Capitalized symbols take precedence among identical symbols.

4.6 Thesis main chapters

These chapters pertain to the main part of the thesis, and the titles of both chapters and subchapters, if any, may contain details specific to the subject of the thesis.

Typically, the first chapter is related to a general **introduction** to the topic. The introduction includes a concise description and definition of the broader scientific subject, a reference to its significance and scientific interest, as well as the research directions identified in international literature. Subsequently, the focus shifts to the specific thesis, describing its main research objectives, methodological approach, and the expected contribution. The introductory chapter may conclude with a reference to the structure of the thesis.

In the next chapter, the **subject of the thesis** is described in detail, accompanied by its theoretical background and literature review. The specific scientific questions that the thesis aims to address are highlighted, along with the answers provided by previous works. Subsequently, the chosen methodological approach is outlined.

For experimental work, the **materials and methods** section is presented next, covering both the synthesis processes and the parameters studied, as well as the characterization techniques and equipment used. The presentation of characterization techniques does not need to be exhaustive but should offer a concise overview of the scientific principles on which they are based.

The following chapter focuses on **results and discussion**, and should include a structured presentation and commentary (interpretation, justification, comparison with the literature) of the results. Often, it is advisable for the commentary to take place immediately after the presentation of each table or graph of results. Results necessary for supporting the discussion and conclusions should be presented, and when there is a wealth of experimental data conveying the same information, a portion of it may be relegated to the appendices.

The main part of the thesis concludes with the chapter of **conclusions**, one of the most significant chapters. Together with the abstract, it is the section that a reader typically consults first before deciding whether to study the entire work. It includes a summary of the subject and objectives, a synthetic and critical assessment of the results, determination of the degree of goal achievement, and a reference to elements of originality and innovation.

During the preparation of a thesis, new questions often arise that cannot be addressed within the given time constraints. These can serve as the basis for formulating well-founded proposals for **future research**, possibly within the scope of future theses, and are usually mentioned at the end of this chapter.

4.7 References

The citation of bibliographic references in the text may follow any internationally accepted systems, and it is advisable to seek the advice of the Supervisor when choosing which one to use. The most popular method, especially in natural science/engineering texts, is the numerical citation system, where bibliographic references in the text are cited numerically in square brackets according to the order in which they appear at the beginning of the text (the abstract does not contain references). The same numerical order is used in the bibliography section at the end of the thesis.

E.g.:the Gibbs free energy of the water splitting reaction is zero at 4330 K and at a pressure of 1 atm [8]. Processes based on redox materials such as $\text{Fe}_3\text{O}_4/\text{FeO}$ [9,10,11], $\text{Mn}_3\text{O}_4/\text{MnO}$ [12-16], and $\text{Co}_3\text{O}_4/\text{CoO}$ [17,18] have been proposed in the literature with the aim of reducing the temperature...

Scientific journal citation:

Author1 A., Author2 B., & Author3 Г. (Year). "Title of the publication," International Journal Abbreviation, Volume Number (Issue Number if applicable), page range.

Feng J., van Hullebusch E.D. and Rodrigo M.A., (2013). «Removal of residual anti-inflammatory and analgesic pharmaceuticals from aqueous systems by electrochemical advanced oxidation processes. A review», *Chem. Eng. Sci.*, 228/3, 944-964.

Book citation:

Author1 A., Author2 B., & Author3 Г. (Year). Title of the Book. Edition Number (if applicable). Publisher, City (if applicable), page range (if the reference is specific to particular pages in the book).

Gregg S.J. and Sing K.S.W., (1982). «Adsorption, Surface Area and Porosity», 2nd edition, Academic Press Inc., London, 182-184

Book chapter/multi-author tome citation:

Author1 A., Author2 B., & Author3 Г. (Year). "Chapter Title" in Book/Volume Title, Volume Number (if applicable), (Editors), Volume Number (if applicable), Publisher, City (if applicable), page range.

Ladavos A. and Pomonis P., (2015). «Methane Combustion in Perovskites» in *Perovskites and Related Mixed Oxides*, Vol.2, (eds.: Granger P., Parvulescu V., Kaliaguine S. and Prellier W.), Wiley-VCH, N. York, 369-388.

Conference proceedings citation:

Author1 A., Author2 B., & Author3 Г. (Year). "Article Title" in Conference Proceedings, Volume/Issue (if applicable), (Editors-if any-), City, page range.

Barnett J.D., Kuhr R. W. and Mears D. (2009). «Applications of Heat from High Temperature Nuclear Reactors for Process Furnaces» in *Proceedings of the AIChE Spring Nat. Meeting*, Tampa-FL, 135-142

Nguyen T.X., Cohaut N., Bae J.S. and Bhatia S.K. (2008). «Characterization of Microporous Carbons: From Mathematical Modelling to Atomistic Construction» in *Proceedings of the 8th Inter. Conf. on Charact. of Porous Solids*, (eds.: Kaskel M., Llewellyn K. and Rodriguez-Reinoso P.), Edinburgh, 48-55.

e-journal (open access) citation:

Author1 A., Author2 B., & Author3 Г. (Year). "Publication Title", Journal Abbreviation, Volume(Issue if available). Available at: "URL" [Accessed Date].

Pengyun X., Xiaoshun Z., Haiyong J., (2016). «The Design of Double Screw Threads Soymilk Stone Mill», *J. Food Proc. Technol.*, 7/3. Available in «<http://dx.doi.org/10.4172/2157-7110.1000558>» [accessed 6 May 2016]

Lecture notes citation:

In the case where the instructor is the author and the University is the publisher, the citation format is as follows:

Author, A., Author, B., & Author, C. (Year). Title of the Book. University Publisher.

Regarding website references, it is recommended to avoid anonymous references unless they are from recognizable sources (e.g., government) and ensure their continued presence at the specific URL over time.

4.8 Appendices

Appendices may include results and data, codes, specialized texts, explanations, and evidence related to the work but not inserted into the main chapters to maintain the coherence of the thesis.

4.9 Formatting Guidelines

Below are some guidelines related to certain general technical formatting aspects, which are often the subject of questions from students.

Theses are written on A4 size pages.

The elements "Abstract," "Summary," "Table of Contents," "List of Symbols" are not numbered, and the corresponding pages may have Latin numbering.

Chapters and any subchapters of the main part of the thesis are numbered according to the decimal system (e.g., Chapter 2, subchapter 2.1, sub-subchapter 2.1.1, etc., up to four-digit numbering). It is recommended that chapter titles be written in bold uppercase characters, while subchapter titles in bold lowercase characters. The first page of the first chapter of the main part is also the page from which page numbering begins (and is referenced in the table of contents).

Tables and diagrams have captions and are numbered by chapter (e.g., Table 2.1, Figure 3.2, etc.). Mathematical or chemical equations also have decimal numbering by chapter, placed in parentheses on the right side of the page, in the order in which the corresponding equation is found.

Appendices must also be numbered and titled (e.g., Appendix A1, Appendix A2, etc.).

The length of a typical thesis does not exceed 100 pages, usually ranging around 80 pages.

5. Oral Presentation Guidelines

The oral presentation of the thesis is supported by slides presented through a projector. The appearance and style of the slides are the choice of the student. For a more readable outcome, it is recommended to use a light background and dark-colored font to create sufficient contrast. Avoiding an abundance of colours is advisable; usually, three colours are sufficient. Both text and diagrams should have a size that allows easy reading by the audience. Overloaded slides can tire the audience and reduce their attention.

The structure of the presentation does not differ substantially from the structure of the written thesis but is not a faithful reproduction of it. Only the elements of the thesis that give the audience (including examiners) a sufficient overview of the thesis's subject, objectives, significance, methodological approach, experiments, results, and, finally, conclusions and proposals for further research are selected.

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As a rule, for a 15-20 minute presentation, the slides should not exceed 30. Quick transitions between slides make it difficult for the audience to follow and understand the presentation. Adhering to time constraints is also important because during a typical thesis examination day the schedule involves the numerous presentations. Failure to adhere to time limits indicates inadequate preparation.

Finally, a good presentation is characterized by fluency in speech (targeted and substantial, without haste), which is gained through practice. While the use of notes can be helpful, full reading of a written text during the oral presentation is not recommended.

Appendix C

Aristotle University of Thessaloniki
FACULTY OF ENGINEERING
SCHOOL OF CHEMICAL ENGINEERING
MSc CHEMICAL AND BIOCHEMICAL ENGINEERING: HEALTH & FOOD

«.....MSc Thesis Title»

BY MSc Thesis

SUPERVISOR / CO-SUPERVISORS:

(Academic Staff/Research Staff)

THESSALONIKI

YEAR