



NATIONAL TECHNICAL UNIVERSITY OF ATHENS
PROFESSIONAL INTERDISCIPLINARY POSTGRADUATE PROGRAMME
“ENERGY SYSTEMS AND SUSTAINABILITY”

9 HEROON POLYTECHNIOU Str., POLYTECHNEIOUPOLI ZOGRAFOU, GR 15780

e-mail: eska-msc@chemeng.ntua.gr

INTERNAL REGULATION
OF THE
PROFESSIONAL INTERDISCIPLINARY POSTGRADUATE PROGRAMME
(PIPP-ESAS)¹

*The Greek version of the present Regulation has been approved by the NTUA Senate
during the Meeting of 17 October 2025, topic 24.4.1
«Establishment of a Professional Interdisciplinary Postgraduate Studies Program entitled
“Energy Systems and Sustainability”
of the School of Chemical Engineering in collaboration with the School of Mechanical Engineering
of the National Technical University of Athens and
Approval of Internal Regulation for Studies»*

WITH THE SUPPORT AND EXCLUSIVE FUNDING OF



¹ *In case of doubt, the Greek version of the Regulation prevails*

TABLE OF CONTENTS

ARTICLE 1. GENERAL PROVISIONS	1
ARTICLE 2. PURPOSE OF THE PIPP-ESAS	2
ARTICLE 3. POSTGRADUATE DEGREE	2
ARTICLE 4. GOVERNING BODIES	3
ARTICLE 5. ADMINISTRATIVE SUPPORT OF THE PIPP-ESAS	3
ARTICLE 6. MATTERS RELATED TO TEACHING STAFF	3
ARTICLE 7. NUMBER OF ADMITTED STUDENTS PER ACADEMIC YEAR AND SELECTION CRITERIA	4
ARTICLE 8. STRUCTURE AND CURRICULUM	5
ARTICLE 9. LANGUAGE OF INSTRUCTION AND LANGUAGE OF THE MASTER’S THESIS	9
ARTICLE 10. DURATION OF STUDIES	9
ARTICLE 11. ACADEMIC ADVISOR	10
ARTICLE 12. COURSE TEACHING	10
ARTICLE 13. ENROLLMENT, OBLIGATIONS AND EVALUATION OF POSTGRADUATE STUDENTS, WITHDRAWALS	11
ARTICLE 14. COURSE EXAMINATIONS – GRADING	12
ARTICLE 15. MASTER’S THESIS (MT)	12
ARTICLE 16. INTELLECTUAL PROPERTY RIGHTS OF MASTER’S THESIS	13
ARTICLE 17. AWARDING OF THE DEGREE AND MSC GRADE	14
ARTICLE 18. PERIODIC EVALUATION OF PIPP-ESAS	15
ARTICLE 19. TEACHING ROOMS AND USE OF NTUA INFRASTRUCTURE	15
ARTICLE 20. FUNDING AND FINANCIAL MANAGEMENT OF PIPP–ESAS	15

ARTICLE 1. GENERAL PROVISIONS

1. Taking advantage of its distinguished position in the international academic community as a recognized public university with an emphasis on advancing science and technology, the National Technical University of Athens (NTUA) organizes and offers Interdisciplinary Postgraduate Programs (IPP), strengthening an interdisciplinary approach. Successful completion of the IPP leads to the award of a Postgraduate Diploma (PD). The PD is a specialization degree, equivalent to a Master of Science (MSc), and constitutes a second postgraduate degree for engineering graduates of five-year integrated programs.
2. The objectives of NTUA's Postgraduate Programs are to address current and future development needs as well as documented research directions, to ensure coherence and scientific depth, and to maintain and enhance the quality and international recognition of the degrees awarded by NTUA.
3. In October 2024, a Memorandum of Cooperation was signed between NTUA and the Hellenic Gas Transmission System Operator (DESFA), which provides, among other provisions, for the cooperation between the two parties in the design of a new Postgraduate Program.
4. The PIPP-ESAS concerns the training of personnel of the Funding Body, DESFA S.A., as well as third-party individuals, in accordance with paragraph 3 of Article 89 of Law 4957/22. Specifically, it concerns young engineers who have graduated from domestic universities or equivalent recognized foreign institutions with five-year study programs, as well as physicists and chemists who have graduated from domestic universities with four-year study programs or equivalent recognized foreign institutions.
5. Third-party individuals -Postgraduate Students (PS) of the PIPP-ESAS- will not assume any obligations toward the Funding Body. It is the Sponsor's intention that the successful attendance and completion of this demanding PIPP-ESAS should serve as a substantial asset for its graduates in securing employment with economic entities in the energy sector or in pursuing careers as self-employed professionals.
6. This PIPP-ESAS is coordinated by the NTUA School of Chemical Engineering, in collaboration with the NTUA School of Mechanical Engineering, to ensure interdisciplinary coverage of the scientific fields that PIPP includes.
7. The operational duration of the PIPP-ESAS is five (5) academic years, and specifically extends from the academic year 2026–2027 to the academic year 2030–2031.

ARTICLE 2. PURPOSE OF THE PIPP-ESAS

1. The PIPP-ESAS aspires to shape a new generation of specialized scientists and professionals with a deep understanding of modern energy technologies and their role in the transition toward a sustainable energy future. Focusing on renewable gaseous and liquid energy carriers, such as **hydrogen, biomethane, synthetic fuels, and ammonia**, the program aims to enhance expertise in their **production, storage, transportation, and utilization** within the framework of the **circular economy** and **carbon neutrality**. The program is addressed to engineers, physicists, and chemists with an interest in energy technologies, sustainability, and innovation, offering a balanced education that integrates theory, technology, and management.
2. The above aim will be achieved through targeted education and specialization of young engineers and professionals in the energy sector, with emphasis on renewable gaseous fuel technologies, energy project management, and the sustainable development of energy infrastructures. The program combines the use of modern technologies with in-depth study of emerging scientific approaches and the acquisition of applied techniques covering all stages of the life cycle of energy systems, projects, and strategic project portfolios.

The PIPP adopts a holistic approach to modern energy systems, highlighting not only their technical dimension, but also their economic, environmental, legal, and social aspects, from design to implementation and operation.

3. Graduates of the Program will possess the necessary technical expertise, scientific training, and professional confidence to develop, through commitment and continuous effort, into leading professionals in the energy sector. They will have a clear professional orientation and capabilities that combine technical specialization with managerial understanding. They will constitute well-trained personnel who contribute to the continuous modernization of the sector through the introduction of innovative practices, the adoption of contemporary technologies, and ongoing professional development. They will be capable of leading projects that promote the sustainable and efficient use of energy resources, focusing on the energy transition and decarbonization.

ARTICLE 3. POSTGRADUATE DEGREE

1. The PIPP-ESAS awards a Postgraduate Diploma (PD), equivalent to a Master of Science (MSc), in the field of Energy Systems and Sustainability, upon successful completion of the corresponding course of study.
2. To obtain the PD of the PIPP-ESAS, students must attend and successfully complete ten (10) compulsory courses, five (5) during the winter semester and five (5) during the spring semester, attend a series of lectures and technical visits included in the program, and complete a Master's Thesis (MT) with a duration of one semester.

ARTICLE 4. GOVERNING BODIES

1. The governing bodies of the PIPP-ESAS are the following (Law 4957/2022):
 - a) The Senate of NTUA.
 - b) The Program Studies Committee (PSC) of the PIPP-ESAS.
 - c) The Steering Committee (SC) of the PIPP-ESAS.
 - d) The Director of the PIPP-ESAS.
2. The specific responsibilities of these bodies are defined in Article 82 of Law 4957/2022.
3. In accordance with the provisions of Chapter IX, “Organization and operation of second- and third-cycle study programs” of Law 4957/2022:
 - a) The PSC is composed of faculty members of the participating Schools, elected for a two-year term by the General Assembly of each School, in proportion to the number of their teaching staff involved in the Postgraduate Program, as defined in the Schools’ Cooperation Protocol.
 - b) The Director and the SC are elected by the PSC members. In the Cooperation Protocol of the two Schools, it is agreed that the Director shall belong to the Coordinating School, namely the School of Chemical Engineering.

ARTICLE 5. ADMINISTRATIVE SUPPORT OF THE PIPP-ESAS

The administrative support of the PIPP-ESAS, aimed at ensuring its smooth and uninterrupted operation, is undertaken by the NTUA School of Chemical Engineering, which is additionally supported by NTUA’s information systems in accordance with applicable regulations.

ARTICLE 6. MATTERS RELATED TO TEACHING STAFF

1. The teaching activities of the PIPP-ESAS and the supervision of Master's Theses (MT) are assigned to the categories of instructors stipulated in Article 83 of Law 4957/2022.
2. The responsibility for teaching and examining each course of the PIPP-ESAS shall rest with a faculty member (or members) of NTUA or another higher education institution. Under their coordination, cooperating professors, members of the Special Teaching Staff (STS), Special Laboratory Teaching Staff (SLTS), Technical Support Staff (TSS), emeritus or retired professors, visiting professors or researchers, and-serving as assistant lecturers-experts on specific topics may be utilized. These may include recognized professionals with specialized knowledge and relevant experience in the energy sector, particularly engineers, economists, and lawyers, from both the private and public sectors.

3. Subject to approval by the Program Studies Committee (PSC) of the PIPP-ESAS, the instructor(s) responsible for teaching and examining each of the courses listed in Article 8 shall be appointed in accordance with the decisions of the General Assemblies of the two cooperating Schools and the provisions of the agreement between NTUA and the Funding Body (see section f of paragraph 2 of Article 89 of Law 4957/2022).
4. Should the need arise in a subsequent year, for any reason, to replace an instructor, the new assignment of teaching responsibilities shall be decided by the Program Studies Committee of the PIPP-ESAS.

ARTICLE 7. NUMBER OF ADMITTED STUDENTS PER ACADEMIC YEAR AND SELECTION CRITERIA

1. The total number of postgraduate students admitted each academic year is set at thirty-seven (37). The Program Studies Committee (PSC) may modify the number of available positions by its decision.
2. According to the admission criteria specified below, for each academic year:
 - a) The Funding Body proposes up to seven (7) of its staff members or candidates selected through the Funding Body's procedure to the PIPP-ESAS.
 - b) The PSC proposes thirty (30) third-party individuals who are engineering graduates from domestic universities (with priority given to NTUA) with five-year study programs, or from equivalent foreign institutions recognized as equivalent to Greek universities, as well as physicists and chemists who graduated from domestic universities with four-year study programs or equivalent foreign institutions recognized as equivalent to Greek universities.
3. The minimum admission criteria for postgraduate students are as follows:
 - a) For staff members or selected candidates of the Funding Body:
 - University degree,
 - Professional license to practice in Greece, where required,
 - Certificate of English proficiency at Proficiency level or IELTS (for study) with a minimum score of 7/10, or a degree from an English-speaking university.
 - b) For third-party individuals:
 - Engineering graduates from domestic universities (priority to NTUA) with five-year study programs or from equivalent recognized foreign institutions, as well as physicists and chemists from domestic universities with four-year study programs or equivalent recognized foreign institutions,
 - Graduation grade of at least 6.5/10,

- Certificate of English proficiency at Proficiency level or IELTS (for study) with a minimum score of 7/10, or a degree from an English-speaking university.

Final-year students of the above universities with the corresponding grade and English proficiency, whose undergraduate studies will be completed in the academic year prior to their registration in the PIPP-ESAS, are also eligible. Admission is conditional on completing their studies before the start of the PIPP-ESAS.

4. Approval of student admission to the PIPP-ESAS is granted by the competent bodies of NTUA after verifying that the proposed candidates meet the minimum selection criteria outlined in paragraph 3.
5. Selection among candidates who meet the minimum admission criteria of paragraph 3 is made based on evaluation of their application, according to the qualitative and social criteria specified in the relevant call for expressions of interest for participation in the PIPP-ESAS.
6. It is emphasized that third-party individuals, Postgraduate Students of the PIPP-ESAS, will not assume any obligations toward the Funding Body. The intention of the Funding Body is that successful attendance and completion of this demanding program will provide graduates with substantial professional preparation, particularly for employment in economic entities in the energy sector or for pursuing careers as self-employed professionals.

ARTICLE 8. STRUCTURE AND CURRICULUM

1. The PIPP-ESAS consists of three (3) academic semesters: two (2) semesters of courses, lectures, and technical visits, and one (1) semester dedicated to the Master's Thesis (MT).
2. The PIPP-ESAS begins in the winter semester of each academic year.
3. The program includes ten (10) compulsory courses, five (5) in each academic semester, as presented in the Course Table below. Teaching includes updated theoretical knowledge and practical application examples. Systematic participation in lectures and technical visits is also required.
4. The duration of each course is 13 weeks x 3 hours/week = 39 hours.
5. All courses in the curriculum are equivalent and correspond to 6 ECTS credits each. The total number of credits required to obtain the DMS is ninety (90) ECTS, of which 30 credits correspond to the winter semester courses, 30 credits to the spring semester courses, and 30 credits to the Master's Thesis (MT).

6. Table of Courses

WINTER SEMESTER		
COURSES	ΏΡΕΣ	ECTS
Basic Principles of Sustainable Energy Systems	3	6
Updated theoretical knowledge and skills in energy systems, focusing on renewable gaseous and liquid energy carriers and the principles of sustainability. • Understanding the dynamics of energy supply and demand. • Highlighting the importance of analytical tools for assessing the environmental impacts of energy technologies (LCA). • Analysis of the decisive role of renewable energy sources in addressing climate change and supporting the energy transition. • Presentation of strategies for transitioning to sustainable energy solutions. • Understanding of the organization and operation of the energy market in the European Union, giving emphasis on policies, regulations, and the integration of RES (Renewable Energy Sources) into the energy system. • Regulatory framework for renewable fuels at National and European levels.		
Renewable Fuels: Hydrogen, Biomethane, E-Fuels, Ammonia, Methanol	3	6
• In-depth study of renewable fuel production, giving emphasis on hydrogen, biomethane, e-fuels, green ammonia, and methanol. • Addressing challenges regarding storage of renewable energy carriers. • Highlighting the role of renewable gas and liquid fuels in decarbonizing various sectors of the economy (industry, transportation, residential use). • Practical applications aiming to the understanding of the contribution of renewable gas and liquid fuels to a sustainable energy future		
Thermal and Mechanical Energy Systems	3	6
• In-depth study of thermal and mechanical energy systems, giving emphasis on integrating renewable energy sources (RES). • Study of basic components of energy systems, such as heat exchangers, thermodynamic cycles and mechanical power generation systems. • Analysis of the design, operation, and optimization of thermal and mechanical systems employed in energy conversion processes. • Highlighting the efficient use of energy and technological challenges in integrating RES into existing thermal and mechanical infrastructures.		

WINTER SEMESTER		
COURSES	ΩΡΕΣ	ECTS
Bioenergy and Biofuels	3	6
• Comprehensive overview of bioenergy and biofuels as key pillars in the framework of the renewable energy sources. • Study of various renewable feedstock, such as algae, agricultural byproducts, and other biodegradable materials. • Analysis of recent conversion technologies, including anaerobic digestion, gasification, and fermentation. • Highlighting the role of biofuels in decarbonizing the transport and industrial sectors. • Evaluation of the environmental impacts of biofuels via life cycle assessment (LCA). • Examination of sustainability and integration issues of biofuels with systems of renewable gases.		
Energy Economics	3	6
• Economic approach of energy systems, giving emphasis on cost analysis, market dynamics, and pricing mechanisms for renewable gases and electric energy. • Economic principles governing energy markets, as well as the financial and political factors influencing the production, distribution, and consumption of renewable energy sources, such as hydrogen and e-fuels. • Case studies in which the current market trends, the sustainability of renewable energy projects, and the impact of regulatory frameworks and technological developments on pricing strategies are analyzed. • How the economy shapes the transition towards a sustainable energy future. • Financial Sustainability Criteria: Environmental-Social-Governance (ESG), Net Zero Strategies.		
Invited Lectures and Technical Visits I	3	0
• Series of invited lectures and discussions on critical issues with panels of experts from the public, private, and academic sectors. • Series of technical visits in order to observe the implementation and operation of energy engineering projects.		

SPRING SEMESTER		
COURSES	ΩΡΕΣ	ECTS
Natural Gas and Liquefied Natural Gas Technologies	3	6
• Study of methods for the extraction, processing, and transport of natural gas. • LNG production, liquefaction technologies, and associated infrastructure. • Storage, transport, and regasification of LNG. • Analysis of the environmental impacts of natural gas and LNG usage. • Study of natural gas and LNG market dynamics and international trade. • Emerging LNG technologies, such as floating LNG units and small-scale solutions. • Key safety challenges associated with the storage and transport of natural gas.		
Energy Transport and Natural Gas Storage	3	6
• Gas transport systems, including hydrogen pipelines, and storage technologies such as compressed and liquefied gases. • Innovative solutions for energy carriers, such as synthetic methane, ammonia and methanol. • Integration of energy sectors, giving emphasis on power-to-gas technologies and their role in enhancing energy system flexibility. • Analysis of how the aforementioned systems can support the transition to cleaner and more resilient energy networks.		
CO₂ Capture, Utilization and Storage (CCUS)	3	6
• CO₂ capture, transport and storage technologies. • Biogenic CO₂: Sources, Properties, and Distinctive Features • Utilization of CO₂ for the production of synthetic fuels and chemicals. • CO₂ storage technologies. • Direct Air Capture: Perspectives and Constraints. • Legislative and Regulatory Framework of CCUS.		
Optimization of Energy Systems	3	6
• Optimization models for the design, operation, and integration of energy systems, giving emphasis on the production, distribution, and consumption of renewable gases. • Dynamic optimization, multi-criteria optimization, systems integration. • Case studies on the optimization of energy systems. • Methods for maximizing energy efficiency, minimizing costs, and reduction of environmental impacts.		

SPRING SEMESTER		
COURSES	ΩΡΕΣ	ECTS
Strategic Planning and Entrepreneurship – Project Management	3	6
- Market analysis, feasibility studies, project financing, giving an emphasis on sustainable energy technologies. - Regulatory and environmental requirements, project compliance with industry standards and governmental policies. - Project design and control, risk assessment and management, quality management. - Supply chain management and strategic decision-making for optimizing the execution of large-scale projects.		
Invited Lectures and Technical Visits II	3	0
- Series of invited lectures and discussions on critical issues with panels of experts from the public, private, and academic sectors. - Series of technical visits in order to observe the implementation and operation of energy engineering projects.		

7. The teaching staff shall prepare a detailed course timetable within the above syllabus framework, which will be approved by the Program Studies Committee (PSC). Amendments to the content, characteristics, and format of the courses offered may be made upon recommendation of the instructors and approval by the PSC, taking into account the objectives of the Interdisciplinary Postgraduate Program – ESAS.

ARTICLE 9. LANGUAGE OF INSTRUCTION AND LANGUAGE OF THE MASTER'S THESIS

- In the context of training new scientists and professionals who will operate in an international environment, the languages of instruction and examination for the courses are Greek and English.
- The language of the Master's Thesis (MT) is English. The MT includes an extensive summary in Greek.

ARTICLE 10. DURATION OF STUDIES

- The PIPP-ESAS follows the "Unified Academic Calendar of the Institution's Postgraduate Studies" proposed by the Senate Committee of Postgraduate Studies (SC-PS) and approved each year by the Senate of the Institution.

2. The minimum duration for completing the PIPP-ESAS is three (3) academic semesters, i.e., two (2) semesters of courses and one (1) semester for the Master's Thesis.
3. The maximum period of study in the IPP, calculated from the regular enrollment in the IPP, is two (2) years.
4. In general, extensions of study are not permitted. Exceptionally, in special cases, upon a justified request from the postgraduate student (PS) and with the agreement of the SC, a necessary extension may be granted by the PSC for reasons of force majeure, such as serious illness etc.
5. Postgraduate students are allowed to temporarily suspend their studies for a total of no more than two academic semesters, upon a justified request to the PSC and with the agreement of the SC. Semesters of suspension do not count toward the maximum duration of studies.
6. Postgraduate students who exceed the maximum period of study from their initial enrollment in the program without completing their academic obligations are automatically withdrawn from the PIPP-ESAS. Withdrawn students are notified by the Secretariat and depart, receiving a certificate of attendance for the courses they attended and successfully passed.
7. The PIPP-ESAS allows part-time enrollment exclusively for staff of the Funding Body, upon request by the student, with the agreement of the Funding Body, and approval by the PSC of the PIPP-ESAS.

ARTICLE 11. ACADEMIC ADVISOR

For each postgraduate student (PS), PSC appoints a faculty member from among the instructors of PIPP-ESAS as an academic advisor. During the course of study, the advisor monitors the overall academic progress of the student and supports the PS in any academic difficulties he/she may encounter. The advisor is not necessarily the same as the supervisor of the Master's Thesis. In principle, any faculty member teaching in the PIPP-ESAS may be appointed as an advisor.

ARTICLE 12. COURSE TEACHING

1. The courses offered in each semester have a duration of thirteen (13) weeks. The remaining time in each teaching semester is dedicated to student preparation and examinations.
2. Weekly course instruction is scheduled over three days, totaling 3 hours per course $\times$ 5 courses = 15 hours per week. Lectures and technical visits will require an additional 3 hours.
3. Teaching requires the mandatory physical presence of professors, lecturers, and students. If necessary, e.g., due to restricted access to teaching facilities, or in exceptional cases, e.g., guest speakers from abroad, teleconferencing may be used. Extensive use of teaching aids (PowerPoint,

videos, etc.) and references to relevant laws, books, assignments, and scientific articles is anticipated.

4. In the event of lost teaching hours for a course, make-up sessions are arranged by mutual agreement between instructors and students, coordinated by the PIPP-ESAS Secretariat. Make-up sessions occur within the current academic period.

ARTICLE 13. ENROLLMENT, OBLIGATIONS AND EVALUATION OF POSTGRADUATE STUDENTS, WITHDRAWALS

1. Enrollment in each academic semester is mandatory, regardless of whether the student has completed the course requirements and is working on the Master's Thesis.
2. Attendance in courses is mandatory, with a maximum of two (2) absences allowed per course. Participation in related educational activities, such as weekly exercises, assignments, mock exams, lectures, and technical visits, is also compulsory.
3. In cases of exceptional and well-documented inability to attend, the PSC may authorize additional absences upon submission of relevant documentation by the student and with the agreement of the Steering Committee, up to a maximum of two (2) additional absences per course.
4. It is expected that a student will dedicate a minimum of 880 hours per academic semester to attend classes and lectures, study course materials and references, complete exercises and assignments, and prepare for examinations.
5. Students who exceed the allowed absence limit, fail to participate adequately in exercises, assignments, lectures, or technical visits, or cause collaboration issues with peers or instructors may be withdrawn from the program, following an evaluation by the instructors and a decision by the PSC.
6. Students' progress will be evaluated twice per academic semester.
7. Students who fail more than two courses per semester will be withdrawn from the program by decision of the PSC. The maximum number of courses allowed for retake in the supplementary examination period is four (up to two per semester).
8. Withdrawn students are informed by the Secretariat and depart, receiving a certificate of attendance for the courses that they attended and successfully passed.

ARTICLE 14. COURSE EXAMINATIONS – GRADING

1. Grading for courses is on a scale of 0-10, without fractional points, with a minimum passing grade of 5.
2. A student's final grade in each course is determined by a combination of the final written examination and the submission of exercises/assignments during the semester. The respective weightings are determined by the course instructor, approved by the PSC, and communicated to students in advance. Final examinations take place after the end of the teaching period, during a two-week examination period, according to the Unified Academic Calendar of NTUA Postgraduate Studies.
3. Only students who have not exceeded the maximum allowed absences per course are eligible to take the exams.
4. Results are issued by the instructors within two weeks of the final examination and communicated to students.

ARTICLE 15. MASTER'S THESIS (MT)

1. Enrollment in the Master's Thesis (MT) can occur after the end of the second teaching semester, provided the student has successfully passed at least 80% of the ten (10) courses. The MT covers the broader field of the PIPP-ESAS.
2. The student submits an application specifying the proposed MT title, the proposed supervisor from among the PIPP-ESAS faculty, and an attached summary of the proposed work. Based on the application, the Steering Committee appoints the supervisor and forms the three-member Examination Committee for thesis approval. The Examination Committee includes the supervisor and other faculty members or teaching/research staff of ranks A, B, or C holding a doctoral degree. Committee members must have the same or a related scientific specialization as the broader field of the IPP. Upon the supervisor's proposal, the student may be assisted scientifically by postdoctoral researchers, PhD candidates, other postgraduate students, scientific collaborators at NTUA, or invited lecturers from outside NTUA. Technical staff (STS, SLTS, TSS) may also provide laboratory support for the MT where necessary.
3. Requirements for writing and formatting the MT are determined by the PSC. The MT must include an extensive summary in Greek (2000 words), a table of contents, and bibliographic references.
4. Evaluation and grading of the MT are conducted by the three-member committee according to standardized criteria established by the PSC. The MT grade is the average of the three examiners' grades on a 1–10 scale, rounded to the nearest half point, with a minimum passing grade of 6.
5. After approval of the MT, the students must submit an electronic copy of their thesis to NTUA's central library and upload the file to NTUA's institutional repository.

6. Approved MT titles are mandatorily posted on the PIPP-ESAS website.
7. If the MT is not completed within the third teaching semester, it may continue into the next academic period upon a related request from the supervisor to the PSC.

ARTICLE 16. INTELLECTUAL PROPERTY RIGHTS OF MASTER'S THESIS

1. Intellectual property rights of the MT belong to the student author, since examination and awarding of the degree presupposes that the MT represents the student's personal contribution, reflecting individuality, uniqueness, and originality. The author is also responsible for the content of the MT.
2. Intellectual property rights may be indicated on a dedicated copyright page following the title page, including information such as: © [Year], [Full Legal Name]. ALL RIGHTS RESERVED.
3. Students who utilize NTUA's facilities, personnel, and know-how, under the supervisor's guidance, have a professional duty toward the Institution.
4. The MT must acknowledge the role of the supervisor on the cover and title page. Additionally, the acknowledgments section should recognize the supervisor and the infrastructure used (e.g., laboratory, scholarship, funding).
5. The broader scientific and research work of faculty members cannot be considered part of their professional duties under Law 2121/1993.
6. The author may, via agreement or contract, grant the Institution a non-exclusive right to publish (e.g., through NTUA's institutional repository) and reproduce the thesis for educational, research, and non-commercial purposes. For commercial purposes, legal use of such rights by the Institution requires a contractual assignment from the creators of the respective work.
7. The supervisor has the right to use and disseminate the resulting outputs (data, studies, software, applications, prototypes, etc.) for research and scientific purposes, not for commercial exploitation.
8. For funded research, intellectual property rights of the MT are not transferred, only the right to use/exploit the results (data, studies, software, applications, prototypes, etc.) by the scientific supervisor and/or the funder, according to the contract between NTUA and the commissioning body.
9. In case of potential commercial exploitation of the research product or patent, a related agreement or contract must be drawn up under applicable law, securing the rights of those who contributed substantially to the development of the complex work/product.

10. In the publication of preliminary or derivative works during or after the MT, the names of the student author and the supervisor must be included. Other individuals who contributed creatively should be acknowledged according to their actual contribution.
11. Use of copyrighted material or references within the must comply with academic ethics. Violation of this constitutes infringement of copyright law and will MT be addressed accordingly by the Institution.

ARTICLE 17. AWARDING OF THE DEGREE AND MSc GRADE

1. Degrees are issued under the responsibility of the Director of PIPP-ESAS, with administrative support from the School of Chemical Engineering and electronic support from NTUA's Digital Governance Unit.
2. Award of the MSc requires passing grades in all courses and the Master's Thesis, as well as accumulation of 90 ECTS credits. If these requirements are not met, the student receives a simple certificate of attendance for the courses in which they obtained a passing grade.
3. The overall MSc grade is calculated as the weighted average of course grades and the Master's Thesis, where the thesis is considered equivalent to one semester of courses: "Overall grade" = $(\text{Sum of 10 course grades} + 5 \times \text{Thesis grade}) / 15$. The original diploma does not list a numeric grade but only the classification: "Pass," "Very Good," or "Excellent," based on the final grade. Classification ranges follow undergraduate standards: Excellent (9–10), Very Good (7–8.99), Pass (5–6.99).
4. The MSc is accompanied by a certificate listing all courses with corresponding grades and the overall MSc grade numerically, if requested. The thesis topic and grade are prominently highlighted.
5. The MSc and certificate are issued in Greek and English translation in accordance with current regulations.
6. To be awarded the MSc, students must submit to the PIPP-ESAS Office: (a) proof of MT submission to the NTUA library, (b) confirmation of no pending obligations, and (c) an electronic summary of the thesis in Greek and English.
7. Graduation periods are February, June, and October.
8. Once a year, the PIPP-ESAS Office compiles a list of students who have completed all program requirements for the academic year. Degrees are awarded in a special ceremony organized by the School of Chemical Engineering.

ARTICLE 18. PERIODIC EVALUATION OF PIPP-ESAS

1. PIPP-ESAS is evaluated as part of the periodic accreditation/review of the academic unit by the Hellenic Authority for Higher Education.
2. High-quality standards are maintained through continuous evaluation via questionnaires, approved by the NTUA Senate (2012), completed anonymously online by instructors and students from the 11th week until the end of each semester. These surveys assess the quality of teaching and research, program structure and content, administrative services, and facilities. Processing of results is the responsibility of the PSC.
3. Results are communicated to instructors after grades are released. The Program Director reviews overall outcomes. The PSC may adjust survey content or request additional evaluations, including feedback from alumni, to improve program quality.
4. In parallel, evaluation stipulated by the contract between NTUA and the Funding Body is conducted, which is a prerequisite for the release of each annual installment (except the first) from the Funding Body.

ARTICLE 19. TEACHING ROOMS AND USE OF NTUA INFRASTRUCTURE

NTUA undertakes the obligation to provide suitable teaching and examination rooms, as well as access to infrastructure, to meet the needs and requirements of PIPP-ESAS throughout the academic year.

ARTICLE 20. FUNDING AND FINANCIAL MANAGEMENT OF PIPP-ESAS

1. The Funding Body undertakes full financial support of PIPP-ESAS for five (5) academic years, specifically from 2026–2027 to 2030–2031.
2. The Funding Body will pay NTUA the amount of €85,000 (plus VAT) annually for the above academic years. Annual payments will be made within January of the respective calendar year, with the first payment due in January 2026.
3. The annual installment is agreed to fully cover all additional NTUA expenses arising from the operation of the PIPP-ESAS, including:
 - Classroom facilities including heating and lighting
 - Administrative support
 - Purchase of teaching materials and printing of notes
 - Any additional equipment

- Educational material rights and software licenses
 - Expenses and remuneration for instructors and thesis supervisors
 - Expenses and remuneration for PhD candidates
 - Guest lecturers' expenses
 - Promotion and communication costs, etc.
4. Payment of each annual installment to NTUA, except the first, is conditional on positive evaluation of PIPP-ESAS results from the previous academic year. This evaluation does not concern instructors. Key evaluation criteria include: number and quality of candidates, ratio of admitted students to graduates, quality of knowledge offered, relevance of acquired skills to the energy sector, scientific level of the Master's Theses, interest and effort of postgraduate students in acquiring the offered knowledge, evaluation of PIPP-ESAS by the students themselves

To carry out the student evaluation, students complete a relevant questionnaire before the end of each semester. The questionnaire addresses the quality of the program and acquired knowledge/skills, research and teaching resources, structure and content of studies, administrative services, and infrastructure. Questionnaires are completed anonymously, and responses are communicated to the Funding Body.

Evaluation of PIPP-ESAS results for the previous academic year is conducted by a three-member Committee, consisting of two members appointed by the NTUA Rector and one member appointed by the Funding Body. After the evaluation, the Committee communicates its results in a timely manner to the Funding Body, which then decides on the release of the annual installment to NTUA.

All matters not explicitly covered in these regulations are governed by the competent NTUA authorities, in accordance with the applicable legal framework.