ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ
DEMOCRITUS UNIVERSITY OF THRACE

Internal Academic Regulation

Καβάλα 2025

INTERNAL REGULATIONS OF THE POSTGRADUATE PROGRAM

PART A

ORGANIZATION AND OPERATION OF THE Msc IN QUALITY, SAFETY, SECURITY, HEALTH AND INVIROMENTAL MANAGEMENT

Article 1
General Provisions

The Department of Chemistry of the School of Science at Democritus University of Thrace organizes and operates, from the academic year 2025–2026, a Postgraduate Program of Studies entitled "Chemical Industry: Quality, Environmental, Health & Safety Management – MSc in Quality, Safety, Security, Health, and Environmental Management," in accordance with the provisions of this decision and the provisions of Law 4957/2022 (Government Gazette A' 141), as amended and in force.

Article 2
Validity of the Postgraduate Studies Regulation

The provisions of this regulation specify and supplement the legislative framework governing postgraduate studies, and in particular the provisions of Law 4957/2022 (A' 141), as amended and in force, contributing to the uniform regulation of the operation of this Msc
Upon the establishment of the Msc, the present Postgraduate Studies Regulation is drafted by decision of the Department Assembly, approved by the Senate, and once certified by the Hellenic Authority for Higher Education (HAHE), is published in the Government Gazette, posted on the Department's website, and communicated to the Ministry of Education, Research and Religious Affairs.

Article 3
Subject and Purpose of the Msc

The subject of the Postgraduate Program of Studies (Msc) entitled "Chemical Industry: Quality, Environmental, Health & Safety Management – MSc in Quality, Safety, Security, Health, and Environmental Management" is to provide high-level postgraduate education, advance knowledge, and promote research in the scientific areas of Quality Management, Environment, Protection, and Health & Safety.
Its goal is the comprehensive scientific, managerial, and technical training of executives undertaking responsibilities as Quality, Health, Safety, and Environment (HSSQE) Officers—a widespread and demanding position across all sectors of economic activity worldwide, and particularly in the chemical industry.
Specifically, the MSCcovers theoretical specialization, laboratory training, and education of new scientists in managing core support functions of enterprises, namely Quality Management, Environmental Policy, and Health & Safety Protection. Within the scope of

Safety, beyond the prevention of workplace injuries, the program includes issues of protection against intentional actions (security) and natural disasters, as well as Process Safety and the prevention of Major Industrial Accidents (SEVESO), with a special focus on the chemical industry.

Applications of Chemistry in these fields are explicitly included. These support functions are aligned with the main industrial Management Standards ("families" of ISO 9000, 14000, and 45000 respectively), interconnected through the "High-Level Structure" into a broader unified "family," in the management of which students will be trained. They are also linked to broader Corporate Risk Management Standards (ISO 31000:2018, COSO ERM, IRGC, etc.).

A major component of the program is the in-depth understanding of fundamental scientific and technical concepts, as well as the legislative framework, combined with an integrated approach to Occupational Health & Safety (HS), Security (S), Quality Assurance (Q), and Environmental Protection & Management (E).

The purposes of the program are:

• To provide high-level postgraduate studies.

• To offer knowledge on current developments in the emerging field of Quality, Environment, Health & Safety.

• To train graduates capable of contributing to occupational health and safety in all work fields and disciplines.

• To prepare specialized personnel for infrastructure protection.

• To educate experts specializing in quality assurance.

• To prepare specialized environmental officers with a focus on environmental protection, management, and sustainable development.

• To provide high-level knowledge and develop skills, competencies, and values for the preparation of specialized scientists and future executives familiar with modern trends in quality management, occupational health & safety services, environmental protection, and compliance with relevant standards and procedures, enabling them to staff production and administrative functions in private and public organizations at both strategic and operational levels in a globalized economic environment.

• To train and prepare executives already employed in SMEs and public organizations with the necessary knowledge, skills, and values to contribute effectively to the development of Greek enterprises, organizations, and the economy in general.

• To prepare students for third-cycle (doctoral) studies.

The MSCalso aims to meet social needs within the framework of continuous and lifelong learning. Its guiding philosophy is to ensure postgraduate students acquire advanced knowledge, methods, and analytical skills that enable continuous learning and development. Based on this philosophy, teaching methods emphasize active student participation and include interactive approaches such as applied research, case studies, and laboratory exercises/activities.

Article 4
Governing Bodies of the Msc

1. The governing bodies responsible for the organization and operation of the MSCare the following:

a) The Senate of Democritus University of Thrace (D.U.Th.),
b) The Department Assembly,
c) The Coordinating Committee (C.C.) of the P.M.S., and
d) The Director of the P.M.S.
2. The C.C. consists of the Director of the MSCand four (4) faculty members of the Department (DEP) with academic expertise related to the P.M.S., who also undertake teaching duties within it.
The members of the C.C. are appointed by decision of the Department Assembly.
3. The Director of the MSCis selected from the faculty members of the Department, preferably of the rank of Professor or Associate Professor, and is appointed by decision of the Department Assembly for a two-year term, renewable without limitation.
4. In the event of resignation, death, or inability to fulfill their duties for any reason, the Director of the MSCis replaced by decision of the Department Assembly with another faculty member (preferably Professor or Associate Professor with expertise related to the P.M.S.) for the remainder of the term of the outgoing Director. The same procedure applies to a member of the C.C.
5. The Director of the P.M.S., as well as the members of the C.C. and the Program Committee, are not entitled to any remuneration or compensation for the execution of their assigned duties.

Article 5
Responsibilities of the Governing Bodies of the Msc

1. The Senate of D.U.Th. has the following responsibilities concerning MSCprograms:
a) Approves the establishment or modification of the decision to establish the P.M.S.,
b) Approves the extension of the duration of operation of the P.M.S.,
c) Constitutes the Program Committee in cases of interdepartmental, inter-university, or joint P.M.S.,
d) Decides on the abolition of MSCprograms offered by D.U.Th.
2. The Department Assembly is responsible for the organization, administration, and management of the P.M.S., in particular:
a) Submits to the Senate, through the Postgraduate Studies Committee, the documents required under Article 80(3) of Law 4957/2022 (points a–ist), together with the internal regulation of the P.M.S., diploma supplement templates in Greek and English, detailed budget of revenues and expenses, feasibility and sustainability study, detailed report (for distance-learning programs), and in the case of interdepartmental or inter-university programs, the special cooperation protocol.
b) Constitutes Committees for the evaluation of applicants and approves their admission,
c) Assigns teaching duties to the instructors of the P.M.S.,
d) Submits to the Senate proposals for modifying the establishment decision of the MSCor extending its duration,
e) Constitutes examination committees for postgraduate dissertations and appoints supervisors,
f) Certifies the successful completion of studies in order to award the degree,
g) Approves the annual report of the P.M.S., following a recommendation by the C.C.,

h) Submits to the Senate the special cooperation protocol in cases of joint organization with other departments or institutions in Greece or abroad.

By decision of the Department Assembly, responsibilities under points a) and d) may be delegated to the C.C.

3. The C.C. is responsible for monitoring and coordinating the program's operation, in particular:

a) Prepares the initial annual budget and amendments (if the MSChas resources under Article 84 of Law 4957/2022) and submits it for approval to the Research Committee (ELKE-D.U.Th.), excluding quarterly revisions under Article 239(3)(b),

b) Prepares the annual report and submits it for approval to the Department Assembly,

c) Approves expenditures and may delegate this authority to the Director of the P.M.S.,

d) Approves the granting of scholarships (financial or non-financial), in accordance with the establishment decision and internal regulation of the P.M.S.,

e) Submits to the Department Assembly proposals for teaching assignments and workload distribution,

f) Submits invitations for Visiting Professors to meet teaching needs,

g) Drafts a plan for curriculum modifications and submits it to the Department Assembly,

h) Submits proposals for reallocation of courses among semesters and matters related to quality enhancement of the curriculum.

4. The Director of the MSChas the following responsibilities:

a) Chairs the C.C., prepares the agenda, and convenes meetings,

b) Submits to the Department Assembly issues related to the organization and operation of the MSC(in single-department programs),

c) Submits to the C.C. and other bodies issues related to the effective functioning of the P.M.S.,

d) Acts as the Scientific Supervisor of the program and ensures proper implementation, certification, and monitoring of the project's scope, expenses, and budget execution,

e) Monitors the implementation of decisions of the governing bodies and the Internal Regulation,

f) Exercises any other responsibility defined in the establishment decision of the Msc

Article 6
Organization of the Msc

The educational process of the MSCmay be organized:

a) through synchronous distance-learning methods,

b) through asynchronous distance-learning methods,

c) through a blended system.

The organization of teaching is set at 82% synchronous distance learning and up to 18% asynchronous distance learning.

Courses begin on the last Monday of October and end after 13 teaching weeks per semester. At the beginning of each semester, a schedule is drawn up. Each course may be taught by one or more instructors, with one designated as the responsible/lead instructor by the Department Assembly.

Evaluation may be conducted through written or oral exams, assignments, presentations, reports, or combinations thereof, depending on the course nature. The evaluation method is announced at the start of the course.
For courses assessed by exams or exercises:
1) Winter semester courses are examined in February (1st exam period) and September (2nd exam period).
2) Spring semester courses are examined in June (1st exam period) and September (2nd exam period).
For courses assessed by assignments, submission must occur within the exam period. Each exam period lasts two weeks.
Written/oral distance exams may be conducted using appropriate online systems ensuring authentication, identification, and supervision.
Distance learning is capped at 18% of the total credits of the MSCThe Department of Chemistry provides appropriate infrastructure (teleconference rooms and licensed platforms). Students must have:
• Computer
• Camera
• Microphone
• Internet connection
Attendance is compulsory. Up to three absences per course are permitted. In exceptional cases (excluding professional obligations), the C.C. may recommend approval of additional absences to the Department Assembly.
MSCprograms are internally evaluated under the Internal Quality Assurance System (IQAS) according to Article 215 of Law 4957/2022. They must also be certified by HAHE before commencing (Article 80(7) of Law 4957/2022) and undergo periodic evaluation (Article 87).

Article 7
Determination of Maximum and Minimum Number of Admissions

The number of admissions to the Postgraduate Program (PGP) is set at a maximum of one hundred and twenty (120) per study cycle. The minimum number of postgraduate students admitted is set at five (05) (including those entitled to exemption from tuition fees).

Article 8
Teaching Staff

1. The teaching duties of the PGP are assigned, by decision of the competent body, to the following categories of instructors:
a) faculty members of the Department or other Departments of Democritus University of Thrace (DUTH) or other Higher Education Institutions (HEIs) in Greece or abroad or of a Higher Military Educational Institution, as well as members of EEDIP, ETEP and EEP of the Department or other Departments of DUTH or other HEIs, with additional employment beyond their statutory obligations, if the PGP charges tuition fees,
b) Emeritus Professors or retired faculty members of the Department or other Departments

of DUTH or other HEIs,
c) collaborating Professors,
d) adjunct instructors and academic fellows of DUTH or other HEIs,
e) visiting Professors or visiting Researchers,
f) researchers and specialized scientific staff of research and technological bodies of article 13A of Law 4310/2014 or other research centers and institutes in Greece or abroad,
g) scientists of recognized standing with specialized knowledge and relevant experience in the field of the PGP.

2. By decision of the Department Assembly, supplementary teaching duties may be assigned to the Department's or School's PhD candidates, under the supervision of a PGP instructor.

3. The assignment of teaching duties in the PGP is carried out by decision of the competent body, following the proposal of the Coordinating Committee of the PGP. Specific conditions regarding teaching assignments may be defined in the PGP establishment decision.

4. The right to supervise theses is granted to instructors of categories (a) to (f) of paragraph 1, provided they hold a doctoral degree.

5. By decision of the competent body of the PGP, thesis supervision may also be assigned to faculty members, EEP, and EEDIP of the Department, even if they do not undertake teaching duties in the PGP.

6. a) All categories of instructors may be remunerated exclusively from the resources of the PGP. Payment or other benefits from the state budget or the public investment program are not allowed. The remuneration amount of each instructor is determined by decision of the competent body of the PGP regarding the assignment of teaching duties. Specifically, faculty members may receive additional remuneration for their contribution to the PGP, provided they fulfill their statutory minimum teaching obligations, as defined in the Internal Regulations of DUTH. The same applies to EEP, EEDIP, and ETEP members, provided they fulfill their legal teaching obligations.

b) Supervision of theses and internships may be remunerated if the workload exceeds the legally required obligations.

c) Members of faculty, EEP, EEDIP, and ETEP of the Department may participate in PGPs only on the condition that they meet their minimum statutory teaching obligations as defined by legislation and the Internal Regulations of DUTH.

Article 9
Assignment of Auxiliary Teaching Duties to Postgraduate Students (MSc) and Doctoral Candidates (PhD)

1. By decision of the Department Assembly or the competent body of the MSc or the PhD Program, the participation of MSc and PhD students in providing auxiliary teaching duties may be approved.

2. Auxiliary teaching duties are defined as participation in the implementation of courses and educational activities such as conducting tutorials or laboratory exercises, supervising examinations, evaluating assignments, etc.

3. MSc students may undertake auxiliary teaching duties in Undergraduate Programs of Study (UPS), while PhD candidates may do so in both UPS and MSc programs.

4. Auxiliary Teaching Duties in UPS

4.1 By decision of the Assembly, a call may be issued to MSc and PhD students of DUTH to provide auxiliary teaching duties in the UPS of the Department or the School. Applications, which are accompanied by the opinion of the MSc Program Director (for MSc students) or of the respective supervisor, are submitted to the Secretariat of the relevant Department, examined, and the Assembly approves the assignment of auxiliary teaching duties. Further details are regulated in the Department's Program Regulations.

4.2 Assignment of Auxiliary Teaching Duties in UPS to MSc and PhD students: MSc and PhD students of the Department may be assigned auxiliary teaching duties under the supervision of the course instructor of the UPS. Following a recommendation by the course instructor and approval by the Department Assembly, a call is issued to MSc and/or PhD students specifying the scope of the auxiliary teaching duties. MSc and/or PhD students submit applications to the Department Secretariat, which are evaluated by the course instructor, who submits a recommendation to the Department Assembly, which assigns the auxiliary teaching duties. Further details may be specified in the Department's Regulations.

4.3 Assignment of Auxiliary Teaching Duties in MSc Programs to PhD candidates: PhD candidates of the Department may be assigned auxiliary teaching duties under the supervision of an MSc instructor. Following a recommendation by the MSc Program Committee and a decision of the Department Assembly, a call is issued to PhD candidates of the Department specifying the scope of the auxiliary teaching duties. Applications are submitted to the Department Secretariat, evaluated by the Program Committee, which submits a recommendation to the Department Assembly (or to the Joint Program Committee in the case of interdepartmental or inter-institutional MSc programs), which assigns the auxiliary teaching duties.

5. DUTH may grant compensatory scholarships to MSc and PhD students with the obligation to support the educational process and provide auxiliary teaching duties.

6. The maximum hourly compensation for MSc and PhD students providing auxiliary teaching duties, which may be covered exclusively by private, own, or international resources of DUTH, is determined by the applicable Compensation Regulations for teaching duties of DUTH.

7. The specific regulations of each Program of Study determine the details concerning the selection of auxiliary teaching personnel, the maximum annual amount of compensatory scholarship per MSc and PhD student, the maximum number of weekly working hours, and other relevant details.

Article 10
Duration of Studies - Part-Time Studies - Suspension of Studies

i. Duration of Studies

1. The normal duration of study in the Postgraduate Program (PP) leading to the award of the Postgraduate Diploma (PD) is at least three (3) semesters (90 ECTS), which includes the time required for the preparation and submission of the Master's Thesis (MT), if applicable. If the Program of Studies includes a thesis, its minimum duration is three months and it corresponds to 30 ECTS.

2. Attendance in the PP is considered complete upon: a) the completion of the minimum required period of study, and b) the successful completion of all academic requirements, practical training, and the MT, where required.
3. With respect to the maximum duration of study, postgraduate students are required to complete their studies within twice the normal duration of the PP.
4. Exceptionally, postgraduate students may request an extension of the maximum study period for serious health reasons, either concerning themselves or a first-degree relative by blood, a spouse, or a partner under a civil partnership agreement. The request must be submitted to the Secretariat before the expiration of the maximum study period, accompanied by supporting documentation, particularly regarding health issues, certified by a public hospital or a competent committee of a public hospital. The Secretariat forwards the request to the Assembly, which decides on its approval, rejection, and the additional duration granted.

ii. Part-Time Studies

1. The PP provides the option of part-time studies, which may not exceed twice the normal duration.
2. Eligible to apply for part-time studies are: a) students who are employed for at least twenty (20) hours per week; b) students with disabilities and special educational needs; c) students who are athletes in sports clubs registered in the official electronic registry of sports clubs, under Article 142 of Law 4714/2020, under the following conditions: i) those achieving 1st to 8th place in national individual championships with at least twelve (12) participants and eight (8) clubs, ii) those competing in the top two divisions of team sports, iii) members of national teams in European, World, or other international competitions under the Hellenic Olympic Committee, or iv) those participating at least once during their studies in the Olympic Games, Paralympic Games, or Deaflympics.
3. Applications for part-time studies must be submitted to the Secretariat electronically or in person by the end of the course registration period, together with supporting documents. Applications are forwarded to the School's Deanery for approval.
4. Supporting documentation includes: employment contracts or employer certificates, disability certification from KEPA or a public hospital, certification of special educational needs, and proof of athletic status from the General Secretariat of Sports or the Hellenic Olympic Committee. Documents proving employment and athletic participation must be renewed annually.
5. Approval or rejection of the application is decided by the Assembly, following the recommendation of the Coordinating Committee (CC).
6. For students under part-time status, each academic semester counts as half a semester. Students may choose which courses they wish to attend and be examined in.
7. Students may return to full-time status at any time upon request without additional documentation. The return is formalized by a Deanery decision.
8. Certificates issued to part-time students must indicate their part-time status.

iii. Suspension of Studies

1. In exceptional cases, postgraduate students may request a temporary suspension of studies, not exceeding two (2) consecutive semesters. The application must state the requested suspension period and the reasons (e.g., health, force majeure, personal, family,

financial). It must be accompanied by supporting documents from competent authorities proving the reasons stated. In cases of force majeure or personal reasons, a solemn declaration (Law 1599/1986) is sufficient without additional documentation.
2. The application is forwarded by the CC to the Department Assembly for approval. In exceptional cases related to force majeure, it may be submitted after the end of the registration period. The semesters during which the student is under suspension are not counted towards the maximum duration of studies.
3. Suspension of studies is granted by decision of the Assembly, following a CC recommendation.
4. During the suspension period, the student loses student status. The suspension period is not included in the maximum duration of studies.
5. Upon resumption, the student continues under the study regulations of the academic year of their initial enrollment.

Article 12
Feasibility and Sustainability Study of the MSc Program

1. Feasibility Study

1.a. Necessity of establishing the MSc Program and description of its objectives

In modern societies, rapid economic development and high standards of living are directly linked to infrastructures that support the functioning of the national economy and ensure the prosperity and protection of society as a whole. The field of Quality, Environment, Health and Safety Management, and its connection with the Science of Chemistry, is considered a high-technology sector. It is characterized mainly by the continuous need to provide new services to the market as well as by its high dependence on new knowledge and technologies, especially in the area of environmental management, safety, and health.

In particular, proper Environmental Management will provide the organization with a framework for protecting the environment and responding to continuously changing conditions, in balance with socio-economic needs, contributing to its sustainable development. It also ensures compliance with legislative and regulatory provisions for environmental management and provides systematic risk management, which contributes to environmental protection through the prevention or reduction of adverse environmental impacts. Furthermore, it improves environmental performance and optimizes the management of resources and time, reduces production costs, and increases the resilience of the organization. Proper Environmental Management ensures control of how the Organization’s products and services are designed, manufactured, distributed, consumed, and disposed of, utilizing the life-cycle approach that can prevent the unintentional transfer of environmental impacts to another stage of the life cycle.

It also contributes to achieving financial and operational benefits that may arise from the application of environmentally friendly alternatives that enhance the Organization’s position in the market, such as reducing energy consumption, the use of raw materials, consumables, and waste, while simultaneously increasing recycling activities. Finally, it enhances its

reputation and competitiveness, establishing it in national and international markets, creating added value for the organization and new opportunities.

Beyond this, in the field of Environment, Health, and Safety, it is an essential qualification in the modern labor market, given the constantly changing circumstances. It is useful for a professional to assess the existing situation of environmental impacts arising from the chemical activities of a company, being aware of the legislative framework regarding environmental protection from chemical waste. They will have the ability to manage and organize staff in the technical tasks undertaken, to monitor devices, instruments, and systems used for environmental management, to identify pollutants resulting from the company's operations and the methods, techniques, and decontamination procedures used, to identify the qualitative and quantitative characteristics of chemical waste that end up in the environment, to restore emergency or permanent pollution, demonstrating a high sense of responsibility regarding all types of risks from physical, chemical, and biological factors that burden and threaten health, and to ensure the protection of employees in the workplace.

Moreover, infrastructure protection in the field of safety must be organized around the terms "risk," "losses," "vulnerability," "hazard," and the impact for "emergency response" and ensuring "business continuity" in service provision.

It is also important for the professional to know the basic principles and requirements of Quality, the ISOs related to Environment, Safety, and Health, as well as how these are integrated into Environmental Management Systems. They must be able to exploit the benefits of implementing an Environmental Management System, to monitor and maintain such a system, and to know methods for its improvement. Additionally, the professional must have the necessary knowledge/skills to perform technical operation and maintenance tasks, to supervise and monitor with lawful means the devices, instruments, and facilities that make up Solid and Liquid Waste Recycling Systems, with the aim of preventing pollution, addressing and restoring emergency or permanent pollution, and minimizing all types of risks related to human health and safety within the operation of these systems.

From the analysis of the current situation, it is evident that until today there has been fragmented research and professional management of issues concerning Quality, Environment, Health, and Safety Management. Holistic management of these issues is the demand of today, as confirmed by conferences, exhibitions, and publications in the field.

All studies converge that in the next ten years, professions that will have a significant presence in the labor market include:

Environmental Managers: Emphasis is placed on waste management as recycling becomes part of our daily lives and environmental protection is an imperative need. Waste management regulations are becoming increasingly strict. This means that the industry will expand and create many jobs. Workers involved in collection, processing, and further monitoring of waste will be highly sought after. In addition, constantly changing

sustainability practices and new, more ecological ways of managing waste can offer a dynamic career with high salaries to scientific personnel in this field.

Security: Businesses and individuals place great importance on security services of all kinds.

Business Consultants in Health and Safety, Quality Assurance, and Environment (HSQE): They act as advisors for businesses, assisting in management and their effective operation. Research shows that demand in this specialty will increase sharply. Business groups (both industries and SMEs) in Greece and abroad, in order to respond to future opportunities and challenges based on the three strategic pillars of safety, efficiency, and development, are now adapting their administrative structures by establishing Health, Safety, Environment & Quality (HSSE) Departments. The goal is the effective management of issues concerning quality management of services provided, safety and health of workers, and environmental protection, as well as ensuring compliance with related standards and procedures required by the company. This trend is due to the demand for a holistic and collaborative approach to Health, Safety, Environment & Quality issues. The need for such knowledge as a prerequisite for recruitment in companies, as well as for updating the knowledge of existing personnel, is constantly growing.

Consequently, one can understand the necessity of specialization and the existence of an MSc Program on “Quality, Environment, Health and Safety Management” with a theoretical background and the production of innovation in this field.
Security: Both businesses and individuals place great importance on security services of all kinds.

Business Consultants in Health and Safety, Quality Assurance, and Environmental Issues (HSQE):
They act as advisors to companies, helping with management and their effective operation. Research shows that the demand
for this specialty will increase dramatically. Furthermore, all business groups (industries and SMEs), both in Greece and abroad,
in order to respond to future opportunities and challenges based on the three strategic pillars of safety, efficiency, and growth,
are now adapting their administrative structures by establishing Health, Safety, Security, Environment & Quality (HSSE)
departments. Their goal is the effective management of quality assurance of provided services, occupational health and safety,
environmental protection, as well as ensuring compliance with relevant standards and procedures that companies are required
to follow. This trend is due to the demand for a holistic and collaborative approach to issues of Health, Safety, Environment,
and Quality. The need for such knowledge as a prerequisite for recruitment in companies, but also for updating the knowledge
of existing human resources, is steadily increasing.

Consequently, one can clearly see the necessity of specialization and the existence of a Postgraduate Program (MSc) focusing on “Quality, Environment, Health, and Safety Management,” with a strong theoretical foundation and the production of innovation in this field.

The MSc “Chemical Industry: Quality, Environment, Health, and Safety Management” aims to cover:

- An educational gap that concerns not only Greece but also the rest of Europe.
- The professional gap, thereby eliminating mistakes and poor practices of the past.
- A scientific and knowledge gap, which undoubtedly arises in this rapidly evolving science, through the collaboration of students and educators committed to a common effort.

The aim of this MSc is also to provide knowledge related to Quality, Environmental, Health, and Safety Management based on the following principles:

a. Continuous adaptation of the curriculum and teaching methods to developments in science and technology.
b. The opportunity for postgraduate students to acquire an interdisciplinary background that allows flexibility and rapid adaptation to changing working conditions.
c. Maximum possible familiarity of students with modern research methodology and new technologies.
d. Linking the educational process with the needs and requirements of modern society in general.

The MSc program is intended to cover the research and educational needs in the fields of Quality, Environment, Health, and Safety Management, as well as the development of a combined research field and the production of innovative applications in these areas in a holistic manner.

This MSc is considered an innovative and unique program since it offers combined knowledge from disciplines covered by the Department of Chemistry, which are in particularly high demand in the labor market. This allows students to acquire a holistic approach to a significant and modern field—Quality, Environment, Health, and Safety—first from an analytical and then from a management perspective.

Graduates will possess the knowledge base to work, among others, in the chemical industry, the private sector, and in governmental and international organizations that are increasingly active in the emerging field of Quality, Environment,

Health, and Safety Management. Furthermore, the program is expected to strengthen the link between research and Greek
production units, through the creation of highly trained and specialized human resources and the transfer of know-how,
which will contribute to the promotion of the country's development needs.

Specifically, the goals of the Program are:
• To provide high-level postgraduate education.
• To provide knowledge of modern developments in the emerging field of Quality, Environment, Health, and Safety.
• To create capable graduates able to contribute to occupational health and safety across all workplaces and specialties.
• To create specialized professionals for infrastructure protection.
• To create expert scientists specialized in quality assurance.
• To create environmental specialists with a focus on protection and management of the environment, and sustainable development.
• To provide advanced knowledge and develop the necessary skills, abilities, and values for preparing specialized scientists
and future executives familiar with modern trends in quality management, occupational health and safety, environmental
protection, and compliance with standards and procedures. Graduates will be capable of staffing productive and
administrative functions of enterprises and organizations in both the private and public sector, at strategic and operational
levels, in a globalized economic environment.
• To educate and prepare staff already employed in SMEs and public organizations, equipping them with the necessary
knowledge, abilities, skills, and values to effectively contribute to the growth of Greek enterprises, organizations, and the
national economy.
• To prepare students for doctoral (third cycle) studies.

The MSc also aims to address social needs within the framework of continuous and lifelong learning. Its guiding philosophy
is to ensure that postgraduate students acquire advanced knowledge, methods, and analytical skills that will enable them to
engage in continuous learning and professional development. Based on this philosophy, the teaching methods focus on
active student participation and include various interactive approaches, such as applied research, case studies, laboratory
exercises, etc.

In preparing the proposal for the establishment of the MSc, research was conducted and data collected regarding the current
status of relevant MSc programs offered by Greek Higher Education Institutions, with the

goal of:
1. Presenting an overall, comprehensive picture of the relevant MSc programs offered by Greek Universities and their
geographical distribution.
2. Identifying gaps that justify the need for the establishment of the proposed MSc.
3. Investigating the competitiveness of the MSc based on specific criteria.
4. Finally, evaluating the position of the Democritus University of Thrace and specifically the Department of Chemistry in
relation to similar MSc programs across Greece.

As mentioned earlier, the survey revealed that in Greece there is no postgraduate program with a similar or related subject
area. Four (4) programs were found that only partially overlap with the proposed subject matter, and they differ in both
content and objectives. In contrast, the proposed MSc aims to promote research in the field of Occupational Health and
Safety, Protection, Quality, and Environment—which is still in its infancy in Greece—while also offering in-depth
specialization at the postgraduate level (M.Sc.) and potentially at the doctoral level (PhD). This provides students with the
necessary tools for further academic and professional development, as well as for active participation in economic and
social development in today's international landscape.

The MSc also aims to meet social needs within the framework of lifelong learning. Its guiding philosophy is to ensure that
postgraduate students acquire advanced knowledge, methods, and analytical skills that will enable them to engage in
continuous learning and development. Based on this philosophy, teaching methods focus on active student participation and
include interactive approaches such as applied research, case studies, laboratory exercises, etc.

Based on the above, the proposed MSc is deemed socially necessary not only for Northern Greece but for the entire country,
as no equivalent program is currently offered by any university department.
1.b. Relevance of the Postgraduate Program (PMS) to the subject of the first cycle of studies
The relevance of the proposed PMS to the subject area of the first cycle of studies of the Department is evident. The Department aims to promote the development and transmission of knowledge in the science of Chemistry through teaching and research, and to provide students with the necessary tools to ensure their comprehensive training for their scientific and professional careers. The objectives of the PMS "Chemical Industry: Quality, Environment, Health and Safety Management" are clearly distinguished from those of the undergraduate study program. This distinction is defined in the following seven categories:

Learning Outcomes	Undergraduate Study Programs	Postgraduate Study Program
Knowledge and understanding	Systematic understanding of the basic elements, including acquisition of coherent and detailed knowledge, part of which may be at the forefront of an academic field	Systematic understanding of knowledge concerning cutting-edge developments of the scientific field
Learning	Understanding of the boundaries of the knowledge field and of any ambiguities and uncertainties	Autonomous learning ability required for the extension of knowledge and the development of high-level skills
Research	Application of research methodologies and techniques	Understanding and critical evaluation of methodologies and techniques for conducting high-level research and ability to formulate new research hypotheses
Analysis	Description and commentary of recent research results and critical evaluation of arguments, hypotheses, basic principles and data	Awareness and evaluation of recent research results and processes concerning the advancement and evolution of the scientific field
Problem Solving	Development of appropriate questions to achieve and formulate alternative solutions to complex problems	Systematic and creative evaluation of complex problems, decision-making and application of decision-making methods in complex and unpredictable situations
Communication	Communication and analysis of information, ideas, problems and solutions to both specialists and non-specialists	Communication of conclusions clearly to both specialists and non-specialists
Application	Application of methods and techniques taught for reviewing, consolidating, expanding and applying knowledge	Originality in the application of knowledge, combined with practical understanding of how research techniques are used for the production and interpretation of new knowledge in the relevant scientific field

Therefore, the proposed PMS “Chemical Industry: Quality, Environment, Health and Safety Management” is a continuation of the first cycle of studies of the Department and aims at deeper specialization in the field of Quality, Environment, Protection, Health and Safety

management through subject areas such as Analytical Chemistry, Physical Chemistry, Environmental Chemistry, Instrumental Analysis, Renewable Energy Sources, Organic Chemistry, Chemical Technology, Occupational Health and Safety in the Chemical Industry, Chemical Plant Design, Additive Manufacturing Technologies, Production Organization and Management, Principles of Robotics and Mechatronics, Measurement Systems in the Chemical Industry, Data Analysis & Forecasting Methods in Chemometrics, Green Chemistry, Circular Economy, Quality Control and Assurance – Accreditation, Embedded Systems in the Chemical Industry, Programming and Data Science, among others.

1.c. Scientific Competence of the Teaching Staff

All the teaching staff of the proposed MSc program "Chemical Industry: Quality, Environmental, Health and Safety Management" are of high scientific prestige and specialization, recognized both in Greece and abroad, with extensive teaching, scientific, and research work, which is demonstrated by:

- their published work in fields relevant to the MSc and the courses each undertakes to teach.
- their rich educational work, both at undergraduate and postgraduate level (all members of the Department of Chemistry at IHU have been teaching for more than 5 years in MSc programs of HEIs in Greece and abroad).
- their long administrative experience, as all participating faculty members have many years of experience in teaching and administration in Higher Education.

In detail, the faculty members of the Department of Chemistry who will participate in the implementation of the MSc are listed below. The faculty members of the Department who will teach in this MSc are fully specialized in the specific subject area, namely in Quality, Environmental, Health and Safety Management.

Prof. Sophia Mitkidou

Professor of Organic Chemistry with published work in organic pollution control and characterization of organic compounds. Indicative references include:

- Sophia Mitkidou, Nikolaos Kokkinos, Konstantinos Trompakas (2019), Forensic Fingerprinting of Biomarkers for Oil Spill Characterization: The Case Study of Kavala, Greece, MONITOX International Symposium "Deltas and Wetlands", Tulcea, Romania.
- T. Spanos, A. Ene, S. Mitkidou & P. Simeonova: Application of chemometric methods for assessment of groundwater quality in Kavala Prefecture, Northern Greece. International Conference 'Frontiers in Environmental and Water Management', Kavala, Greece, 2015.
- Dimitrakoudi, E.A., Mitkidou, S.A., Urem-Kotsou, D., Kotsakis, K., Stephanidou-Stephanatou, J., Stratis, J.A. Characterization by GC-MS of diterpenoid resinous materials in Roman-age amphorae from northern Greece (2011) European Journal of Mass Spectrometry, 17 (6).

Assoc. Prof. Kyzas

Associate Professor of Chemical Technology with specialization in Nanomaterials. He has published over 180 works (SCI), more than half in the field of Nanomaterials and Biochemical/Biological applications. Indicative references:

- Kyzas, Nanomaterials in Cosmetics, Nanomaterials 2020, 10(5), 979.
- Kyzas, Biological effects of deferasirox and deferasirox-loaded nanomicelles in rats, Life Sciences 270 (2021) 119146.
- Kyzas, Behavioral effects of zinc oxide nanoparticles on the brain of rats, Inorganic Chemistry Communications 119 (2020) 108131.

(Further faculty members' details, including indicative publications, are available on their personal ResearchGate pages, the Department's MODIP website, SCOPUS, and ISI Web of Science databases.)

Assoc. Prof. Michail Chalaris

Associate Professor specializing in Physical Chemistry, Occupational Safety, Risk Assessment, and Crisis Management. Indicative references include:
- Chalaris, Security of Energy Infrastructure, Academia Letters, Article 1116, https://doi.org/10.20935/AL1116, 2021.
- Chalaris, A Strategic Evaluation of Energy Security in the Eastern Mediterranean, Nova Science Publishers, Inc. (ISBN: 978-1-53619-273-5), 2021.
- Seretidis, Billios and Chalaris, How Technology Is Helping to Face the Illegal Immigration Crisis and to Modernize Border Security, in Refugee Crisis: Global Perspectives, Challenges and Issues (Editor Paul Leclair), Nova Science Publishers, Inc. (ISBN: 978-1-53618-522-5), 2020.
- Novel Approaches in Risk, Crisis and Disaster Management, Editor-in-Chief Michail Chalaris:
  - Chapter 5. Large-Scale Fire Incidents in Recycling Plants: Lessons Learned from Two Indicative Case Studies and Future Needs (Schismenos, Karma, Chalaris), Nova Science Publishers, Inc. (ISBN: 978-1-53613-239-7), 2018.
  - Chapter 6. Nanotechnology Applications for Biological Threat Detection (Schismenos, Chalaris, Gazouli), Nova Science Publishers, Inc. (ISBN: 978-1-53613-239-7), 2018.
- Chalaris, Preparedness and Response to Nuclear Crisis: Synopsis of Essential International Obligations and Cooperation Mechanisms, in Nuclear Weapons: Global Programmes, Challenges and Security Implications, Nova Science Publishers, Inc. (ISBN: 978-1-53611-860-5), 2017.
- Evacuation Planning of Critical Infrastructures in case of an Earthquake or a Fire for People with Disabilities, European Center for Forest Fires, (ISBN: 978-618-83079-0-2 2016), 2017.

Assoc. Prof. Marmanis

Associate Professor specializing in Environmental Chemistry and Quality, particularly water treatment. Indicative references:
- Marmanis, Brackish water desalination by capacitive deionization with carbon aerogel electrodes, 6th Panhellenic Conference on Porous Materials, 9-10 Sept. 2013, Kavala, Greece.
- Marmanis, Capacitive deionization of NaCl solutions using porous nano-structured carbon aerogel electrodes, International Water Association (IWA) Conference, Wastewater Purification & Reuse WWPR 2012, 28-30 March 2012, Heraklion, Crete, Greece.

Assoc. Prof. Mittas

Associate Professor specializing in Research Methodology and Statistics (Research Methodology will be taught in the MSc in Cosmetic Chemistry). Indicative references:
- Mittas, Exploring the Relation between Technical Debt Principal and Interest: An Empirical

Approach, Information and Software Technology, 2020, 128, 106391.
- Mittas, Data-driven benchmarking in software development effort estimation: The few define the bulk, Journal of Software: Evolution and Process, 2020, 32(9), e2258.

Assist. Prof. Metaxa

Assistant Professor specializing in Nanochemistry and Nanocomposites. Indicative references:
- Metaxa, Dispersion of graphene nanoplatelets reinforcing type II cement paste, Procedia Structural Integrity, 2018, 13, pp. 2011–2016.
- Metaxa, Polycarboxylate based superplasticizers as dispersant agents for exfoliated graphene nanoplatelets, Journal of Engineering Science and Technology Review, 2015, 8(5), pp. 1–5.

Prof. Tarchanidis

Professor, Director of the Laboratory of Applications in the Chemical Industry, specializing in the analysis and design of processes and systems applied in practice in chemical industry production. Indicative references:
- Pachidis T., Tarchanidis K., Lygouras J. and Tsalides P., Robot Path Generation Method for a Welding System Based on Pseudo Stereo Visual Servo Control, EURASIP Journal on Applied Signal Processing, Vol. 2005, No. 14, 11 August 2005.
- D. Bandekas, N. Vordos, K. Tarchanidis, L. Magafas, G. Tsirigotis, Optimum Selection Based on the Energy Capacity Between Different Types of Renewable Sources Using a Controller, J. Electronics and Electrical Engineering, Vol. 8 (80), pp. 9–12, 20.

Lect. Chatzichristou

Lecturer specializing in the determination of heavy metals in aqueous solutions. Indicative references:
- Chatzichristou, Assessment of Water Quality for Human Consumption, Microchim. Acta 141, 35-40 (2003).
- Chatzichristou, Water Quality Evaluation by Chemometrical Approaches, 1st International Symposium on Applied Physics-Materials Science, Environmental and Health (ISAP1), Galati, November 28-29 (2009).

Assoc. Prof. Kokkinos

Associate Professor, Director of the Laboratory of Petroleum and Natural Gas Chemistry, specializing in process simulations in the petroleum industry, with applications in process safety and occupational risk assessment. Indicative references:
- Kokkinos N.C., Nikolaou N., Psaroudakis N., Mertis K., Mitkidou S., Mitropoulos A.C. (2015), Two-step conversion of LLCN olefins to strong anti-knocking alcohol mixtures catalysed by Rh, Ru/TPPTS complexes in aqueous media, Catalysis Today, Vol. 247, pp. 132–138.
- Kokkinos N., Mitropoulos A., Nikolaou N. (2015), An environmentally benign catalytic process enhances in situ the quality of gasoline, Paper number: SPE-177687-MS.
- Kokkinos N.C., Kazou E., Lazaridou A., Papadopoulos C., Psaroudakis N., Mertis K., Nikolaou N. (2013), A potential refinery process of light-light naphtha olefins conversion to valuable oxygenated products in aqueous media - Part 1: Biphasic hydroformylation, Fuel, Vol. 104, pp. 275-283.
- Papadopoulos C.E., Lazaridou A., Koutsoumba A., Kokkinos N., Christoforidis A., Nikolaou N.

(2009), Optimisation of cotton seed biodiesel quality (critical properties) through modification of its FAME composition by highly selective homogeneous hydrogenation, Bioresource Technology, Vol. 101(6), pp. 1812–1819.

Assoc. Prof. Nannou

Associate Professor specializing in Analytical Chemistry, High-Resolution Mass Spectrometry, Quality Management Systems, and Anti-Pollution Technologies. Indicative references:
- Nannou C., Kaprara E., Psaltou S., Salapasidou M., Palasantza P.-A., Diamantopoulos P., Lambropoulou D.A., Mitrakas M., Zouboulis A., Monitoring of a broad set of pharmaceuticals in wastewaters by high-resolution mass spectrometry and evaluation of heterogenous catalytic ozonation for their removal in a pre-industrial level unit, Analytica (2022), 3(2), pp. 195-212.
- Ofrydopoulou A., Nannou C., Evgenidou E., Lambropoulou D., Sample preparation optimization by central composite design for multi-class determination of 172 emerging contaminants in wastewaters and tap water using liquid chromatography high-resolution mass spectrometry, Journal of Chromatography A, Vol. 1652, Art. No 462369, 2021.

Assoc. Prof. Tsoupras

Associate Professor, Laboratory of Biochemistry, Department of Chemistry, School of Science. Indicative references:
- Tsoupras A.*, et al. One-step separation system of bio-functional lipid compounds from natural sources, MethodsX, 8 (2021) 101380. (DOI: 10.1016/j.mex.2021.101380).
- Tsoupras A.*, et al. Winemaking: “With One Stone, Two Birds”? A Holistic Review of the Bio-Functional Compounds, Applications and Health Benefits of Wine and Wineries’ By-Products, Fermentation, 2023, 9(9), 838 (DOI: 10.3390/fermentation9090838).

More information on the subjects, specialization, educational, research, published, and scientific work (including statistics such as number of papers, citations, h-index, etc.) is available on the faculty members’ personal ResearchGate pages, the Department’s MODIP website, and the SCOPUS and ISI Web of Science databases.

1.d. Evaluation Criteria and Procedures

For the evaluation of the Postgraduate Program (MSc), the system currently applied in Higher Education will be followed. At the end of each semester, every course and every instructor will be evaluated by the postgraduate students, in accordance with the specific provisions of the Postgraduate Studies Regulation. The following evaluation criteria will also be taken into account:

A) Criteria for Course-Instructor Evaluation (per semester)

• Quality, innovation, and modern educational material of lectures
• Presentation techniques of the educational material (Augmented Reality)
• Field exercises and measurements, case studies, solving real problems
• Combination of laboratory methods and theory with in-situ practices and teaching
• Ability of the instructor to adapt in managing heterogeneous student groups and teaching in two languages (Greek/English)

B) Criteria for the Evaluation of the MSc Program (overall)

• Academic subject matter and verification of fulfillment of objectives and commitments
• Degree of student satisfaction from the interaction with the Program Director, Professors, and Secretariat
• Degree and frequency of updates and integration of innovative teaching methods and new scientific achievements in hydrological sciences into the curriculum
• Flexibility and adaptation of the curriculum, especially in courses corresponding to the different “specializations”
• Degree of development of laboratory and practical skills useful and necessary for students’ professional careers

Regarding financial evaluation, the Department of Chemistry will prepare the annual financial report and publish it on the website each year, specifying the allocation of expenses by category, particularly tuition fees, faculty remuneration in MSc programs, and the number of faculty members receiving them.

In addition, at the end of the term of the Program’s Coordinating Committee, the outgoing Director is responsible for drafting a detailed report of the educational and research work of the MSc, as well as other activities, with the aim of evaluating the MSc, improving the quality of studies, better utilizing human resources, optimizing existing infrastructure, and effectively using the available resources of the MSc.

The evaluation criteria to be taken into account for drafting the MSc evaluation report include:

• The average admission score of students over the last five years, and its trend over time. In case of a clear decline, causes should be identified and corrective measures proposed.
• The supply-demand ratio for program places (offered positions vs. applications). In case of a clear decrease in demand, causes should be identified and corrective measures proposed.
• The ratio of graduates to admitted students and the number of non-graduates. If a significant increase in non-graduates is observed, measures regarding the curriculum should be proposed.
• The number of postgraduate theses published or accepted for publication as original research papers, with the postgraduate student as main author, in peer-reviewed international journals with impact factor.
• The number of publications by postgraduate students in peer-reviewed journals, awards, patents, scholarships (not from the MSc) per year.
• The number of student participations in competitive research projects.
• Placement of graduates in doctoral programs abroad.
• Participation of postgraduate students in workshops, symposia, conferences.
• Statistical data on the professional career paths of graduates.
• Evaluation of the MSc through questionnaires prepared by the Internal Evaluation Committee every five years, distributed to relevant bodies such as the Association of Greek Chemists, Technical Chamber of Greece, ELINYAE, etc.

Based on the above analysis, it is concluded that the establishment and operation of the proposed MSc program 'Chemical Industry: Quality, Environment, Health and Safety Management' is deemed absolutely necessary. It addresses real educational and production needs, while presenting highly positive prospects for sustainability by providing participating students with opportunities for employment and contribution to society, the chemical

industry, the private sector, and public and international organizations increasingly active in the emerging field of Occupational Health and Safety, Protection, Quality, and Environment. Additionally, it is expected to strengthen the linkage between research and Greek production units, through the creation of well-trained, specialized human resources and the transfer of know-how, thus contributing to the promotion of the country's developmental needs.
At the same time, it enables the Department of Chemistry of DUTH to operate a modern, competitive postgraduate program that can contribute to the improvement of the educational services provided by the Institution, in the Science of Chemistry and particularly in Quality, Environment, Safety, and Health Management.

2. Feasibility Study

2.a. Listing of Postgraduate Programs Organized by the Department

The following table lists all the Postgraduate Programs organized by the Department, showing that currently the Department of Chemistry operates two programs, and in the next academic period another one will begin.

No.	Title of Postgraduate Program	Teaching Language	Duration	Total ECTS / Website
1	Petroleum and Natural Gas Technology	English	3 semesters	90 / https://mscpet.chem.duth.gr/
2	Nanotechnology	Greek	4 semesters	120 / (No website available yet)
3	Cosmetic Chemistry	Greek	3 semesters	90 / https://msc2c.chem.duth.gr/

2.b. Listing of Programs of Similar Content (Scientific Field) Organized in Greece

In the context of preparing the proposal for establishing the Postgraduate Program, research was conducted and all data were collected regarding the existing situation of related programs offered by Greek Higher Education Institutions, with the aim to:

1. Present an overall overview of related programs offered by Greek Higher Education Institutions, and their geographical distribution.
2. Identify any gaps that justify the necessity of establishing the proposed program.
3. Investigate the competitiveness of the program based on the mentioned criteria.
4. Finally, evaluate the position of DUTH and specifically the Department of Chemistry, in relation to similar programs across Greece.

The recording carried out resulted in the following key conclusions:

Postgraduate Programs of Similar Content (Scientific Field)

In Greece, based on the official website of the Ministry of Education (http://masters.minedu.gov.gr/), no postgraduate program was found with exactly the same or similar scientific field. Four (4) postgraduate programs were identified whose scientific content only partially overlaps with that of the proposed program:

- "ENVIRONMENT AND HEALTH. MANAGEMENT OF ENVIRONMENTAL ISSUES WITH IMPACTS ON HEALTH" – Department of Medicine, NKUA. However, this program has a clear medical approach, without overlap with the corresponding chemical/technological subjects of the proposed program, and is offered in Attica.
- "OCCUPATIONAL HEALTH AND SAFETY" – Department of Medicine, School of Health Sciences, Democritus University of Thrace. This program also has a medical rather than a technological/chemical approach and is offered in Alexandroupolis.
- "ENVIRONMENTAL MANAGEMENT AND ENVIRONMENTAL EDUCATION" – Democritus University of Thrace, School of Agricultural Sciences, Department of Agriculture. This program covers agricultural sciences, specifically their application to environmental management and protection, sustainable management of natural resources, and related areas. In contrast, the proposed program addresses Environmental Management from the perspective of Chemistry, with no overlap in the defined areas.
- "QUALITY MANAGEMENT AND TECHNOLOGY" – Hellenic Open University (HOU).

Based on the above, the proposed Postgraduate Program is deemed absolutely necessary, given the critical scientific field in which it falls. It addresses the specialization of a holistic approach to Occupational Health and Safety, Protection, Quality, Environment, and Chemical Applications. The program will create the next generation of researchers and professionals involved in Environmental Management, Occupational Health and Safety, Protection, and Quality Assurance, instilling interdisciplinarity and cultivating a holistic mindset across a broad spectrum of scientific specialties, while simultaneously equipping scientists with tools to deepen their own background and ways of mutual understanding, collaboration, and interaction with other fields.

The program aims both at promoting research in the scientific field of Quality, Environmental, Protection, and Health and Safety Management—which is still at an early stage—and at the deepening and specialization of students at the postgraduate level (M.Sc.), and potentially at the level of a doctoral dissertation (Ph.D.), providing them with the necessary qualifications for their further scientific and professional careers, as well as for their active participation in economic and social development within the modern international landscape.

2.a. Postgraduate Programs Organized by the Department

The following table presents all the Postgraduate Programs (MSc) organized by the Department. Currently, two MSc programs are running in the Department of Chemistry, and another one will be launched in the next academic year.

No.	Title of MSc	Language of Instruction	Duration	ECTS / Website

1	Petroleum and Natural Gas Technology	English	3 semesters	90 / https://mscpet.chem.duth.gr/
2	Nanotechnology	Greek	4 semesters	120 / (no website yet)
3	Cosmetic Chemistry	Greek	3 semesters	90 / https://msc2c.chem.duth.gr/

2.b. Listing of Programs with Similar Content (Scientific Field) Organized in Greece

As part of the preparation for the proposal of establishing the Postgraduate Program (MSc), a survey was conducted and all relevant data were collected regarding the current status of similar MSc programs offered by Greek Higher Education Institutions, with the aim to:
1. Present a comprehensive overview of related MSc programs offered by Greek HEIs and their spatial distribution.
2. Identify existing gaps that justify the establishment of the proposed MSc.
3. Investigate the competitiveness of the MSc based on referenced criteria.
4. Finally, evaluate the position of Democritus University of Thrace (DUTH), and specifically the Department of Chemistry, in relation to similar MSc programs across Greece.

Key Findings

Based on the survey conducted, the following main conclusions arise:

MSc Programs of Similar Content (Scientific Field):
In Greece, according to the official website of the Ministry of Education (http://masters.minedu.gov.gr/), no MSc program was found with an identical or highly similar scientific field. However, four (4) MSc programs were found with subject areas that are only partially related to the proposed MSc, as follows:

- "Environment and Health: Management of Environmental Issues with Impacts on Health" – School of Medicine, National and Kapodistrian University of Athens (NKUA).
- "Occupational Health and Safety" – Department of Medicine, School of Health Sciences, Democritus University of Thrace (DUTH).
- "Environmental Management and Environmental Education" – DUTH, School of Agricultural and Forestry Sciences, Department of Agriculture.
- "Quality Management and Technology" – Hellenic Open University (HOU).

It should be noted:
- The MSc "Environment and Health" follows a distinctly medical approach and has no overlap with the related fields foreseen in the proposed MSc. It is offered in the region of Attica.
- The MSc "Occupational Health and Safety" also has a medical orientation rather than a technological-chemical one, and is offered in Alexandroupolis.
- The MSc "Environmental Management and Environmental Education" covers fundamental topics of agricultural sciences, especially their applications in environmental management and sustainable use of natural resources. Compared to the proposed MSc, which addresses Environmental Management from the perspective of Chemistry, there is no overlap with the related subjects.

- The MSc "Quality Management and Technology" of the Hellenic Open University also differs significantly in focus.

Based on the above, the proposed MSc is deemed absolutely necessary, given the critical scientific field to which it belongs. It addresses the specialization of a holistic approach to Occupational Safety and Health, Protection, Quality, Environment, and Chemical Applications. The MSc will create the next generation of researchers and professionals engaged in Environmental Management, Occupational Safety and Health, and Quality Assurance, fostering interdisciplinarity and cultivating a mindset of holistic approaches across a broad spectrum of scientific fields. At the same time, it equips scientists with tools for deepening their own background, and ways of mutual understanding, collaboration, and interdisciplinary integration.

The MSc aims both at advancing research in the field of Quality, Environment, Health and Safety Management—which is still in its early stages in Greece—and at deepening and specializing postgraduate students (M.Sc), potentially extending to doctoral research (PhD). It provides them with the necessary qualifications for their future scientific and professional career, as well as for their active contribution to economic and social development within today's international context.

2.c. Alternative Sources of Funding

Projected alternative sources of funding (other than tuition fee increases), in the event that the number of students is not as expected. To implement the proposed budget in this case, funding may be sought from various sponsorships or through securing resources via research programs. It should be noted that there are no available data to make an accurate forecast for determining alternative sources of funding.

2.d. Availability of Basic Infrastructure and Necessary Equipment for the Program's Operation

• Existence and adequacy of existing, necessary infrastructure for the smooth operation of the MSc Program

The Program will be conducted at the facilities of the Department of Chemistry of Democritus University of Thrace (DUTH), as described below. It is also proposed that it may be conducted at DUTH facilities in Xanthi, Komotini, Drama, Alexandroupoli, and Didymoteicho, as well as in partner institutions abroad through Erasmus+ agreements, and in national institutions, institutes, and laboratories, if deemed necessary due to laboratory or other needs, and upon relevant agreement between Departments or Institutes.

• Description and specification of teaching facilities

The Department is located within the DUTH building complex in the Agios Loukas area of the Kavala University Campus. The campus covers an area of 132,000 m², with a built-up area of 36,000 m², of which 11,000 m² are used for teaching rooms, 11,000 m² for laboratories, 11,000 m² for three student dormitories with a capacity of 450 beds, and 3,000 m² for the Library building. The city of Kavala, capital of the homonymous Prefecture, is the fourth largest city in the region of Macedonia, according to the 2011 census. Through the Egnatia Highway, it is located 160 km from Thessaloniki. Its geographical position establishes it as the most

important tourist destination in Eastern Macedonia and Thrace, with strategic significance, unparalleled natural beauty, and great development prospects. Kavala is an ideal student city, offering numerous cultural events and a rich historical atmosphere.

The educational needs of the MSc Program are expected to be met by the existing infrastructure and teaching facilities of the Department of Chemistry, as described below. The Department operates with adequate building infrastructure of approximately 10,000 m² on the University campus, including 12 classrooms equipped with suitable teaching aids, an auditorium, and 23 fully equipped laboratories for exclusive use. Specifically, there are well-equipped laboratories (20–25 seats each) for the practical training of students in Inorganic Chemistry, Analytical Chemistry, Organic Chemistry, Physical Chemistry, Chemical Technology, Petroleum Chemistry and Technology, Fuel and Biofuel Analysis, Renewable Energy, and Materials Technology. The laboratories are equipped with appropriate instruments used for both student training and research, covering the required needs. Additionally, there are three computer labs and facilities housing large scientific instruments, totaling 1,000 m², complementing the laboratory infrastructure. For MSc teaching, the Department has a fully equipped classroom with audiovisual facilities and a computing center. Furthermore, the University's general infrastructure of classrooms and auditoriums is also available if required.

Existence and adequacy of existing equipment

- Balances, pH meters, Conductivity meters, Flame photometer, Turbidimeter, Refractometer, Polarimeter, Automatic titration devices, Portable chlorine residual colorimeter, BOD apparatus, COD apparatus, Ultrapure water system, Water deionization system, High-temperature furnaces, Incubators.
- Rotary evaporators, Magnetic stirrers, Heating mantles, Water baths, Sand baths, Thermal reactor for sludge sample pretreatment, Centrifuge, Ultrasonic bath, Autoclave, Ice maker, Melting point devices, Distillation and extraction apparatus.
- Flash column chromatography system.
- FT-IR, NIR, PerkinElmer spectrophotometer.
- UV-VIS spectrophotometer (HITACHI U-2000, double beam).
- UV-VIS spectrophotometer (HITACHI U-1500, single beam).
- Visible photometer (VIS).
- UPLC-MS-MS system (6400 Agilent, triple quadrupole mass spectrometer).
- Gas chromatographs with electron capture and nitrogen-phosphorus detectors (Agilent, Thermo).
- Gas chromatograph–mass spectrometer (6890N GC-5975B MS, Agilent) with autosampler.
- ICP-MS 7700X Agilent with autosampler and laser ablation (LA-ICP-MS).
- Gas chromatograph–combustion–isotope ratio mass spectrometer (GC-C-IRMS, Isoprime).
- Atomic Absorption [AA].
- Audio Magneto Telluric [AMT].
- Contact Angle Analyzer [CA].
- Ground Penetration Radar [GPR].
- Langmuir–Blodgett Film Deposition [LB].

- Small/Wide Angle X-Ray Scattering Instrumentation [SAXS-WAXS].
- Ultra Microtome [UMT].
- X-Ray Diffraction [XRD].
- Transmission Electron Microscope (TEM).
- Scanning Electron Microscope (SEM, JSM-6390LV) with elemental analyzer (Bruker AXS).
- Atomic Force Microscope (AFM, Innova).
- Mercury porosimeter, Nitrogen porosimeter, Permeameter (Vinci).
- 2D Proteomics unit.
- Fluid flow and heat transfer study devices.
- Petroleum and Biofuels Laboratory equipment: Automatic fractional distillation unit (AUTODEST 800 FISCHER), atmospheric distillation devices (ORVIS BU PAMv2), batch reactor system, aromatic/olefin hydrocarbon analyzers (NORMALAB), cold filter plugging point testers (TANAKA AFP-102, LINETRONIC), automatic cloud/pour/freezing point analyzer (PHASE TECHNOLOGY), density meters (ANTOON PAAR DMA4100, RUDOLPH DDM2911), vapor pressure testers (SUR BERLIN, GRABNER INSTRUMENTS), flash point testers (PMA 2, PETROTEST CLAS), sulfur analyzers (OXFORD LAB X3000, ANTEK 735), fuel adulteration UV-VIS analyzer (HITACHI U-2900), Karl Fischer titration (METROHM Coulometer 831, Stirrer 728), Dean & Stark water determination, carbon residue tester (NORMALAB NMC 210), lubricants penetration testers, TAN/TBN titration (METROHM TITRINO BASIC), biodiesel oxidation stability analyzer (METROHM RANCIMAT 873), viscosity baths and tubes (PMT TOMSON, SUR BERLIN).
- Wind tunnel – 36W wind turbine, Hybrid system (wind turbine + photovoltaic panels).
- Conductivity measurement devices.
- Heat exchangers (water-water, steam-water).
- Solar water heating installation.
- Hydrogen fuel cell.
- Thermal camera.
- Power analyzer.
- Exhaust gas analyzer.
- Thermal conductivity (k) and resistance (R) measurement devices.
- Meteorological station (Vaisala).
- Hybrid wind–photovoltaic systems (fixed tilt, trackers).
- 3D printers (FDM, SLA, stereolithography: Asiga, FormLABS, Stratasys, Leapfrog, Zortrax).
- Vacuum/argon casting system (lost wax technique, digitally controlled furnace and mixer).
- Instron 8801 testing machine (100kN & 5kN heads, dynamic fatigue up to 100Hz, compression, bending, tension, shear).
- High-speed camera, 5-axis CNC machining center, CNC wire EDM, 2.5-axis CNC lathe (livetooling), Optical/Contact Coordinate Measuring Machine (CMM).
- KISTLER 3-axis dynamometer benches.
- Laser vibration measurement system (POLYTEC RSV-150).
- Industrial robotic arms (KAWASAKI, 6 DOF, 30 kg and 5 kg payloads).
- Three Dell Blade Servers, Intel Xeon 3.3GHz, 32GB RAM, Windows 2012 Server + Blade UPS.

Article 13

Tuition Fees

The maximum tuition fee for the Master's Program amounts to four thousand five hundred (4,500.00€) euros. The amount of the prescribed tuition fees for the entire program is determined by the Government Gazette establishing the Master's Program.

The payment of tuition fees is made to the Special Account for Research Funds (ELKE) of the Democritus University of Thrace (DUTH), which is responsible for their management. The Master's Program provides the possibility of exemption from these fees in accordance with applicable legislation.

Article 14

Resources of Postgraduate Programs - Financial Management

1. The resources and funding of the Master's Program may come from:

a) Tuition fees

b) Donations, sponsorships, and any kind of financial support

c) Bequests

d) Resources from research projects or programs

e) Own resources of the Higher Education Institution (HEI)

f) The state budget or the Public Investment Program

With regard to revenues, the sources of funding - inflows are listed in accordance with paragraphs 1 and 2 of Article 84 of Law 4957/2022, together with the corresponding amounts - expected inflows from each source of funding.

Revenues

Source	Amount (€)
Tuition fees	378,000.00
Donations, sponsorships, and any financial support	-
Bequests	-
Resources from research projects or programs	-
Own resources of DUTH	-
State budget or National Development Program	-
Total	378,000.00

2. The payment of tuition fees is made either by the student himself/herself or by another natural or legal person on behalf of the student.

3. The financial management of the Master's Program resources is carried out by the ELKE - DUTH or by the ELKE of the HEI that has undertaken the administrative support of the program. In accordance with paragraph 4 of Article 84 of Law 4957/2022, thirty percent (30%) of the total revenues from tuition fees is withheld by the ELKE - DUTH. This amount includes the percentage withheld for the financial management of the Master's Program.
With regard to expenses, the categories of operating costs and the corresponding amounts - expected outflows are listed below.
Specifically, seventy percent (70%) of the operating costs of the Master's Program are distributed according to the following table:
Expenses - Categories of Costs

Category	**Amount (€)**
Remuneration for administrative and technical support	25,000.00
Remuneration of teaching staff	42,000.00
Travel expenses	12,000.00
Equipment and infrastructure	15,600.00
Other operating expenses	8,000.00
Scholarships	162,000.00
Partial Subtotal (70%)	264,600.00
Operating costs of Institutions (30%) - ELKE	113,400.00
Total	540,000.00

4. The Scientific Supervisor of the Master's Program projects is the Director of the Program, who assumes the duties, obligations, and responsibilities of the Scientific Supervisor, as specified in the law and in the Management and Funding Guide of the Special Account for Research Funds of the Democritus University of Thrace approved by the Senate.
5. For the effective implementation of the budget of the Master's Program approved by the competent Assembly of the Department and its adaptation to the needs at any given time, the Director of the Master's Program and Scientific Supervisor of the Project may, with the prior consent of the competent authorities, request approval from the Research Committee for an increase, decrease, or reallocation of the budgeted amounts in each category of expenditure. In the case of an amendment to tuition fees, the publication of the relevant amendment in the Government Gazette is required.
6. In accordance with Article 84 of Law 4957/2022, the Director of the Master's Program, who is also the Scientific Supervisor of the program, may request from the Research Committee of the Special Account for Research Funds the appointment of a Deputy Scientific Supervisor for the financial management needs of the Master's Program in accordance with paragraph 4 of Article 234 of Law 4957/2022. For the assessment of necessity, the request of the Director of

the Master's Program should be accompanied by a decision of the competent body of the Master's Program (Department Assembly or Program Committee).
7. The remuneration of regular teaching, technical, and administrative staff of the Institutions concerns work that exceeds their statutory obligations, as specified in the Institution's regulations.

PART B
POSTGRADUATE STUDIES ISSUES

Article 15
Admission Criteria of the Postgraduate Program

1. Holders of a first-cycle degree from Higher Education Institutions (HEIs) of Greece or equivalent recognized institutions abroad are eligible for admission to the Postgraduate Program (PP).
2. The Secretariat of the Department verifies whether the foreign institution that awarded the first-cycle degree is included in the National Register of Recognized Foreign Institutions and whether the type of degree belongs to the National Register of Degree Types of Recognized Institutions, as published on the Hellenic NARIC (DOATAP) website.
3. Members of the categories of Special Teaching Staff (EEP), Special Laboratory Teaching Staff (EDIP), and Special Technical Laboratory Staff (ETEP) may, upon request, be admitted as supernumerary students, limited to one per year and per PP, provided they serve in the respective Department and their academic qualifications and work are relevant to the subject of the PP.

Article 16
Selection Procedure of Admitted Students – Enrollment in the Postgraduate Program

A. Submission of Applications for Admission to the Postgraduate Program

1. Democritus University of Thrace (DUTH), applying the principles of equal opportunities and supporting inclusiveness, provides the right of participation in the Postgraduate Programs to any interested party who meets the necessary requirements.
2. By decision of the Department Assembly, a call for applications for admission of postgraduate students is published and posted on the Department's website. The call specifies all relevant details (dates and place of application submission, required supporting documents, etc.). The conditions and criteria for the selection of candidates are specific, quantitative and/or qualitative, and are made known to candidates through the call. If the admission process requires a written or oral examination, the procedure, examination material, examination dates, and grading method must be determined.
3. Applications, together with the required supporting documents, are submitted to the Department's Secretariat within the deadline specified in the call, which may be extended by decision of the Department Assembly or the Postgraduate Studies Committee (PSC). Candidates must carefully follow the instructions to ensure that the application file is complete and submitted on time. Supplementary, incomplete, or late documentation will not be accepted.

4. The required documents to be submitted by each candidate are the following:

- a) Completed application form for enrollment in the PP (Appendix A.1).
- b) Detailed Curriculum Vitae.
- c) Copy of the first-cycle degree or certificate of completion of studies from a Higher Education Institution in Greece or equivalent recognized foreign institution (the awarding institution abroad must be included in the National Register of Recognized Foreign Institutions and the type of degree must be included in the National Register of Degree Types of Recognized Institutions, as published on the DOATAP website).
- d) Diploma Supplement or transcript of records including the final degree grade.
- e) Photocopy of both sides of the national ID card or passport.
- f) Additional documents/certificates as defined in the PP Regulations by the Department Assembly (e.g., proof of foreign language proficiency, recommendation letters, professional experience, publications, interview, etc.).

5. The Postgraduate Studies Regulations of DUTH Departments set out the specific issues regarding the conditions for submitting an application for enrollment in a PP, the evaluation of candidates, and the admission of those with equal scores as supernumerary students.

The scoring of supporting documents is as follows:

5. 1. Detailed Curriculum Vitae – 5 points.
6. 2. Copy of degree or diploma (excluding final-year students). If obtained abroad, it must be accompanied by official DOATAP recognition – 10 points.
7. 3. For final-year students: transcript of records and expected graduation date – 10 points.
8. 4. Certificate of good knowledge of English and/or other languages – 10 points.
9. Additional consideration is given to: A) Certificates of professional experience. B) Copies of scientific publications, other academic degrees beyond the first degree, certificates of participation in research programs, and scholarships/awards (e.g., IKY scholarships, excellence awards, recognition by scientific bodies, etc.), if available. The exact procedure is specified each time in the call – 5 points.

B. Evaluation of Applications for Admission to MSc Programs – Enrollment in MSc Programs

1. The method of evaluating the application and the individual scoring of each documented qualification is the responsibility of the Department Assembly or the Program Committee, determined following a proposal from the Coordinating Committee (CC), and must be described in detail in the internal regulations of the MSc program and in the call for expressions of interest.

2. The selection of admitted students into the MSc program is made by a three-member Committee of faculty members (or members from different Departments in the case of interdepartmental, inter-institutional, or joint MSc programs) who have undertaken postgraduate teaching duties, and which is established by decision of the Assembly or the Program Committee, as applicable.

3. The selection of admitted students into the MSc programs of DUTH is carried out in accordance with applicable regulations and the provisions of the present Regulation.

4. The Secretariat of the MSc program prepares a complete list of applicants and forwards it to the Admission Selection Committee (ASC), which:

- a) rejects applicants who do not meet the requirements,
- b) ranks applicants based on their evaluation score and publishes a preliminary ranking list while announcing the objection period,
- c) invites to an interview (if applicable) those candidates selected by the ASC.

5. After evaluating the applications and based on each candidate's final score, the ASC compiles the final ranking list of applicants in descending order of score. The list indicates the admitted and the waiting list candidates.
6. The ranking list is ratified by the Assembly or the Program Committee and is published. The publication is carried out in compliance with personal data protection regulations, on the MSc program's website and in Department announcements.
7. The Department Secretariat posts the evaluation results on the Department website, in compliance with applicable personal data protection regulations, informs the candidates, enrolls the admitted students in the Department's and DUTH's Postgraduate Student Registry, and provides them with the MSc Program Regulations, the University's Internal Regulations, the Code of Academic Conduct, and any other documents deemed necessary by the Department.
8. The admitted candidates must respond in writing, within a specific deadline set by the MSc program's internal regulations, whether they accept (a) their enrollment in the MSc program and (b) the Regulations and terms of operation of the MSc program. Late responses are not accepted. Admitted candidates must submit the required documentation in person, by post, or electronically. Enrollment is considered completed once all required documents have been submitted.
9. The places of admitted candidates who fail to enroll on time are filled by other candidates from the waiting list, in order of ranking.
10. Upon enrollment in the MSc program, the student receives from the Secretariat the annual Academic Calendar of the Program.
11. Postgraduate students may be remunerated from resources originating from funded national and international research projects, co-funded projects (e.g., NSRF), private sources, or institutional resources. They may also receive scholarships from national or international organizations and institutions, from co-funded projects (e.g., NSRF), private or institutional resources, according to the specific regulatory framework of the funding body.
12. Postgraduate students may enter into scholarship contracts through the Research Committee of DUTH, as provided for in the applicable legislation and the Funding and Management Guide of the DUTH Research Committee.

Article 17
Study Guide

Each year, a Study Guide of the Postgraduate Programs (PMS) is published in both Greek and English and is distributed to postgraduate students. The Study Guide must include:

• The curriculum, the names of the instructors, the rights (social benefits, scholarships, loans, textbooks, aids, etc.) of postgraduate students, their obligations, as well as information on the operation of study rooms, laboratories, clinics, and the Department's libraries.

• The total number of ECTS credits required to obtain the Postgraduate Diploma (DMS) in all courses, which are distributed across the semesters of study.

• The ECTS credits awarded per specialization of the PMS, if there is more than one specialization. These may not be fewer than sixty (60) ECTS credits, and the program duration may not be fewer than two (2) academic semesters.
• The detailed curriculum per specialization, the titles and short descriptions (syllabi) of the courses, seminars, laboratories, and clinical exercises of the PMS, the conduct of practical training, the preparation of the diploma thesis, or the implementation of other educational and research activities defined as compulsory or elective for the successful completion of the PMS, with reference to the number of ECTS credits awarded in each case.
• The official language of instruction of the program and the language in which the diploma thesis is written, which may differ from Greek.
• The specializations, which concern the maximum number of courses for enrollment per semester, the designation of prerequisite courses, as well as examination rules and performance evaluation rules for postgraduate students, as included in the Internal Regulations of the PMS.

Article 18

Curriculum

The total number of ECTS credits required to obtain the Postgraduate Diploma (DMS) amounts to ninety (90), with a duration of three (3) semesters. The twelve (12) offered courses (60 ECTS credits) are distributed across the first two semesters (A and B), while the preparation, public presentation, and positive evaluation of the postgraduate diploma thesis (30 ECTS credits) take place in the third (C) semester.
Each compulsory course per semester consists of thirty-nine (39) teaching hours. A total of seventy-five percent (82%) of the courses each semester are conducted through synchronous distance education, while eighteen percent (18%) are conducted asynchronously.
The detailed curriculum of the PMS is structured as follows:

SEMESTER A'						
COURSE CODE	**CORSE TITLE GR & EN**	**TYPE**	**ON SITE HOURS**	Online (Synchronous)	Online (Asynchronous)	**ECTS**
XE1	Εισαγωγικά θέματα στην Ασφάλεια και Υγεία στην Εργασία , Προστασία του Περιβάλλοντος, Ποιότητα και Διαχείριση Κινδύνου - Introductory Issues in Safety and Health at Work, Environmental Protection, Quality and Risk Management	COMPULSORY	-	30	9	5
XE2	Διοίκηση Ολικής Ποιότητας - Total Quality Management	COMPULSORY	-	39	0	5
XE3	Περιβαλλοντική πολιτική και σχεδιασμός. Διαχείριση Περιβάλλοντος. - Environmental policy and planning. Management of the environment	COMPULSORY	-	32	7	5
XE4	Ασφάλεια εργασίας - Ασφάλεια διεργασιών - Ασφάλεια έναντι ασύμμετρων απειλών και προστασία υποδομών ζωτικής σημασίας - Occupational Safety - Process Safety - Security against asymmetric threats and critical infrastructure protection	COMPULSORY	-	35	4	5

XE5	Εκτίμηση και Διαχείριση Επαγγελματικού (ΕΑΥ) και Περιβαλλοντικού Κινδύνου - Occupational (OHS) and Environmental Risk Assessment and Management	COMPULSORY	-	30	9	5
XE6	Εργονομικοί και Ψυχοκοινωνικοί παράγοντες στην Εργασία. Ο Ανθρώπινος παράγοντας - Ergonomic and psychosocial factors at work. The Human Factor	COMPULSORY	-	30	9	5
TOTAL ECTS FOR SEMESTER A'						30
SEMESTER B'						
COURSE CODE	**CORSE TITLE GR & EN**	**TYPE**	**ON SITE HOURS**	Online (Synchronous)	Online (Asynchronous)	**ECTS**
XE7	Εργαλεία και Ερευνητική Μεθοδολογία για QSSHE - Research Methodology and Tools for QSSHE	COMPULSORY	-	30	9	5
XE8	Υγεία και Υγιεινή της Εργασίας - Βλαπτικοί παράγοντες. Βασικές αρχές τοξικολογίας και Χημικής Εκθεσης - Occupational Health and Hygiene - Harmful agents. Basic Principles of Toxicology and chemical exposure	COMPULSORY	-	30	9	5
XE9	Χημεία και Έλεγχος Ρύπανσης Περιβάλλοντος και Εφαρμογές της Χημείας στην ΕΑΥ και Προστασία - Chemistry and Environmental Pollution Control and Applications of Chemistry in OHS and Safety	COMPULSORY	-	39	0	5
XE10	Διαχείριση Ποιότητας, Χημειομετρία και Μετρολογία - Quality Management, Chemometrics and Metrology	COMPULSORY	-	31	8	5
XE11	Συστήματα διαχείρισης Ποιότητας, Περιβάλλοντος και Υγείας και Ασφάλειας - Quality, Environmental, and Health and Safety Management Systems	COMPULSORY	-	30	9	5
XE12	Ειδικά θέματα: Διοίκηση έργων, logistics, χώροι συνάθροισης κοινού - Executive Topics: Project management, logistics, Security, Fire Safety etc	COMPULSORY	-	39	0	5
TOTAL ECTS FOR SEMESTER B						30

SEMESTER C΄		
XE13	DIPLOMA THESIS	30
TOTAL ECTS FOR SEMESTER C		30

COURSE SYLLABUS

COURSE TITLE	XE1: «Εισαγωγικά θέματα στην Ασφάλεια και Υγεία στην Εργασία , Προστασία του Περιβάλλοντος, Ποιότητα και Διαχείριση Κινδύνου - Introductory Issues in Safety and Health at Work, Environmental Protection, Quality and Risk Management»

PROPOSED SEMESTER	1st semester of the MSc Program
Course Content and Objectives:	The purpose of the course is to introduce students to the Chemical Industry and the general principles of Quality, Environmental, and Health and Safety Management, as well as Risk Management, within a holistic framework of understanding the management of the entire subject area. The theoretical part of the course is divided into five (5) distinct sections: a) The first section concerns the presentation of all aspects of the International, European, and Greek Chemical Industry and enterprises. b) The second section concerns the cross-cutting issue of risk management. It begins with the basic concepts and types of risks. The fundamental step-by-step risk management process (Hazard Identification, Risk Assessment, Management Strategies) is analyzed, with particular emphasis on risks related to Quality, Environment, and Health and Safety. Approaches to risk management (management/governance) are presented for corporate and systemic risks respectively. c) The third section concerns Quality Management. It includes the basic concepts and definitions of Quality, as well as the fundamental principles of Quality Management. It covers issues of legal and regulatory framework, as well as standardization. d) The fourth section concerns Environmental Management. It covers the basic concepts and definitions (sustainable development, environmental footprint, etc.), as well as the basic principles of environmental management. The main national and international legal and regulatory frameworks in environmental management are presented. e) The fifth section concerns Occupational Health and Safety. It includes key definitions (work accident, occupational disease, etc.), as well as the main national and European legal and regulatory frameworks. The stakeholders involved (Safety Engineer, Occupational Physician, Labor Inspectorate, etc.) are presented, along with the basic principles of occupational risk management.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ2: «Διοίκηση Ολικής Ποιότητας - Total Quality Management»
PROPOSED SEMESTER	1st semester of the MSc Program

Course Content and Objectives:	The course provides theoretical background knowledge in quality control and assurance technology, focusing on quality systems, as well as the basic methodology and techniques of quality management and organization. In particular, it delves into the following topics: - Understanding the concept of Total Quality Management (TQM), the influencing parameters, and its practical application. - Design and development of a quality product/service, including Failure Mode and Effect Analysis (FMEA), and design of the related production processes. - Building a solid foundation in Total Quality Management as well as in other applied Quality Assurance Systems (QAS) (similarities and differences), and in total quality awards (EU, USA, Japan). - Application of widely used tools and techniques (brainstorming, affinity diagram, cause-and-effect diagram, benchmarking, control chart, histogram, Pareto diagram, scatter diagram). - Theoretical and practical knowledge of two important ISO systems: the ISO 9000 family of standards for quality management (terminology, principles, structure) and ISO 22000 for product quality and food quality and safety. Other quality standards are also covered. - Measurement, calculation, and analysis of quality costs, considering the likelihood of multiple failures of various origins. - Understanding techniques for optimizing quality costs (reducing costs while improving quality). - Implementation of assurance, evaluation, and certification systems for consumers. - Understanding the importance of product safety and consumer protection within the EU legal framework. - The EU legal framework for quality development issues, CE marking, and food trade safety (HACCP, ISO 22000).
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ3: «Περιβαλλοντική πολιτική και σχεδιασμός. Διαχείριση Περιβάλλοντος - Environmental policy and planning. Management of the environment»
PROPOSED SEMESTER	1st semester of the MSc Program

Course Content and Objectives:	The purpose of this course is to introduce the student – as a new researcher – to various topics related to environmental policy, planning, and management. Initially, an introduction is provided to the basic concepts of pollution control and environmental management. Topics covered include Environmental Problems and the Legal Framework (Greece, Europe, International Community), with an analysis of major environmental problems such as ozone layer depletion, the greenhouse effect, biodiversity loss, air pollution, water contamination, and others. The course includes the existing legislation on pollution control and environmental protection, topics related to raw material and waste management in relation to circular economy practices, environmental project planning, raising awareness among third parties (suppliers and customers) on environmental protection through the supply chain, as well as topics on environmental audits. Particular emphasis is given to the implementation of Environmental Management Systems (development of components, team formation and awareness, environmental analysis, environmental policy design, setting objectives, program planning, procedure development, internal auditing, environmental declaration), as well as their certification (procedures, cost/benefit analysis, audits, etc.). Environmental ethics is also addressed.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ4: «Ασφάλεια εργασίας - Ασφάλεια διεργασιών - Ασφάλεια έναντι ασύμμετρων απειλών και προστασία υποδομών ζωτικής σημασίας - Occupational Safety - Process Safety - Security against asymmetric threats and critical infrastructure protection»
PROPOSED SEMESTER	1st semester of the MSc Program

Course Content and Objectives:	The aim of the course is to introduce the student to the broader concept of safety against distinct risks in the workplace. The course is divided into three parts, depending on the nature of the risks concerning safety within an enterprise. a) The first part concerns the management of risks for workers' safety during the performance of their duties (occupational accidents). It includes an analysis of the types of occupational accidents according to the ESAW classification of Eurostat, the influencing factors for each type, the relevant preventive measures, as well as other issues related to their management. b) The second part concerns Process Safety management, with particular emphasis on risks related to chemical processes. It includes an analysis of the main risks, related factors, and key issues regarding their management. It also addresses the risk of Major Industrial Accidents (Seveso-type accidents) during the management (production, storage, transport) of large quantities of hazardous chemicals. The objective is to provide knowledge in risk assessment, implementation of technical and organizational measures, design of emergency response procedures inside and outside the industrial site, and the relevant legal and regulatory framework. This includes an introduction to Major Industrial Accidents (fires, explosions, chemical spills, Natech accidents), presentation of historical accidents, the legal framework (Seveso III Directive, transport of dangerous goods – ADR, ATEX Directive – explosives), and risk assessment and management methods (identification of hazard sources, hazard analysis, technical prevention or mitigation measures, safe working practices, safety management system), as well as emergency response planning (inside and outside the industrial facility). c) The third part concerns risks from exogenous threats (e.g., hostile acts, extreme weather events, public health crises) that may affect individuals, processes, or infrastructures and cannot be counterbalanced by the basic preventive tools available to the enterprise. The types of such risks, the key influencing factors, and the fundamental principles of their management are described. It also includes the provision of specialized knowledge related to the protection of critical infrastructures.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ5: «Εκτίμηση και Διαχείριση Επαγγελματικού (ΕΑΥ) και Περιβαλλοντικού Κινδύνου – Occupational (OHS) and Environmental Risk Assessment and Management»
PROPOSED SEMESTER	1st semester of the MSc Program

Course Content and Objectives:	The course develops knowledge and skills in risk assessment and management, as required for effective occupational health, safety, and environmental practice. The theoretical part of the course is divided into two (2) distinct sections. The purpose of the first section is to enable students to identify hazards that may cause harm to humans, plants, and animals, and to understand and assess their environmental impacts. Students will evaluate and characterize risk, so that appropriate strategies can be devised for effective mitigation and management of environmental risk. They will be equipped with tools and techniques used for environmental risk assessment, based on principles defined in international and national regulatory frameworks. Students will be guided through the full process of designing and implementing an environmental risk assessment and management plan. The main objectives of the first part include: understanding and applying basic concepts of ecological risk assessment and its framework; linking it to broader applications of risk analysis; understanding the overall process through complete examples; developing decision-making platforms for risk management; applying examples with specialized software; defining ecological risk assessment and its objectives; presenting historical examples and regulatory frameworks at national, EU, and international levels; introducing ecosystem approaches; reviewing probabilistic frameworks, modeling principles, and population/statistical models; understanding toxicokinetics and dose-response models; handling uncertainty and variability; and applying ecological risk assessment in endangered species conservation and modern risk communication practices. The purpose of the second section is to provide students with in-depth understanding, guidance, and methodology regarding the use of risk assessment as a tool for identifying, evaluating, and controlling workplace hazards. It includes basic principles of designing workplace safety rules, safety assessment protocols, and examples of occupational accidents and their prevention. Key principles of safety and accident prevention are presented for the main production sectors (primary, secondary, and tertiary activities). The course offers detailed guidance and methodology on using risk assessment to identify, evaluate, and control workplace hazards, aiming to create a safe and healthy work environment. Its goal is to equip participants with knowledge and skills to establish a system for conducting workplace risk assessments, managing the assessment process, and training others in risk assessment and management. The curriculum ensures both theoretical understanding and practical application through real-world examples in key occupational safety areas such as workplace risk assessment, working safely at heights, machinery safety, chemical safety, and Legionella management.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ6: «Εργονομικοί και Ψυχοκοινωνικοί παράγοντες στην Εργασία. Ο Ανθρώπινος παράγοντας - Ergonomic and psychosocial factors at work. The Human Factor»
PROPOSED SEMESTER	1st semester of the MSc Program

Course Content and Objectives:	The course develops knowledge and skills in risk assessment and management, as required for effective occupational health, safety, and environmental practice. The theoretical part of the course is divided into two (2) distinct sections. The purpose of the first part is to enable students to identify risks that may cause harm to humans, plants, and animals, and to understand and assess their impacts on the environment. Students will evaluate and characterize the risk so that appropriate strategies can be devised for the effective mitigation and management of environmental risk. They will be equipped with the tools and techniques used for environmental risk assessment, based on principles defined in international and national regulatory frameworks. Students will be guided through the full process of designing and implementing an environmental risk assessment and management plan. The main objectives of the first part of the course are: - Understanding and applying the basic concepts of ecological risk assessment and the framework in which it is developed. - Linking ecological risk assessment with the main applications of risk analysis in a broader context. - Comprehending the overall process through the presentation of complete case studies. - Developing student-driven decision-making platforms for risk management. - Gaining proficiency in the theoretical tools with examples using specialized software. - Defining ecological risk assessment: objectives, key points, and examples. - Reviewing historical examples. - Describing the institutional framework at national, EU, and international levels. - Understanding the need for an ecosystem-based approach. - Reviewing probabilistic frameworks, modeling principles, population models, and fundamental concepts in statistical models. - Understanding toxicokinetics and dose-response models, as well as mechanisms of toxic effects on organisms. - Methodologies for estimating toxic concentrations. - Addressing uncertainty and variability, with methodological frameworks for distinguishing these concepts, illustrated with examples from ecological systems. - Developing methodologies for spatial analysis. Further topics include generalized statistical methods of risk estimation, introduction to projection tables, Probit-Logit dose-response models, individual-oriented models with parameterization and validation techniques, and processes for linking experimental with theoretical approaches. Additional subjects are epidemiology and risk assessment fundamentals, risk management with examples, applications of ecological risk assessment in the conservation of endangered species (RAMAS Ecolab and RAMAS GIS models), and modern practices of risk communication. The purpose of the second part is to provide students with in-depth understanding, guidance, and methodology regarding the use of risk assessment as a tool for identifying, evaluating, and controlling risks in the workplace. It includes basic principles for designing workplace safety rules, safety assessment protocols, and examples of accident prevention and avoidance. It also presents fundamental principles of safety and protection against occupational accidents in key production sectors (primary, secondary, and tertiary activities). The course provides detailed guidance and methodology regarding the use of risk assessment as a tool for identifying, evaluating, and controlling risks in the workplace, in order to create a safe and healthy working environment. The objective is to equip participants with the knowledge and skills to implement a system for conducting workplace risk assessments, managing the assessment process, and training others in risk assessment and management.

	The course program will lead participants to a solid theoretical understanding of the risk assessment process and then enhance these skills through practical examples in risk assessment in common health and safety issues, such as workplace risk assessment, safe working at heights, machine safety, chemical safety, and Legionella management.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ7: «Εργαλεία και Ερευνητική Μεθοδολογία για QSSHE - Research Methodology and Tools for QSSHE»
PROPOSED SEMESTER	2nd semester of the MSc Program
Course Content and Objectives:	Purpose of the course is to introduce the student – as a new researcher – to the various methodologies, methods, techniques, and tools for conducting scientific research, with emphasis on applications in the interdisciplinary field of Quality, Environment, Health, and Safety Management. The student will be trained to apply proper rules for literature search, writing of literature reviews and assignments, and comprehensive presentation of results. The course will present the main sources of information and data, standardized methodologies in specific research fields related to Quality, Environment, and Health and Safety, as well as tools for statistical analysis. Upon completion of the course, the student will have developed skills and competencies that will enable him/her to: • Identify the role of scientific research in knowledge production. • Formulate research questions considering the relevant literature. • Select the appropriate research method to design and implement a study and answer the posed research questions. • Collect and analyze research data using appropriate statistical and quantitative methods. • Interpret and present the results of research, which in turn will support sound decision-making.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ8: «Υγεία και Υγιεινή της Εργασίας - Βλαπτικοί παράγοντες. Βασικές αρχές τοξικολογίας και Χημικής Έκθεσης - Occupational Health and Hygiene - Harmful agents. Basic Principles of Toxicology and chemical exposure»

PROPOSED SEMESTER	2nd semester of the MSc Program
Course Content and Objectives:	This section presents the fundamental principles of Occupational Health and Hygiene, adapted to the technical background of the students. It covers the most important occupational diseases as well as the legal framework governing them. The basic principles of industrial hygiene and the protection of workers' health are presented, along with the role of the Occupational Physician, the main principles and management framework, as well as the relevant legal framework. The main harmful factors for workers' health are analyzed, including Physical (Noise, Vibrations, Microclimate, Lighting, Radiation), Chemical, and Biological agents, their impact on health, as well as the basic qualitative and quantitative methods for their assessment (determination of levels, exposure, threshold and recommended values). The main principles for addressing harmful factors by category are presented, as well as individual (PPE) and collective protective measures. Finally, the fundamental principles of Toxicology and Chemical Exposure are analyzed. General principles of Toxicology: spectrum of toxic doses, classification of toxic substances, characteristics of exposure, interactions of chemical substances, measurement of toxicity. Occupational Toxicology: routes of entry, exposure limits, laboratory monitoring, and case characteristics.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ9: «Χημεία και Έλεγχος Ρύπανσης Περιβάλλοντος και Εφαρμογές της Χημείας στην ΕΑΥ και Προστασία - Chemistry and Environmental Pollution Control and Applications of Chemistry in OHS and Safety»
PROPOSED SEMESTER	2nd semester of the MSc Program

Course Content and Objectives:	The topics of pollution control and environmental protection encompass many branches of science and technology, and the content of the course is structured into sections to adequately cover the relevant basic concepts. Principles of environmental pollution control. The main subjects taught concern water pollution, air pollution, pollution from radiation, traffic and industrial noise, cartographic mapping, etc. – Atmospheric pollutant sampling – Objectives and requirements – Atmospheric pollutant sampling systems – Methods of sampling pollutants from the atmosphere and emission sources – Determination of gaseous pollutants and particulate matter – Basic analytical techniques – Chemical analysis of particulate matter – Principles of sampling and pollutant control parameters – Water sampling techniques – Organoleptic control parameters – Physicochemical water control parameters – Water organic pollution parameters – Nutrients and eutrophication indicators – Metals and toxic elements – Chemical analysis of rain – Solid waste control. Measurements of non-ionizing radiation and radioactivity in soil, plant, and other samples. The course also examines the effects of toxic and other harmful materials, the greenhouse effect, noise pollution, the adverse effects of microwave radiation, basic biological treatment systems, as well as systems for measuring environmental parameters and monitoring the aforementioned pollutants. The approach to the forms of pollution studied within the framework of the course consists of the following: a. scientific definition, analysis, and description of pollution, b. identification of the sources and causes of pollution, c. reference to the consequences of pollution on humans and ecosystems, and d. analysis of preventive measures and precautions for limiting pollution and actions for its elimination. The laboratory part of the course indicatively includes laboratory exercises related to sampling, air deposition sampling techniques, water, sediments, soil, and biological materials.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ10: «Διαχείριση Ποιότητας, Χημειομετρία και Μετρολογία - Quality Management, Chemometrics and Metrology»
PROPOSED SEMESTER	2nd semester of the MSc Program

Course Content and Objectives:	The theoretical part of the course is divided into three (3) distinct sections. Specifically, students will be taught: (a) The basic concepts concerning measurements, metrology, and testing laboratories. Emphasis is placed on the analysis of the ISO 17025:2005 standard (requirements of the standard, design, and implementation). The main measurement indicators and the determination of objectives in the application of ISO 17025:2005 in testing laboratories are also presented and analyzed. (b) Methods: Definitions, selection of methods, performance characteristics of analytical methods, validation and verification of analytical methods. Specificity and selectivity. Precision, accuracy, and trueness. Precision control methods. Traceability, limits of detection and quantification. Robustness. Sensitivity. Linearity, reference curve, linear and dynamic range. Measurement uncertainty: Basic concepts, estimation of uncertainty according to Eurachem, Nordtest, and Monte Carlo techniques. (c) Chemometrics and the analytical process. Basic statistical processing of analytical data. Errors in the analytical process, error propagation. Calibration. Quantification techniques. Quality characteristics of analytical methods (reliability, drift, sensitivity, detectability, selectivity, trueness, precision). Validation of analytical methods. Signals and data. Signal processing. Methods of covariance and correlation. Response surfaces and models. Theory of sampling. Multivariate approach. Cluster analysis. Pattern recognition. Statistical software packages. Experimental design. Neural networks. Introduction to statistical software Matlab and R. The laboratory part of the course indicatively includes the following laboratory exercises related to: (i) Environmental Quality Control (ii) Materials Quality Control (Metals and Alloys, Ceramics and Glass, Paper).
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ10: «Διαχείριση Ποιότητας, Χημειομετρία και Μετρολογία - Quality Management, Chemometrics and Metrology»
PROPOSED SEMESTER	2nd semester of the MSc Program

Course Content and Objectives:	The purpose of the course is to familiarize students with management standards, particularly those related to Quality, Environmental Management, and Occupational Health and Safety, as well as corporate risk management standards, which also include associated risks. Specifically, the course will present: a) The basic principles and concepts of management standards, the types of standards, and the principles of their design, operation, and certification. b) The issue of Quality System Audits, focusing primarily on the ISO 9001:2008 Standard. Basic concepts of quality are described, and the requirements and clauses of the standard are presented and analyzed. The main types and kinds of audits are described, along with the process of audit planning and implementation, as well as the role of the auditor and the audit team. c) The ISO 14000 family of standards for environmental management. Terminology, basic principles, structure. Other environmental management standards (EMS, EMAS, etc.). The concepts of Environmental Management are analyzed, including a Historical Overview of the development of Environmental Management Systems, the European EMAS approach, and Responsible Care. The main focus is the presentation and analysis of the ISO 14001 standard (Standard Requirements, Comparison of ISO 14001 and ISO 9001). Finally, the Community Eco-Management and Audit Scheme (EMAS) is presented, along with how EMS certification is obtained and the role of environmental auditors. Life Cycle Analysis (LCA) of products and various eco-labels are also covered. d) The ISO 45000 family of standards for occupational health and safety. Terminology, basic principles, structure. Design, Implementation, Control, Improvement. Other standards related to Health and Safety. e) The Basic Structure of Standards. Unified concepts and functions of ISO 9000, ISO 14000, and ISO 45000. f) The main corporate risk management standards: ISO 31000:2018, ERM-COSO, IRGC. Terminology, basic principles, structure. Scope of standards. g) The basic concepts/definitions of reliability and the notion of failure. Characteristics and techniques of reliability assessment are thoroughly analyzed, with emphasis also given to the use of reliability data in risk analysis. Additionally, the basic concepts of maintenance are presented, along with its importance and significance. Maintenance systems and policies are analyzed, and the section concludes with the presentation and analysis of Total Productive Maintenance (TPM) (activities, outcomes).
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ10: «Διαχείριση Ποιότητας, Χημειομετρία και Μετρολογία - Quality Management, Chemometrics and Metrology»

PROPOSED SEMESTER	2nd semester of the MSc Program
Course Content and Objectives:	The theoretical part of the course is divided into three (3) distinct sub-sections. Specifically, students will be taught: (a) The basic concepts related to measurements, metrology, and testing laboratories. Emphasis is placed on the analysis of the ISO 17025:2005 standard (Requirements of the Standard, design, and implementation). The main measurement indicators are also presented and analyzed, as well as the determination of objectives in the application of ISO 17025:2005 in Testing and Control Laboratories. (b) Methods: Definitions. Selection of methods. Performance characteristics of analytical methods. Validation and verification of analytical methods. Specificity and selectivity. Accuracy, precision, and trueness. Methods of accuracy control. Traceability, limits of detection and quantification. Robustness. Sensitivity. Linearity, calibration curve, linear and dynamic range. Measurement Uncertainty: Basic concepts, estimation of uncertainty according to Eurachem, Nordtest, and Monte Carlo techniques. (c) Chemometrics and the analytical process. Basic statistical processing of analytical data. Errors in the analytical process, error propagation. Calibration. Quantification techniques. Quality characteristics of analytical methods (reliability, drift, sensitivity, detectability, selectivity, trueness, accuracy). Validation of analytical methods. Signals and data. Signal processing. Methods of covariance and correlation. Response surfaces and models. Sampling theory. Multivariate approach. Cluster analysis. Pattern recognition. Statistical software packages. Experimental design. Neural networks. Introduction to statistical software Matlab and R. The laboratory part of the course indicatively includes the following laboratory exercises related to: (i) Environmental Quality Control (ii) Materials Quality Control (Metals and Alloys, Ceramics and Glass, Paper).
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ11: «Συστήματα διαχείρισης Ποιότητας, Περιβάλλοντος και Υγείας και Ασφάλειας - Quality, Environmental, and Health and Safety Management Systems»
PROPOSED SEMESTER	2nd semester of the MSc Program

Course Content and Objectives:	The purpose of this course is to familiarize students with management standards, particularly those related to Quality, Environmental Management, and Occupational Health and Safety, as well as corporate risk management standards where related risks are included. In particular, the following will be presented: a) The basic principles and concepts of management standards, the types of standards, and the principles of their design, operation, and certification. b) The issue of Quality Systems Audits, focusing mainly on the ISO 9001:2008 Standard. Basic concepts of quality are described, and the requirements and clauses of the standard are presented and analyzed. The main types and categories of audits are described, the process of planning and conducting the audit is analyzed, as well as the role of the auditor and the audit team. c) The "ISO 14000 family" of standards for environmental management. Terminology, basic principles, structure. Other environmental management standards (EMS, EMAS, etc.). The concepts of Environmental Management are analyzed, a historical overview of the development of Environmental Management Systems is provided, the European EMAS approach and the "Responsible Care" initiative are described. The main part is the presentation and analysis of ISO 14001 (Standard Requirements, Comparison of ISO 14001 and ISO 9001). Finally, the EU Eco-Management and Audit Scheme (EMAS) is presented, along with the certification process for EMS, the role of environmental auditors, Life Cycle Analysis (LCA) of products, and various eco-labels. d) The "ISO 45000 family" of standards for occupational health and safety. Terminology, basic principles, structure. Design, Implementation, Control, Improvement. Other standards related to Health and Safety. e) The Basic Structure of Standards. Integrated concepts and functions of ISO 9000, ISO 14000, and ISO 45000. f) The main corporate risk management standards: ISO 31000:2018, ERM-COSO, IRGC. Terminology, basic principles, structure. Scope of standards. g) The basic concepts/definitions of reliability and the concept of failure are analyzed. The characteristics and techniques for reliability assessment are thoroughly examined, with emphasis also placed on the use of reliability data in risk analysis. Additionally, the basic concepts of maintenance are presented, and its importance and significance are analyzed. The systems and policies of maintenance are then discussed, and the second part concludes with the presentation and analysis of Total Productive Maintenance (activities, results).
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ12: «Ειδικά θέματα: Διοίκηση έργων, logistics, χώροι συνάθροισης κοινού - Executive Topics: Project management, logistics, Security, Fire Safety etc»

PROPOSED SEMESTER	2nd semester of the MSc Program
Course Content and Objectives:	The aim of the course is to delve into the management of special issues, where the nature of risks, as well as the characteristics of the framework, impose a specific management approach and are also governed by a special legal framework. In particular, the course focuses on the following special topics: a)Project Management. The uniqueness and finite duration of a project create specific risks for Quality, Environment, and Occupational Health and Safety, and require dedicated management approaches. Special emphasis is given to technical projects and the relevant legal framework governing them (Health and Safety, environmental terms, etc.). b)Logistics. Packaging, storage, and transportation present particular risks related to Quality, Environmental hazards, as well as Health and Safety, especially in the chemical industry sector. Special emphasis is placed on packaging, storage, and transport of chemical substances and the specific legal framework (REACH Directive, ADR Directive, etc.). Issues related to licensing of lifting and transportation equipment are also addressed. c) Public Gathering Spaces. The gathering of people in professional spaces, whose safety must be managed by the enterprise, creates particular risks regarding Safety, Protection from external hazards (natural disasters, security, etc.), Health, and Hygiene. This section presents both these risks and the basic principles of addressing them, the stakeholders involved, and the relevant legal framework. This section also provides essential knowledge on modern project management methodologies, with an emphasis on the principles of the PMBOK framework. Students become familiar with significant project planning and monitoring techniques, including Gantt charts, Activity on Node networks, PERT analysis, Critical Path Method (CPM), and Earned Value Management (EVM). Through practical applications, participants develop skills for the effective planning, scheduling, and control of projects in contemporary organizational environments. Another section addresses the understanding of workplace violence and harassment: how to recognize violence and harassment at work, their impact on employees and companies, how to manage such cases, and what actions should be taken to limit the phenomenon in the workplace.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

COURSE TITLE	ΧΕ13: «Διπλωματική εργασία - Diploma Thesis»
PROPOSED SEMESTER	2nd semester of the MSc Program

Course Content and Objectives:	After the successful completion of the required courses of the first three semesters, students undertake the preparation of a Master's Thesis (MT). The subject of the MT must have a research character and fall within the field of the Postgraduate Program. The selection of the topic is based on the interests of the students and after consultation with the faculty member who will supervise the MT. Regular collaboration with the supervisor is necessary throughout the preparation period. It is recommended that the length of the MT be approximately 25,000 words, excluding appendices. References must follow the 7th edition of the American Psychological Association (APA style, 7th edition). Upon completion and public defense of their thesis, students are expected to be able to: • Apply the stages of conducting research work (formulation of the research question, design, implementation, analysis, and presentation of the research work and its results). • Use international and national databases for primary or secondary data, depending on the thesis subject. • Review the literature, systematically collect, and record the most recent research data for a research hypothesis. • Understand and evaluate the importance of adhering to ethical and deontological issues, as well as the protection of collected information and personal data. • Select or appropriately design tools for data collection in the case of primary data gathering, or understand the advantages and limitations of tools and data when using already collected data. • Collect, record, and process primary or secondary research data, depending on the type of research conducted. • Apply appropriate statistical analyses to investigate the respective research questions. • Discuss and interpret the study results, compare them with existing literature, and highlight its strengths and weaknesses. • Record and cite information sources in the bibliography. • Collaborate constructively in the design and implementation of research. • Respond to reviewers' comments. • Present their research to a scientific audience and provide necessary clarifications. The thesis is submitted in writing to a three-member examination committee for evaluation. Once approved by the committee, the student submits a request for its presentation. For the evaluation of the MT, both the content and its presentation are taken into account. To be successfully completed, the thesis must receive a minimum grade of 5 out of 10. As evidence of the quality of a thesis, its potential acceptance for publication in peer-reviewed scientific journals is considered. After the presentation, the examination committee has the right to ask questions, which the student is required to answer. The committee may reject or request revisions to the MT. The final revised version of the MT is distributed to the committee members for final approval.
TEACHING METHOD	Distance learning
STUDENT ASSESSMENT	Language of assessment: Greek. Assessment methods: Written examinations at the end of the course or written assignment.

Master's Thesis (MSc Dissertation)

The subject of the Master's Thesis (MSc Dissertation) must fall within the scope of the Postgraduate Program (MSc) and should utilize the knowledge, skills, attitudes, and competencies acquired in the courses of the MSc.
Following an invitation from the Coordinating Committee (CC) or the Special Program Committee (SPC), the postgraduate student (PGS) submits an application to the Secretariat of the MSc, stating the proposed title of the dissertation, the proposed supervisor, and all relevant supporting documents.
A PGS who does not submit the application within the specified deadline postpones, at their own responsibility, the commencement of the dissertation by at least one semester.
The Coordinating Committee examines the PGS's application and forwards it to the Assembly or the SPC, which appoints the supervisor and forms the three-member monitoring and examination committee, which includes the supervisor as a member.
Eligibility to supervise Master's Theses is granted to:
a) Faculty members, Special Teaching Staff, Laboratory Teaching Staff, and Special Technical Staff of the Department or other Departments of the Democritus University of Thrace (DUTH), or other higher education institutions in Greece or abroad, or Military Academies, with additional employment beyond their legal duties, if the MSc charges tuition fees.
b) Emeritus Professors or retired faculty members of the Department or other Departments of DUTH or other universities in Greece or abroad.
c) Collaborating professors.
d) Contracted lecturers.
e) Visiting professors or visiting researchers.
f) Researchers and specialized scientific staff of research and technological institutions (Article 13A of Law 4310/2014) or other research centers and institutes in Greece or abroad, provided they hold a doctoral degree.
By decision of the competent body of the MSc, the supervision of dissertations may also be assigned to faculty or staff who have not undertaken teaching duties in the MSc. In exceptional cases of objective inability to perform supervisory duties for a significant reason, the supervisor or a member of the three-member examination committee may be replaced by decision of the Department Assembly or the SPC.
The text of the MSc Dissertation must meet the standards and structure of a scientific paper, including a description of the topic, findings or results, methodology, assumptions, bibliography, and any necessary supporting or explanatory materials (figures, diagrams, photos, images, etc.).

The dissertation is written in Greek and must be accompanied by a short abstract of approximately 300 words in a European Union language (e.g., English, French, or German). With the supervisor's approval and the CC's or SPC's consent, the dissertation may be written in another language, provided it includes an extended abstract in Greek.
For English-language MSc programs, the dissertation is written in English. The structure and format of the dissertation are specified in the MSc Regulations.

Upon completion, the PGS submits copies of the final dissertation to the supervisor and the two other members of the three-member committee. The PGS must also submit the plagiarism report (Turnitin) indicating the results of the plagiarism check, as well as a signed declaration that the dissertation is solely their own work and not plagiarized, in whole or in part.

The three-member committee, after reviewing the dissertation, sets the date for its public defense/evaluation. Following the presentation and defense, the Examination Committee submits the grade to the Secretariat along with the PGS's signed declaration of originality. In case of a negative evaluation, the PGS has the right, in the following academic year, to change the topic and the supervisor.

The final complete copy of the dissertation, in electronic form, is submitted to the DUTH Library and stored in the Department's archive. The Department Secretariat appoints a person responsible for collecting all MSc Dissertations in digital form. The Secretariat maintains the archive until the full development of the Central Repository of DUTH.

Article 19

Evaluation of Educational Activities

1. The evaluation of performance in individual courses and other educational activities is conducted through written or oral examinations, assignments, or a combination of the above, in accordance with the Examination Regulations of DUTH. The exact form of evaluation is determined by the instructor(s) in relation to the nature of each course.
2. The evaluation criteria for each course are stated in the Course Outline and are announced at the beginning of the course by the faculty member responsible/coordinator.
3. The timing and duration of the examination periods of the MSc program are determined by the Department Assembly or the Special Interdepartmental Committee (EPC), following a proposal by the Coordinating Committee.
4. The grading scale for evaluating the performance of graduate students is set from zero (0) to ten (10).
5. Evaluation may take place either at the end of each academic semester, after the completion of the teaching of each course, or after the completion of each educational activity, in accordance with the internal regulations of each program and as stated in the Course Outline.
6. For courses in which evaluation is based on oral and/or final written examinations, the following apply: Winter semester courses are examined in the January exam session, and spring semester courses in the June exam session. In the September resit exam session, courses from both semesters are examined.
7. For courses where submission of assignments is part of the evaluation, topics are assigned in due time, and submission deadlines are specified in the Course Outline and in the timetable communicated to students.
8. If a student fails the same course more than three (3) times, they may request, by submitting an application to the Chair of the relevant Department, to be evaluated by a three-member committee. This committee consists of faculty members from the same or another Department of DUTH with the same or related academic expertise as the course

under evaluation, excluding the course instructor. If the Department Chair does not appoint the members of the committee within one (1) month from the submission of the request, the student may request their appointment from the Dean of the School, or, in the case of a single-department School, from the Rector of the Institution. If no committee is appointed by any competent body within sixty (60) days from the submission of the request, the student may submit their request to the Ministry of Education and Religious Affairs, which holds the Rector accountable for the failure to implement the request. The evaluation by the three-member committee may take place at any time during the academic year.
9. After the end of the examination period, exercises, written papers, and any other examination materials, provided they are not returned to the student, are kept for twelve (12) months.

Article 20
Right to Free Tuition in Postgraduate Programs with Tuition Fees

1. Enrolled students of the postgraduate programs (PMS) of DUTH may attend them free of charge, if tuition fees are required, provided they meet the financial or social criteria set forth herein. A prerequisite for granting the right to free tuition due to financial or social criteria is the fulfillment of excellence requirements during the first cycle of studies, corresponding at least to a grade point average equal to or higher than seven and a half out of ten (7.5/10), if the evaluation in the undergraduate degree used for admission to the PMS has been conducted according to the ten-point grading scale of domestic HEIs. Otherwise, this criterion applies proportionally according to the respective grading scale, if the submitted degree was awarded by a foreign institution.
2. The total number of students attending free of charge cannot exceed thirty percent (30%) of the total enrolled students per academic year. If the numerical calculation results in a decimal, it is rounded to the nearest whole number. If the number of beneficiaries exceeds this percentage, selection is made in descending order of ranking until the number is filled.
3. Applications for free tuition per PMS according to this article are submitted after the completion of the student admission process into the PMS.
4. A PMS student meeting the requirement of paragraph 1 is eligible for free tuition if the following criteria apply:
a) The average sum of the taxable incomes of the last two (2) financial years of all family members of the applicant, including the applicant, their parents (regardless of joint or separate tax declarations), and unmarried siblings up to 26 years of age with their own taxable income, does not exceed seventy percent (70%) of the national median disposable equivalent income, according to the most recent published data by ELSTAT, if the applicant is under 26 years old and single or not in a civil partnership.
b) The average of the applicant's individual taxable income of the last two (2) financial years does not exceed one hundred percent (100%) of the national median disposable equivalent income, if the applicant is over 26 years old.
c) The average sum of the taxable incomes of the last two (2) financial years of the applicant and their spouse or partner (if married or in a civil partnership, regardless of joint or separate tax declarations) does not exceed one hundred percent (100%) of the national median

disposable equivalent income.
5. If the applicant is under 26 years old and is a child of a three-child or large family, a single parent, or an orphan of at least one (1) parent, or a person with a disability, or a member of a household with a disabled person, they may apply for a fifty percent (50%) reduction in tuition fees if the average under subparagraph (a) of paragraph 4 exceeds seventy percent (70%) but does not exceed one hundred percent (100%) of the national median disposable equivalent income.
6. The examination of exemption criteria from tuition fees is conducted by the Department Assembly, which issues a reasoned decision of acceptance or rejection of the application.
7. Exemption from tuition fees is granted exclusively for studies in one (1) PMS organized by DUTH.
8. This provision does not apply to third-country nationals.
9. Members of EEP, EDIP, ETEP, administrative staff (permanent/contractual), and salaried lawyers of DUTH may, upon request, be admitted as supernumerary students in one PMS of DUTH without tuition fees, in a percentage between five percent (5%) and ten percent (10%) of the maximum admission number of each PMS or interdepartmental PMS, depending on the decision of the competent body regarding this percentage. The exemption from tuition fees for these categories applies only once, for enrollment in one (1) PMS of DUTH.

Article 21
Scholarships – Excellence Awards

1. Scholarships or excellence awards may be granted to postgraduate students (PS) by decision of the Assembly. The scholarships or excellence awards are granted based on objective criteria, which are specified in the MSc Regulation, with the weight assigned to each criterion as well as the required supporting documents.

1.1. Indicative criteria for scholarships may include:

Academic:
a) Completion of studies within the prescribed duration
b) Grade point average (of one or more semesters)
c) Grade of the first-cycle degree
d) Recent academic performance (awards and honors)

Financial:
- Taxable income

Social:
a) Divorced with dependents (children)
b) Student with special needs
c) Single-parent family
d) Orphan of both parents under the age of 25
e) Child of a large family (three or more children)

f) Siblings who are students

1.2. Excellence awards are granted exclusively on academic criteria (e.g., graduation grade, publications, conference presentations, etc.).
The procedure is as follows:
1.2.1. Upon recommendation of the MSc Coordinating Committee, a call for applications for the award of scholarships or excellence awards is announced.
Applicants must complete all mandatory fields of the application, attach the required supporting documents, and submit them to the Department Secretariat
within the deadlines set in the Call. The application serves as a Solemn Declaration under Law 1599/1986.
1.2.2. The Coordinating Committee evaluates and ranks the applications based on the criteria set in the internal Regulation of the MSc
and submits the list of candidates to the Assembly.
1.2.3. The maximum number of scholarships and awards in each MSc is set at 30% of the admitted students per semester of study.

2. By decision of the Assembly, the MSc may grant scholarships under special conditions for a specific academic year, indicatively as follows:
1. To the families of victims and to the injured of the tragic railway accident in Tempi, by offering 2 scholarships for free attendance.
These scholarships will be awarded to the injured as well as to first- and second-degree relatives (parents, spouses, partners, siblings, etc.)
of the victims, enabling them to attend the MSc remotely.
2. To legally residing third-country nationals in Greece, by offering one scholarship for free attendance.
This scholarship will be awarded to candidates proposed to the MSc Directorate by the European Commission (DG HOME, Directorate-General for Migration and Home Affairs), enabling them to attend the MSc remotely.

Article 22
Rights and Obligations of Postgraduate Students (PGS)

1. PGS are enrolled and participate in the Master's Program under the prescribed terms and conditions in accordance with the Internal Regulations of the Institution, the Program's Regulations, and the Department's Regulations. Acceptance of the above constitutes a basic prerequisite for acquiring and maintaining the status of a PGS.
2. PGS have the rights of students of first- and third-cycle study programs and any other right defined by the Master's Program Regulations. More specifically, PGS:
a) Have the right to use the email services of DUTH upon application.
b) Have the right of access to the libraries of DUTH and, with their institutional account, to electronic journal subscriptions, etc.
c) Have the right, in the context of assignments and the Master's Thesis, to use the laboratory,

departmental, and institutional infrastructure of DUTH in consultation with the supervising faculty member and with the consent of the Head of the relevant unit.
d) Have the right to participate, according to applicable legislation, in collective administrative bodies.
e) Provide educational and other services to the Department (such as conducting labs, tutorials, etc.), with the consent of the supervising faculty member and relevant decisions of the Department Assembly.
f) May participate in research projects/programs of DUTH and receive scholarships within co-financed, self-financed, or other projects/programs to financially support research.
g) May participate in mobility programs via ERASMUS+ or other mobility initiatives (e.g., project participation or other scholarships).
3. The Department ensures equal access for students with disabilities or special educational needs and guarantees accessibility to the proposed programs, as well as other facilities or adaptations that may support their participation in the educational process and completion of their studies.
4. PGS are obliged to:
a) Attend the courses of the Master's Program curriculum,
b) Submit required assignments within the deadlines,
c) Attend scheduled examinations,
d) Uphold established principles of academic integrity, respect and protect DUTH facilities and equipment, ensure cleanliness and orderliness, and inform the supervising faculty member or Department Chair of any related issues,
e) Be informed of and comply with the Academic Ethics Regulation, DUTH Internal Regulations, departmental rules, and the decisions of the Master's Program bodies, the Department, and DUTH, applying them with consistency and responsibility,
f) Be informed about the Master's Program they attend, the academic calendar, and understand the educational process they follow,
g) Be informed of the structure and responsibilities of DUTH's and the Department's administrative services,
h) Fully meet their obligations towards DUTH and promote the Institution's image through their academic activities,
i) Seek active participation in the international academic community by attending conferences, workshops, and seminars,
j) Participate in seminars or conferences organized by the Department/School,
k) Cite the Department/School as their academic affiliation in every publication, speech, or announcement produced from their work in the Master's Program,
l) For tuition-based Master's Programs, pay the prescribed fees as defined in this Regulation.
5. In case a PGS fails to fulfill their obligations, the Director of the Master's Program issues a written reminder of obligations, with a copy to the Coordinating Committee. If, after a reasonable period, the PGS still fails to comply, the Department Assembly may decide on their removal from the Department's PGS Registry.

Article 23

Dismissal of Postgraduate Students

1. Issues concerning the re-examination of pending courses or the dismissal of students are decided by the Department Assembly following a proposal from the Coordinating Committee, which determines the terms of re-examination and the reasons for dismissal as stipulated in the Internal Regulation of Postgraduate Studies.

2. Indicative reasons for the dismissal of postgraduate students include:
a) insufficient academic progress (substantiated by non-participation in the educational process, such as classes, examinations),
b) exceeding the maximum permitted duration of study in the Master's Program,
c) inadequate fulfillment of other obligations set forth in the relevant Regulation,
d) conduct that violates academic ethics in accordance with current legislation and the code of ethics of D.U.Th.,
e) voluntary withdrawal by the postgraduate student.

Article 24

Special Provisions

Any matters not regulated by this Internal Regulation of the Master's Program and by the Regulation of Postgraduate and Doctoral Studies of D.U.Th. shall be determined by decision of the Department Assembly.

APPENDICES

(as an integral part of the Internal Regulations of the present Postgraduate Program of Democritus University of Thrace)

A.1 Application for Enrollment

A.2 Application for Part-Time Study

A.3 Sample of Postgraduate Diploma (Master's Degree) of D.U.Th. Postgraduate Programs

A.4 Sample of Postgraduate Diploma in English

A.5 Sample of Certificate of Completion of Postgraduate Studies

A.6 Sample of Transcript of Records of a Postgraduate Student of a D.U.Th. Postgraduate Program

A.7 Certificate of Completion of Studies

A.8 Certificate of Attendance

A.1 Application for Enrollment

ΠΡΟΣ

Το Τμήμα Χημείας του ΔΠΘ

Γραμματεία του ΠΜΣ με τίτλο: «Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας»

ΑΙΤΗΣΗ ΕΓΓΡΑΦΗΣ

Παρακαλώ όπως με συμπεριλάβετε στους υποψηφίους για εισαγωγή στο ΠΜΣ:

Επώνυμο:…….

Όνομα:…….

Όνομα πατρός:……..

Τόπος γέννησης:……

Ημερ. Γέννησης:……

Τηλ.:…….

FAX: …….

e-mail: ……..

ΤΙΤΛΟΙ ΣΠΟΥΔΩΝ

Πτυχιούχος Τμήματος:……

…….

…….

Ειδίκευση: …….

…….

[Να συμπληρωθεί η ανάλογη περίπτωση]:

Επισυνάπτω:

1. Σύντομο Βιογραφικό σημείωμα
2. Φωτοτυπία Αστυν. Ταυτότητας
3. Αντίγραφο Πτυχίου
4. Αναλυτική Βαθμολογία
5. Τίτλους σπουδών ξένης γλώσσας …

……

Πανεπιστημίου:…… 6. ……..

7. ……

(Τόπος, Ημερομηνία) **Ο/Η Αιτών/ούσα**

(Υπογραφή)

A.2 Application for Part-Time Study

ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ | DEMOCRITUS UNIVERSITY OF THRACE

ΠΡΟΣ

Το Τμήμα Χημείας του ΔΠΘ

Γραμματεία του ΠΜΣ με τίτλο:

«Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας»

ΑΙΤΗΣΗ ΜΕΡΙΚΗΣ ΦΟΙΤΗΣΗΣ

Παρακαλώ όπως με συμπεριλάβετε στο καθεστώς της μερικής φοίτησης στο ΠΜΣ με τίτλο:

«Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας»

Επώνυμο:…….

Όνομα:……. …….

Όνομα πατρός:……..

Τόπος γέννησης:……

Ημερ. Γέννησης:…… [Να συμπληρωθεί η ανάλογη περίπτωση]:

Τηλ.:…….

FAX: ……. **Επισυνάπτω:**

e-mail: …….. 1.

2.

(Τόπος, Ημερομηνία) *Ο/Η Αιτών/ούσα*

(Υπογραφή)

A.3 Sample of Postgraduate Diploma (Master's Degree) of D.U.Th. Postgraduate Programs

Ε Λ Λ Η Ν Ι Κ Η Δ Η Μ Ο Κ Ρ Α Τ Ι Α

ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ

ΣΧΟΛΗ *ΘΕΤΙΚΩΝ ΕΠΙΣΤΗΜΩΝ*

ΤΜΗΜΑ ΧΗΜΕΙΑΣ

ΔΙΠΛΩΜΑ
ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΣΠΟΥΔΩΝ

ΔΙΑΧΕΙΡΙΣΗ ΠΟΙΟΤΗΤΑΣ, ΠΕΡΙΒΑΛΛΟΝΤΟΣ, ΥΓΕΙΑΣ & ΑΣΦΑΛΕΙΑΣ

Ο/Η (ονοματεπώνυμο) του *(πατρώνυμο*) πτυχιούχος του Τμήματος……. μετά την επιτυχή παρακολούθηση και εξέταση των μαθημάτων του Προγράμματος Μεταπτυχιακών Σπουδών με τίτλο Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας του Τμήματος Χημείας της Σχολής Θετικών Επιστημών του Δημοκριτείου Πανεπιστημίου Θράκης, κρίθηκε άξιος/α του **Διπλώματος Μεταπτυχιακών Σπουδών**, στην ειδίκευση *Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας* με το βαθμό:

Χαρακτηρισμός (π.χ. Άριστα)»

Βαθμός ολογράφως και αριθμητικά π.χ.Οκτώ και εβδομήντα εκατοστά (8,70)

Πόλη Καβάλα Ημερομηνία (ημέρα- μήνας- έτος)

Ο ΠΡΥΤΑΝΗΣ ΤΟΥ ΔΗΜΟΚΡΙΤΕΙΟΥ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΘΡΑΚΗΣ

Ο ΠΡΟΕΔΡΟΣ ΤΟΥ ΤΜΗΜΑΤΟΣ ΧΗΜΕΙΑΣ ΤΟΥ ΔΗΜΟΚΡΙΤΕΙΟΥ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΘΡΑΚΗΣ

Η ΓΡΑΜΜΑΤΕΑΣ

ΤΟΥ ΤΜΗΜΑΤΟΣ ΧΗΜΕΙΑΣ

ΤΟΥ ΔΗΜΟΚΡΙΤΕΙΟΥ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΘΡΑΚΗΣ

A.4 Sample of Postgraduate Diploma in English

HELLENIC REPUBLIC

DEMOCRITUS UNIVERSITY OF THRACE
SCHOOL OF SCIENCE
DEPARTMENT OF CHEMISTRY

MASTER'S DEGREE
IN QUALITY, SAFETY, SECURITY, HEALTH, AND ENVIROMENTAL MANAGEMENT

Mr/Mrs/Ms (name, surname, patronym) upon successful attendance and examination of the courses of the Postgraduate Program entitled **« Chemical Industry: Quality, Environment, Health and Safety, Security Management »** of the School of Chemistry of the Faculty of Sciences of Democritus University of Thrace (D.U.Th.) was deemed worthy of the Master's Degree, the grade:

"EXCELLENT" Eight and seventy hundredths (8.70)

Town - Date (day-month-year)

THE RECTOR

OF DEMOCRITUS UNIVERSITY

OF THRACE

THE HEAD OF THE DEPARTMENT OF

DEMOCRITUS UNIVERSITY

OF THRACE

THE SECRETARY

OF THE DEPARTMENT OF CHEMISTRY

DEMOCRITUS UNIVERSITY OF THRACE

A.5 Sample of Certificate of Completion of Postgraduate Studies

Ε Λ Λ Η Ν Ι Κ Η Δ Η Μ Ο Κ Ρ Α Τ Ι Α

ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ
ΣΧΟΛΗ *ΘΕΤΙΚΩΝ ΕΠΙΣΤΗΜΩΝ*
ΤΜΗΜΑ *ΧΗΜΕΙΑΣ*
ΑΡΙΘΜΟΣ ΠΙΣΤΟΠΟΙΗΤΙΚΟΥ….

ΠΙΣΤΟΠΟΙΗΤΙΚΟ ΟΛΟΚΛΗΡΩΣΗΣ ΣΠΟΥΔΩΝ
Πιστοποιείται η ακρίβεια των εξής στοιχείων:

Στοιχεία ταυτότητας:

Όνομα:
Επώνυμο:
Πατρώνυμο:
Μητρώνυμο:

Ο/Η ανωτέρω πτυχιούχος *του Τμήματος Χημείας* του Δημοκρίτειου Πανεπιστημίου *Θράκης* μετά τη νόμιμη διαδικασία και αφού εκπλήρωσε επιτυχώς όλες τις υποχρεώσεις του/της, στο πλαίσιο του Προγράμματος Μεταπτυχιακών Σπουδών του Τμήματός μας, έλαβε το Δίπλωμα Μεταπτυχιακών Σπουδών του Προγράμματος Μεταπτυχιακών Σπουδών με τίτλο *Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας* του Τμήματος *Χημείας* της Σχολής Θετικών Επιστημών του Δημοκριτείου Πανεπιστημίου Θράκης, στην ειδίκευση Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας, στις Ημέρα/Μήνας/Έτος, με το βαθμό

Χαρακτηρισμός (π.χ. Άριστα)

Βαθμός ολογράφως και αριθμητικά π.χ.Οκτώ και εβδομήντα εκατοστά (8,70)

Το παρόν έχει θέση αντιγράφου Διπλώματος Μεταπτυχιακών Σπουδών.
Το πιστοποιητικό αυτό, το οποίο ζήτησε ο ενδιαφερόμενης/όμενη, του/της χορηγείται για κάθε νόμιμη χρήση.

Πόλη *(όνομα πόλης)* Ημερομηνία *(ημέρα-μήνας-έτος)*

Ο/Η Γραμματέας του Τμήματος

(υπογραφή-σφραγίδα)

A.6 Sample of Transcript of Records of a Postgraduate Student of a D.U.Th. Postgraduate Program

Ε Λ Λ Η Ν Ι Κ Η Δ Η Μ Ο Κ Ρ Α Τ Ι Α

ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ
ΣΧΟΛΗ *ΘΕΤΙΚΩΝ ΕΠΙΣΤΗΜΩΝ*
ΤΜΗΜΑ *ΧΗΜΕΙΑΣ*
Πόλη Καβάλα
Αριθ. Πρωτ…….

ΒΕΒΑΙΩΣΗ

Βεβαιώνεται ότι ο/η *(Όνομα Επώνυμο Πατρώνυμο)*, ο/η οποίος/α είχε εισαχθεί το ακαδημαϊκό έτος *(αναγραφή ακ. έτους)* στο ΠΜΣ του Τμήματος *Χημείας* της Σχολής Θετικών Επιστημών του Δημοκριτείου Πανεπιστημίου Θράκης με τίτλο *Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας* διάρκειας τριών (3) εξαμήνων, εξετάσθηκε επιτυχώς στα *π.χ. δώδεκα (12)* απαιτούμενα μεταπτυχιακά μαθήματα της ειδίκευσης *Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας* και έλαβε την παρακάτω βαθμολογία σε κάθε μάθημα:

ΕΞΑΜΗΝΟ ΣΠΟΥΔΩΝ Α'						
ΚΩΔΙΚΟΣ	**ΤΙΤΛΟΣ ΜΑΘΗΜΑΤΟΣ**	**ΤΥΠΟΣ**	**ΕΞΑΜΗΝΟ**	**ECTS**	**Τ.Β**	**ΟΛΟΓΡΑΦΩΣ**
ΧΕ1	Εισαγωγικά θέματα στην Ασφάλεια και Υγεία στην Εργασία , Προστασία του Περιβάλλοντος, Ποιότητα και Διαχείριση Κινδύνου	ΥΠΟΧΡΕΩΤΙΚΟ	Α	5	……	……
ΧΕ2	Διοίκηση Ολικής Ποιότητας	ΥΠΟΧΡΕΩΤΙΚΟ	Α	5		
ΧΕ3	Περιβαλλοντική πολιτική και σχεδιασμός. Διαχείριση Περιβάλλοντος.	ΥΠΟΧΡΕΩΤΙΚΟ	Α	5		
ΧΕ4	Ασφάλεια εργασίας - Ασφάλεια διεργασιών - Ασφάλεια έναντι ασύμμετρων απειλών και προστασία υποδομών ζωτικής σημασίας	ΥΠΟΧΡΕΩΤΙΚΟ	Α	5		

ΧΕ5	Εκτίμηση και Διαχείριση Επαγγελματικού (ΕΑΥ) και Περιβαλλοντικού Κινδύνου	ΥΠΟΧΡΕΩΤΙΚΟ	Α	5		
ΧΕ6	Εργονομικοί και Ψυχοκοινωνικοί παράγοντες στην Εργασία. Ο Ανθρώπινος παράγοντας	ΥΠΟΧΡΕΩΤΙΚΟ	Α	5		
ΕΞΑΜΗΝΟ ΣΠΟΥΔΩΝ Β'						
ΚΩΔΙΚΟΣ	**ΤΙΤΛΟΣ ΜΑΘΗΜΑΤΟΣ**	**ΤΥΠΟΣ**	**ΕΞΑΜΗΝΟ**	**ECTS**	**Τ.Β**	**ΟΛΟΓΡΑΦΩΣ**
ΧΕ7	Εργαλεία και Ερευνητική Μεθοδολογία για QSSHE	ΥΠΟΧΡΕΩΤΙΚΟ	Β	5	…..	…..
ΧΕ8	Υγεία και Υγιεινή της Εργασίας - Βλαπτικοί παράγοντες. Βασικές αρχές τοξικολογίας και Χημικής Έκθεσης	ΥΠΟΧΡΕΩΤΙΚΟ	Β	5	…..	…..
ΧΕ9	Χημεία και Έλεγχος Ρύπανσης Περιβάλλοντος και Εφαρμογές της Χημείας στην ΕΑΥ και Προστασία	ΥΠΟΧΡΕΩΤΙΚΟ	Β	5	…..	…..
ΧΕ10	Διαχείριση Ποιότητας, Χημειομετρία και Μετρολογία	ΥΠΟΧΡΕΩΤΙΚΟ	Β	5	…..	…..
ΧΕ11	Συστήματα διαχείρισης Ποιότητας, Περιβάλλοντος και Υγείας και Ασφάλειας	ΥΠΟΧΡΕΩΤΙΚΟ	Β	5	…..	…..
ΧΕ12	Ειδικά θέματα: Διοίκηση έργων, logistics, χώροι συνάθροισης κοινού	ΥΠΟΧΡΕΩΤΙΚΟ	Β	5	…..	…..

Ο/Η ανωτέρω στις (*ημερομηνία)* ανέπτυξε τη Μεταπτυχιακή Διπλωματική Εργασία (ΜΔΕ) του/της ενώπιον της αρμόδιας Εξεταστικής Επιτροπής, η οποία την ενέκρινε, τη βαθμολόγησε με το βαθμό *(αναγραφή βαθμού)* και πρότεινε την απονομή στον/ην ανωτέρω του Διπλώματος Μεταπτυχιακών Σπουδών του Τμήματος *Χημείας* της Σχολής *Θετικών Επιστημών* του Δημοκριτείου Πανεπιστημίου Θράκης στην Ειδίκευση *Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας*. Ο/Η ανωτέρω αναγραφόμενος/η αποφοίτησε στις (ημέρα) (μήνας) (έτος).

Ο Γενικός Μέσος Όρος βαθμολογίας του/της ανωτέρω (με ακρίβεια δύο δεκαδικών ψηφίων) είναι:

«ΑΡΙΣΤΑ».

Η παρούσα βεβαίωση χορηγείται ύστερα από αίτηση του/της ενδιαφερομένου/ενδιαφερομένης για κάθε νόμιμη χρήση.

Πόλη *(όνομα πόλης)* Ημερομηνία *(ημέρα-μήνας-έτος)*

Με εντολή Πρύτανη

Ο/Η Γραμματέας του Τμήματος

(ονοματεπώνυμο-υπογραφή-σφραγίδα)

A.7 Certificate of Completion of Studies

Ε Λ Λ Η Ν Ι Κ Η Δ Η Μ Ο Κ Ρ Α Τ Ι Α

ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ
ΣΧΟΛΗ *ΘΕΤΙΚΩΝ ΕΠΙΣΤΗΜΩΝ*
ΤΜΗΜΑ *ΧΗΜΕΙΑΣ*
Αριθμ. Πιστοπ.:

ΠΙΣΤΟΠΟΙΗΤΙΚΟ ΠΕΡΑΤΩΣΗΣ ΣΠΟΥΔΩΝ

Πιστοποιείται η ακρίβεια των εξής στοιχείων:

Στοιχεία Ταυτότητας:	
Επώνυμο:	**Όνομα:**
Πατρώνυμο:	**Μητρώνυμο:**
Τόπος Γέννησης:	**Ημερομ. Γέννησης:**
Στοιχεία Φοίτησης:	
Ημερομ. Α΄ Εγγρ.:	**Αρ. Μητρώου:**

Ο/Η ανωτέρω εγγράφηκε για πρώτη φορά στην 1η ακαδημαϊκή περίοδο του ΠΜΣ του Τμήματός μας με τίτλο *Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας* το ακαδημαϊκό έτος ( ).
Για τη λήψη του Μεταπτυχιακού Διπλώματος απαιτείται φοίτηση τριών (3) εξαμήνων.
Ο/Η ανωτέρω εκπλήρωσε όλες τις νόμιμες υποχρεώσεις αφού εξετάστηκε επιτυχώς στα μαθήματα που προβλέπονται από το Πρόγραμμα Μεταπτυχιακών Σπουδών, έλαβε βαθμό πτυχίου:

Βαθμός αριθμητικά και ολογράφως (π.χ. 9,50 ΕΝΝΕΑ ΚΑΙ ΠΕΝΗΝΤΑ ΕΚΑΤΟΣΤΑ)
«Χαρακτηρισμός (π.χ.Άριστα)»

και εκκρεμεί η επίδοση του Διπλώματος Μεταπτυχιακών Σπουδών.
Το πιστοποιητικό αυτό χορηγείται για κάθε νόμιμη χρήση.
Πόλη (όνομα πόλης) Ημερομηνία (ημέρα-μήνας-έτος)

Ο/Η Γραμματέας του Τμήματος

(ονοματεπώνυμο-υπογραφή-σφραγίδα)

A.8 Certificate of Attendance

Ε Λ Λ Η Ν Ι Κ Η Δ Η Μ Ο Κ Ρ Α Τ Ι Α

ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ | DEMOCRITUS UNIVERSITY OF THRACE

ΔΗΜΟΚΡΙΤΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΡΑΚΗΣ

ΣΧΟΛΗ ΘΕΤΙΚΩΝ ΕΠΙΣΤΗΜΩΝ

ΤΜΗΜΑ *ΧΗΜΕΙΑΣ*

Αριθμ. Πιστοπ.:

ΒΕΒΑΙΩΣΗ ΣΠΟΥΔΩΝ

Πιστοποιείται η ακρίβεια των εξής στοιχείων:

Στοιχεία Ταυτότητας	
Επώνυμο:	Όνομα:
Πατρώνυμο:	Μητρώνυμο:
Τόπος Γέννησης:	Ημερομ. Γέννησης:
Στοιχεία Φοίτησης:	
Ημερομ. Α΄ Εγγρ.:	Αρ. Μητρώου:

Ο/Η ανωτέρω εγγράφηκε για πρώτη φορά στο 1ο εξάμηνο *του ΠΜΣ Χημική Βιομηχανία: Διαχείριση Ποιότητας, Περιβάλλοντος, Υγείας & Ασφάλειας* του Τμήματός μας ως Μεταπτυχιακός/η Φοιτητής/τρια το ακαδημαϊκό έτος ( ).

Η ελάχιστη διάρκεια φοίτησης είναι ( ) εξάμηνα.

Η ιδιότητα του μεταπτυχιακού φοιτητή αποκτάται με την εγγραφή και αποβάλλεται με τη λήψη του πτυχίου, την αποφοίτηση, ποινή ή διαγραφή.

Ο/Η ανωτέρω βρίσκεται στο ( ) εξάμηνο σπουδών για το εαρινό εξάμηνο του ακαδημαϊκού έτους ( ).

Σχόλια – Παρατηρήσεις:

Το πιστοποιητικό αυτό χορηγείται για κάθε νόμιμη χρήση.

Πόλη *(όνομα πόλης)* Ημερομηνία *(ημέρα-μήνας-έτος)*

Ο/Η Γραμματέας του Τμήματος

(ονοματεπώνυμο-υπογραφή-σφραγίδα)