Joint Undergraduate Program of Studies

Environmental Sciences and Engineering

Study Guide of the Program

January 2026

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1. THESSALONIKI

Thessaloniki, Greece's second largest city, is one of the oldest in Europe. Built amphitheatrically on the shores and hills of the Thermaic Gulf, it stretches for many kilometers. It was built by Cassander, king of Macedonia, around 315 BC, and named after his wife, Thessaloniki, sister of Alexander the Great. Since then, Thessaloniki has become the most important city in Macedonia and its main commercial port. In Roman times, Paul, the Apostle of the Nations, visited the city, preached the new religion and later sent the Christian inhabitants his two famous epistles "to the Thessalonians", which are among the oldest monuments of Christian literature.

During the Byzantine period, Thessaloniki became the second spiritual and artistic centre of the empire, after Constantinople. Great figures of religion, science and art are associated with its Byzantine past: the jurist Peter Magister, the epigrammatist Macedonian Hypatus, the hymnographer Archbishop Joseph, Leo the Mathematician, the historian John Kameniatis, Archbishop Eustathios of Thessaloniki, prolific Homeric scholar and humanist, philologist Thomas Magister, law professor Constantine Armenopoulos, author of the "Exavivlos," the theologian Gregory Palamas, Archbishop of Thessaloniki, and others. During the same period, the missionary brothers Cyril and Methodius played a special role in spreading Christianity among the Slavs and, in order to facilitate their missionary work, invented a special alphabet, the Cyrillic alphabet, which is still used today by almost all Slavic languages.

Later, when Thessaloniki first (1430) and then Constantinople (1453), the two main intellectual centres of the East, succumbed to the Turkish invasion, among the Greek humanists who sought refuge in the Christian West and transplanted Greek culture there, two were from Thessaloniki, Theodoros Gazis and Andronikos Kallistos. And during the Ottoman occupation, even though times were very difficult, Greek schools operated in Thessaloniki, preserving the tradition of Greek education until its liberation on 26 October 1912, the anniversary of its patron saint, Saint Demetrius. During the^{19th}century, the intellectual tradition of the city was continued by the historian, archaeologist and geographer Margaritis Dimitsas, who was also the director of the city's Gymnasium, and by his student P. Papageorgiou, who later became a distinguished philologist.

Numerous monuments from the city's historical past have been preserved. In the Thessaloniki area, the first organized settlements were established at the end of the^{4th}millennium BC. A prehistoric culture developed in these settlements within the framework of a mixed economy based on agriculture, livestock farming and gathering. This culture was gradually transformed through contact with other Greek cultures and spanned two millennia, approximately until 1100 AD. From this period, known as the Iron Age, the region experienced cultural balance in all areas. This helped the development of small settlements such as Thermi, Apollonia, Chalastra, etc., which evolved independently. Proof of this development can be found in the rich archaeological finds discovered in many parts of the city of Thessaloniki, dating back to before 315 BC. The significant development of these small settlements led to the founding of Thessaloniki, i.e. their consolidation, as happened in Athens with Theseus. This settlement, which was formalised in 315 BC, signified the decision to bring together the socio-economic

elements scattered throughout the wider region since prehistoric times and to allow them to play their unique historical role under a single central authority. Thus, the new city of Thessaloniki, founded by Cassander, acquired great economic and political power and imposed itself as a cultural presence in Macedonia.

It is perhaps strange that, despite its significant political and economic importance, Thessaloniki did not win the "sympathy" of the kings of the Macedonian state, who were based in Aigai and Pella. The city gained political primacy during the Roman period, when it reached its peak, and the Roman general Aemilius Paullus named it the capital of Macedonia and Epirus. Of great interest from the Roman period are the Arch of Galerius (the "Kamara") and the Rotunda. From the Byzantine era, temples representing the various periods of Byzantine art, rich in exquisite mosaics and frescoes, have been preserved and are the jewels of the city: Agios Dimitrios, Acheiropoietos, Agia Sophia, Agioi Apostoloi, Agia Aikaterini, Panagia Chalkeon, Agios Nikolaos Orfanos, Profitis Ilias, the Vlatadon Monastery, and Osio David. A large part of the city walls are still preserved, part of which was the White Tower, the Eptapyrgio, etc. The continuous contact and interaction between Mount Athos and Thessaloniki was remarkable from a national, spiritual and artistic point of view.

A new period of material and spiritual development for Thessaloniki began with its liberation from Turkish rule. Thessaloniki became the main economic, political and cultural centre of Northern Greece and the second largest and most important city in the country. Today, Thessaloniki is the seat of the Ministry of Macedonia-Thrace, the Metropolis, the Court of Appeal and other administrative authorities. The city can be divided into two parts: the older neighbourhoods, which are constantly changing with new constructions, and the area with modern buildings, most of which are apartment blocks.

In addition to Aristotle University, numerous institutions contribute to the creation of a broader intellectual climate in the city: the University of Macedonia, the International University of Greece, its museums (Archaeological, Byzantine, Folklore, etc.), the State Conservatory, the State Theatre, the State Orchestra, the Society of Macedonian Studies, the Foundation for the Study of the Chersonese of Aemos, and other intellectual and artistic structures. Characteristic features of Thessaloniki's flourishing economy, which is one of the most important commercial and transport centres in the Mediterranean, are its port, which with its Free Zone also serves other Balkan countries, its international airport, the internationally renowned Industrial Area and its International Exhibition.

2. ARISTOTLE UNIVERSITY OF THESSALONIKI (AUTH)

2.1. History-Structure

The University of Thessaloniki was founded by the first Hellenic Republic. On the recommendation of Alexander Papanastasiou, the Fourth National Assembly passed Law 3341 on 14 June 1925, establishing five schools: Theological, Philosophy, Law and Economics, Natural and Mathematical Sciences, and Medicine. The Faculty of Philosophy was the first to begin operating in 1926. It was followed in the academic year 1927-28 by the School of Natural and Mathematical Sciences, initially with the School s of Agriculture and Forestry and, from 1928-29, with new School s of Physics and Mathematics. In the same year, the Law School began operating, and in 1929-30, the School of Political and Economic Sciences of the School of Law and Economic Sciences was established. Since then, many schools have been created and are now operating, covering the entire spectrum of sciences and fine arts.

AUTH is now the largest and most complex university in Greece, with 11 schools and 41 School s (Figure 1). There are 61 clinics (medicine, dentistry, veterinary medicine), 295 established laboratories and 23 study rooms. The Central Library of the Aristotle University of Thessaloniki, one of the largest in the Balkans, together with the 45 regional libraries of the School s and Schools (17 of which are institutionalised) constitute the library system of the Aristotle University of Thessaloniki. The Aristotle University of Thessaloniki offers 43 undergraduate Programmes and 185 postgraduate Programmes, with 90,299 students enrolled, of whom 76,987 are enrolled in undergraduate Programmes and 8,496 in postgraduate Programmes. In addition, 4,609 are doctoral candidates. The teaching and research staff (Δ.Ε.Π.) numbers 1,612, the laboratory teaching staff (Ε.ΔΙ.Π.) numbers 371, and the special teaching staff numbers 98. The educational work is also assisted by 127 members of the Special Technical Laboratory Staff (E.T.E.P.), while 253 permanent employees and 267 employees under private law contracts of indefinite duration (I.D.A.X.) work in administration.

The majority of the Aristotle University of Thessaloniki's facilities are located within the **Central Campus** in the centre of the city of Thessaloniki and cover an area of 334,000 m^2 However, due to the dense construction of the Central Campus, but also for operational reasons, some of the University's facilities are located outside the campus or even outside the urban complex of Thessaloniki, the most important of which are **the facilities in Thermi**, which house the School of Visual and Applied Arts, the School of Music Studies of the School of Fine Arts, and the School of Physical Education and Sports Science. Other facilities of the Aristotle University of Thessaloniki outside the campus include the **University Farm** (covering an area of 1,800 acres at the eastern exit of Thessaloniki), the **Clinics of the Veterinary School** (at 11 Stavrou Voutyra Street, opposite the old railway station), **the facilities of the School of Forestry and Natural Environment in Foinika**, **Thessaloniki**, where the Museum of Wild Fauna and the Forest Botanical Garden are located, **the University Excavations** (in Vergina, Dion, Pella, Philippi, Karabournaki and Toumba, Thessaloniki), the **Centre for Byzantine Research** (at 36 Vas. Olgas Street), the **Teloglion Foundation of Arts** (at 159A Agios Dimitrios Street) the **Seismological Station** (at 43 Vyzoukidou Street, 40 Churches), the **Olympus Meteorological Stations**, the

University Forests in Pertouli, Pindos, and Taxiarchis, Chalkidiki, which are used for student training and forest research. Finally, the School of Physical Education and Sports Science of Serres is located in Agios Ioannis, Serres.

Image 1. Schools and School s of the Aristotle University of Thessaloniki.

Academic Calendar

The academic year begins on 1 September and ends on 31 August of the following calendar year. The educational Programme for each academic year is divided into two semesters, winter and spring, each of which includes 13 weeks of teaching and two or three weeks of examinations.

- The winter semester begins in the last week of September and ends in the first ten days of January. This is followed by the first examination period of the winter semester.
- The spring semester begins in mid-February and ends in late May. This is followed by the first examination period of the spring semester.

The exact dates are set by the university senate. However, in exceptional cases, the Minister of Education, following a proposal by the Senate, may adjust the start and end dates of the two semesters outside the normal dates in order to complete the required number of teaching weeks.

Each semester has two examination periods:

- Winter semester courses are examined during the period from January to February and again during the period from September to October.
- Spring semester courses are examined during the June period and again during the September period.

The January-February and September examination periods last three weeks, while the June examination period lasts two weeks according to the law, but all are usually extended over a longer period.

Each semester, before the start of the examination period, students have the right and obligation to evaluate their courses and instructors, with the aim of improving the quality of their studies. More information is available on the website of the Quality Assurance Unit (MODIP-AUTH http://qa.auth.gr) and on the website of their School/School .

HOLIDAYS No courses or exams are held during July and August, which are considered summer holidays. The following are also considered holidays:

- Christmas holidays: From 24 December to 7 January.
- Carnival holidays: Clean Monday and the following day.
- Easter holidays: From Holy Monday to Thomas Sunday.

PUBLIC HOLIDAYS AND BANK HOLIDAYS

- 26 October: Feast of the patron saint of the city, Saint Demetrius. Liberation of Thessaloniki (national holiday).
- 28 October: Anniversary of the "OXI" to Italian fascism (national holiday).
- 17 November: Anniversary of the 1973 Polytechnic uprising.
- 30 January: Feast of the Three Hierarchs (religious holiday).
- 25 March: Anniversary of the 1821 revolution against Turkish rule (national holiday).
- 1 May: May Day. – Day of class solidarity among workers (Labour holiday – strike).
- Holy Spirit: (Movable religious holiday). 3. Participating School s

3. PARTICIPATING SCHOOL S

3.1. Historical development – Brief description

The School of Physics was founded in 1928 and has since grown significantly in terms of both education and research, becoming one of the largest School s of the University in terms of staff, students and research activities, with an uninterrupted academic presence, rich research work and strong international recognition. Today, it has approximately 3,000 active students and more than 11,000 physics graduates, 2,000 postgraduate diploma holders and 500 PhD holders. It currently employs 50 faculty members and 25 members of auxiliary teaching, technical and administrative staff. The quality of the teaching and research staff, the large number of competitive research Programmes it carries out and its extensive international collaborations through Erasmus+ are strong guarantees of reliability and academic excellence, which its private competitors in the wider region do not have.

The School of Biology was founded in 1973 and currently employs 39 faculty members and 15 members of auxiliary teaching, technical and administrative staff, approximately 660 active students and more than 5,000 biology graduates, 400 postgraduate degree holders and 330 PhD holders.

The School of Agriculture was established in 1927 and employs 60 faculty members, 24 members of auxiliary teaching, technical and administrative staff, approximately 1,700 active students and 14,500 graduates, of whom 1,900 hold master's degrees and 600 hold doctorates. The significant attraction of research funding from competitive Programmes (2nd place at Aristotle University), combined with the high level of scientific training and extensive international collaborations, significantly reinforce the applied and interdisciplinary nature of the proposed programme.

From the academic year 1972-73 to the academic year 2002-03, approximately 3,900 students enrolled in the School of Mechanical Engineering and 2,400 mechanical engineers graduated (including students and graduates from the first years of operation of the unified School of Mechanical and Electrical Engineering). The average number of students enrolled over the last five years is 185, while the average number of graduates is 115. The School of Mechanical Engineering currently employs 28 members of teaching and research staff (ΔΕΠ) and approximately the same number of auxiliary, technical and support staff. The School is one of the most active in the field of research at the Aristotle University of Thessaloniki. Over the last five years, the total revenue from funded activities of its members exceeded €15,000,000.

The School of Chemistry was founded in 1943 and currently employs 54 faculty members, 10 members of the Special Teaching Staff, 6 members of the Technical and Support Staff, and 6 administrative staff. The average number of enrolments over the last five years is approximately 160 per year. In total, the School has approximately 1,800 undergraduate students, 200 postgraduate students and 120 doctoral candidates, while the total number of graduates is approximately 7,500. More than 500 doctoral theses have been completed in the School of Chemistry. A significant number of active and retired faculty members (31) of the School of

Chemistry are among the top 2% of researchers worldwide, according to a bibliometric study published in collaboration with Elsevier and Stanford University in the United States (8th edition, 19 September 2025). 19 September 2025) worldwide, based on a bibliometric study published in collaboration with Elsevier and Stanford University in the USA. In addition, 10 faculty members of the School are among the Highly Ranked Scholars of ScholarGPS (distinguished authors whose Top Percentile Ranking places them in the top 0.05% of all academics due to their academic contribution throughout their lives or over the past 5 years).

3.2 Interdisciplinary approach

The Programme capitalises on the above comparative advantages, focusing on areas of high demand as reflected in both its scientific subject matter and the structure of the curriculum. In particular, the Programme covers contemporary and strategically important areas such as climate change and the physics and chemistry of the atmosphere, the adaptation and resilience of anthropogenic systems, air, water and soil quality, and control and management for the restoration of environmental pollution. At the same time, emphasis is placed on sustainable management, the study and protection of biodiversity and ecosystems, environmental engineering and anti-pollution technologies, energy and environmental issues, circular economy and sustainable development, as well as quantitative analysis and modelling using modern digital tools to understand and solve complex environmental problems. These areas respond directly to the demands of the green transition and the international labour market, giving the Programme a clear academic and professional orientation.

3.3 . Infrastructure and support equipment

The School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture have fully renovated and technologically equipped classrooms, which are fully adequate to meet the needs of the Greek-language undergraduate studies and the Programmecurrently being established .In total, there are more than ten amphitheatre-style classrooms with a capacity of approximately 1,500 people, as well as smaller classrooms, which are used for seminars, student groups and practical exercises. All rooms have wireless internet connection and modern audiovisual equipment, while spaces have been provided for hybrid and distance learning.

Most of the classrooms and lecture halls of the School s are equipped with projectors, cameras, microphones, speakers and desktop or laptop computers, while several support live streaming of courses, seminars and scientific events.

At the same time, all participating School s have computer rooms connected to a wired network, interactive whiteboards, televisions, video equipment, projectors and sound systems. They are used for seminars, lectures and research activities, while remains accessible to all students, including incoming Erasmus students.

Secretariat and classrooms of the Programme

A suitable space has already been provided and configured to house the Secretariat, equipped with the necessary ICT resources, which ensures smooth administrative operation and

effective service to students. The School s have sufficient classrooms that have been designed to meet the needs of the Programme, with modern audiovisual equipment and the possibility of hybrid and distance learning. These classrooms fully meet the requirements of the educational process during the first years of operation of the Programme In addition, in order to cover the laboratory exercises of the courses, the collaborating School s have the appropriate classrooms fully equipped to meet the needs of students in terms of acquiring experimental measurement skills. The various collaborating School s of the Programme are located in different parts of the Aristotle University of Thessaloniki Campus, as shown in Figure 2.

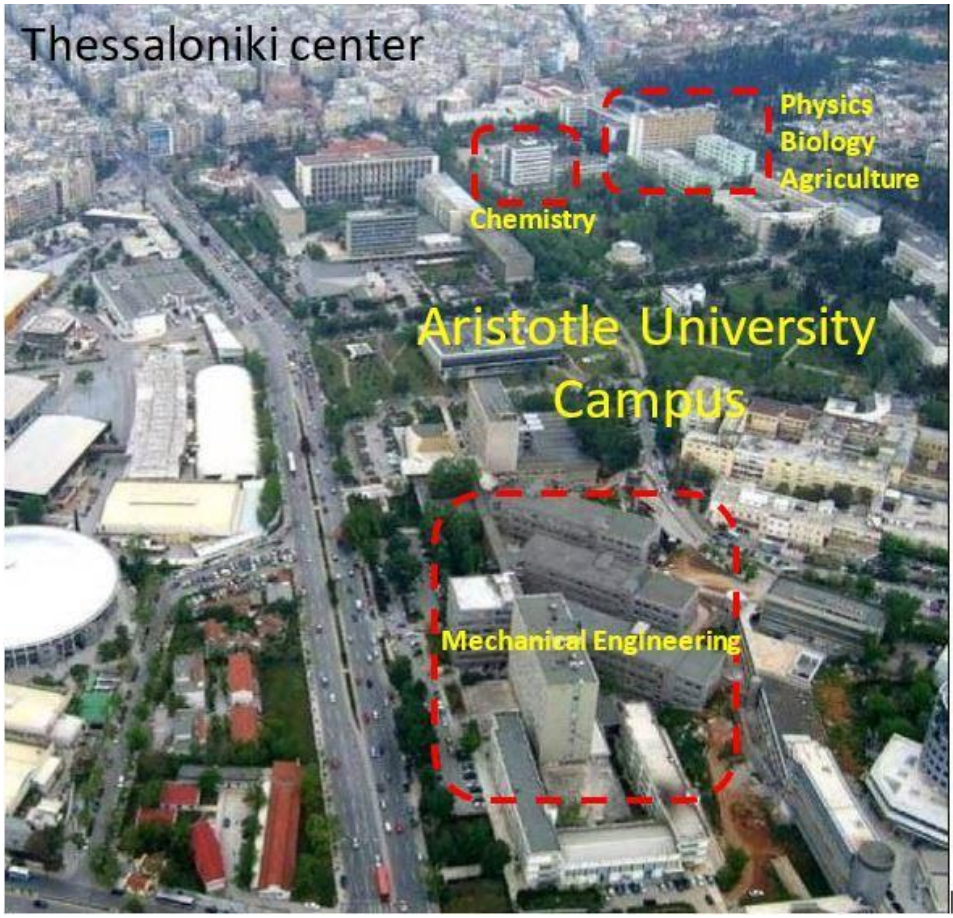

Figure 2. Location of the collaborating School s on the Aristotle University of Thessaloniki campus

Access to the Aristotle University of Thessaloniki

The facilities of the participating School s of the DCEP are located on the main campus of the Aristotle University of Thessaloniki, as shown in Figure 2.

To access the central campus of the Aristotle University of Thessaloniki, you can use the OASTH bus lines and the Metro, and consult the Intelligent Urban Mobility Management and Traffic Control System of Thessaloniki.

Library and modern examination methods

At the same time, students will have access to the rich collection of the School libraries and access to international databases, which ensure unhindered access to scientific sources, effectively enhancing the development of their research skills. In addition, the collections of the Aristotle University Libraries and Information Centre include collections related to the subject matter of the Programme and access to international databases.

Finally, the written exams at the end of each semester can be done digitally, using tablets in the exam rooms, with invigilators and students present, to make sure the process is totally fair and reliable.

Linking teaching and research

Teaching at the School of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture is organically linked to the research activities of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture, drawing on the scientific expertise and international networks of the faculty members. In this way, the teaching process is enriched with the findings of contemporary environmental science and provides students with the opportunity to directly link teaching with research and practice.

Students are encouraged to develop their research skills from the very first semesters of their studies, through the preparation of assignments, participation in seminars, workshops and conferences, as well as collaboration with faculty members in research initiatives. In recent years, their involvement in research has been deepened through elective courses corresponding to distinct thematic areas, depending on the interests they have developed during their studies.

Laboratories and research structures

The School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture have research units covering a wide range of subjects, such as the Laboratory of Atmospheric Physics (Government Gazette 254/A/15.9.1981), the Laboratory of Atomic and Nuclear Physics ( ) (Government Gazette 90/A/15.5.1969), the Laboratory of Astronomy (Government Gazette 90/A/15.5.1969), the Laboratory of Chemical and Environmental Technology and the Laboratory of Chemistry and Technology of Polymers and Paints (Government Gazette 3277, issue B / 12.10.16), the Laboratories of General and Agricultural Hydraulics and Improvements, Soil Science, Agriculture, Arboriculture, Agricultural Economic Research (Government Gazette 86, vol. A, 5.4.1981), the Laboratories of Ecology and Environmental Protection, Agricultural Structures and Equipment, Alternative Energy Resources in Agriculture, Ichthyology, Marine and Terrestrial Animal Biodiversity, Systematic Botany and Phytogeography, while there are also specialised research groups in the fields of marine ecosystem management (MarinOmics Group) and the Aristotle Museum of Natural History.

The **School** of **Physics** at Aristotle University of Thessaloniki is one of the largest and most dynamic School s of the institution, with strong educational and research activities. Its human

resources include sixty (60) faculty members, twenty-three (23) members of the Special Teaching Staff, four (4) members of the Special Technical Staff, and six (6) administrative staff. Approximately 150 undergraduate students, 70 postgraduate students and 20 doctoral candidates are admitted annually, while the annual number of graduates amounts to approximately 160 undergraduates, 60 postgraduates and 15 doctoral candidates. During the 2023–2024 academic year, the total number of students reached 2,712 in the Undergraduate Programme, 221 in the Master's Programmes and 124 in the Doctoral Programme, with approximately 1,000 active undergraduate students within the n+2 year limit. At the research level, the School has a high scientific output, with approximately 300–350 publications per year in international scientific journals and multiple conference presentations, while ranking second at Aristotle University of Thessaloniki in terms of research funding, absorbing approximately 8% of the Institution's total funding for the period 2020–2023.

The **School** of **Physics** of the Aristotle University of Thessaloniki participates in this Programmewith lecturers mainly from three research laboratories, which belong to corresponding fields of the School and combine active research activity with systematic participation in teaching at all levels of study. In particular, the Laboratory of Atmospheric Physics is active in atmospheric physics and chemistry, radiation, air quality and climate physics, with a strong presence in national and European research Programmes; The Astronomy Laboratory covers topics in astrophysics and observational astronomy, participating in international research collaborations. The Laboratory of Atomic and Nuclear Physics develops experimental and theoretical research in nuclear and subatomic physics, as well as their applications. The combined contribution of these laboratories substantially reinforces the interdisciplinary and research-oriented nature of the Programme.

The **School of Biology** participates in this Programme with lecturers whose fields of expertise fall into three areas (Zoology: Marine and Terrestrial Animal Diversity Laboratory and Ichthyology Laboratory, Ecology: Ecology Laboratory, and Botany: Systematic Botany and Phytogeography Laboratory). The members of these laboratories cover a wide range of environmental science, focusing on issues of biodiversity, the study of environmental pressures on terrestrial and aquatic ecosystems, ecological models, population assessment, biocommunities, habitats and ecosystems, and ecosystem management. The School of Biology has developed important international collaborations and participates in global networks/consortia focusing on biodiversity and systems management (e.g. the FishBase Consortium), while in the last 5 years it has also participated in 10 competitive H2020/HE research projects and in a multitude of nationally or privately funded projects. The approximately 40 faculty members of the School publish 158 papers in international scientific journals per year (5-year average 2020-2024), which garner 8,150 citations per year (5-year average 2020-2024, Scopus). Members of the School of Biology participate in the Aristotle Museum of Natural History in Thessaloniki as well as in three research groups at the Centre for Interdisciplinary Research and Innovation (CIRI) of the Aristotle University of Thessaloniki (GENeTres, FunPAth, CEO2, MarinOmics) and coordinate one of them (MarinOmics).

The **School of Agriculture** has educational and research activities and infrastructure related to the subject of the proposed X.P.P.S. Its academic structure includes seven (7) Sections, thirty-three (33) Laboratories and two (2) Study Rooms, which support the educational and research activities of the School . The School has laboratory and experimental infrastructure within the university campus and the Farm, which can support the educational and research needs of the Programme, particularly with regard to the preparation of assignments, the implementation of field exercises and measurements, and the development of research activities within the framework of courses and dissertations.

Through the range of subjects taught and the research activities of its faculty members, the School of Agriculture contributes to the interdisciplinary approach of the Programme, especially in topics related to the sustainable management of water and soil resources, renewable energy sources, rural economy and policy, agricultural waste utilisation, agricultural ecosystems, and mitigation and adaptation to the effects of the climate crisis.

In terms of research output, in the reference year 2024, the publications of the School 's academic staff amounted to 276 and include articles in peer-reviewed scientific journals, recorded in international databases (Scopus), as well as books and chapters in collective volumes. The total funding for the School 's active research projects (June 2025) amounts to €5,545,992.94, while the School ranks second among the School s of the Aristotle University of Thessaloniki in terms of attracting funding from competitive research Programmes. The School 's international presence and recognition is also documented through international rankings, reinforcing the international dimension of research and teaching in the proposed Programme . In particular, the School of Agriculture of the Aristotle University of Thessaloniki ranked first in Greece in the field of Agricultural Sciences according to the NTU Rankings 2024 and is among the top 150 School s worldwide (135th place).

The **School of Mechanical Engineering** has research units in a wide range of subjects covered by three Divisions (Construction, Energy and Industrial Management), to which the ten Laboratories of the School currently belong. The School carries out a large number of research projects in collaboration with other bodies (universities, research centres, industry), both nationally and internationally. There were 186 actively funded projects in 2024. These projects employed 176 external collaborators. The positive assessment of the research results at a scientific level is reflected in the number of scientific publications produced. The publications of the faculty members of the School of Mechanical Engineering in reputable scientific journals and books amount to approximately 130 per year, while the number of publications in scientific conference proceedings is also very high. The publications of faculty members garner more than 5,000 citations per year in the Scopus database.

The **School of Chemistry** is consistently recognised for the high quality of its research. According to Stanford's 2025 list, 31 scientists from the School are among the top 2% of researchers worldwide. The 4th Research.com report and the EduRank organisation rank the School of Chemistry as 1st among Greek Chemistry School s. It has two laboratories in corresponding sectors that deal with subjects related to environmental sciences and engineering. The Environmental Pollution Control Laboratory is actively involved in atmospheric, aquatic and terrestrial pollution, the development/optimisation of methods for determining pollutants in

environmental samples, the fate, the physicochemical behaviour and transport mechanisms of environmental pollutants, waste management, the risk assessment of solid waste, and technologies for the removal of inorganic and organic pollutants. The Chemical and Environmental Technology Laboratory is actively involved in the treatment of surface and groundwater as well as liquid waste through the application of advanced physicochemical and/or biological methods, with the aim of protecting the environment, the removal of pollutants and the reuse of treated waste. It also treats toxic industrial solid waste for recycling, inertisation and stabilisation, conducts techno-economic studies and designs treatment plants for surface and groundwater, as well as liquid and solid waste, dimensioning of treatment plants, initial cost estimation, optimisation based on economic, environmental and technological criteria.

4. ORGANISATION OF STUDIES IN THE INTERSCHOOL AL FOREIGN LANGUAGE UNDERGRADUATE PROGRAMME

4.1. The Study Programme

The single cycle of studies includes attendance of an InterSchool al Foreign Language Undergraduate Programme and is completed with the award of a single, uninterrupted postgraduate degree (Integrated Master). Successful completion of the Programme leads to the award of a level seven (7) degree, in accordance with the National and European Qualifications Framework, i.e. an integrated and uninterrupted postgraduate degree (Integrated Master).

These Undergraduate Studies Regulations are drafted in accordance with the provisions of Chapter Z of Law 4957/2022 (Government Gazette A, 141/21.07.2022) "New Horizons in Higher Education Institutions: Enhancing the quality, functionality and connection of HEIs with society and other provisions" concerning the organisation and operation of study Programmes, as well as Chapter IA of the same law, which specifically concerns Foreign Language Undergraduate Study Programmes. Furthermore, it is harmonised with the Regulations for the Operation of Undergraduate Study Programmes of the Aristotle University of Thessaloniki, ensuring that the provisions herein are in line with the institution's current institutional framework.

4.2 Subject matter and purpose of the Programme

The Schools of Physics (supervising), Chemistry, Biology, Mechanical Engineering and Agriculture of the Aristotle University of Thessaloniki organise and operate an InterSchool al Foreign Language Undergraduate Programme (hereinafter referred to as Programme) with a **duration of five years**, leading to the award of a Diploma (in English: *"Diploma with Integrated Master in Environmental Sciences and Engineering*").

The **subject** of the InterSchool al Foreign Language Undergraduate Programme is comprehensive scientific and technological training in the field of Environmental Sciences and Environmental Engineering, with an emphasis on the physical, chemical, biological and mechanical foundations of environmental processes, sustainable management of natural resources, climate change, air and water quality, energy, circular economy and sustainable development. The Programme provides students with the necessary knowledge and skills to access scientific, technical and technological professions, as well as any other professional or academic activity that requires a high level of interdisciplinary training in the field of the environment.

The aim of the Programme is to provide a high level of university education in Environmental Sciences and Engineering to an international audience, through systematic familiarisation with the main theoretical, experimental and computational tools and the basic categories of contemporary environmental scientific and technological discourse. The Programme aims to cultivate the ability to analyse and solve complex environmental problems,

to develop skills in quantitative analysis, modelling, experimental design and the use of modern digital and computational tools, strengthening critical thinking and scientific depth, promoting Aristotle University of Thessaloniki abroad, and generally enhancing the extroversion of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture of the Aristotle University of Thessaloniki.

Learning outcomes and qualifications. Upon successful completion of the MSc in Environmental Science and Engineering, students will have acquired:

- Solid theoretical knowledge in all basic areas of Environmental Sciences and Environmental Engineering, including physics, chemistry, biology, geosciences, engineering, energy, climate change and sustainable development.
- Skills in quantitative analysis, understanding complex scientific and technical texts, and the ability to analyse and synthesise data, experimental results and models related to environmental systems.
- Familiarity with the multiple linguistic and scientific aspects of environmental scientific discourse, through teaching in English and the possibility of attending Greek language courses.
- Developed skills in intercultural communication, oral presentation, teamwork and written scientific documentation, in accordance with international academic standards.
- Ability to continue studies in the second and third cycles of study, as well as access, under the conditions provided for by law, to scientific and technical professions in Greece and abroad.

The Programme provides students with the academic prerequisites for continuing their studies at postgraduate level and, subsequently, doctoral level (second and third cycle of studies, respectively) and the professional requirements for their career in fields that require documented scientific and technological knowledge. The diploma awarded is equivalent to the diplomas awarded by the five-year Greek-language Programmes of the country's universities and corresponding five-year Programmes of foreign universities.

4.3 Title awarded by the InterSchool al Postgraduate Programme

The InterSchool al X.P.P.S. of the School s of Physics (supervisor), Chemistry, Biology, Mechanical Engineering and Agriculture of the Aristotle University of Thessaloniki awards a Diploma with Integrated Master in Environmental Sciences and Engineering.

Successful completion of the Programmec orresponds to level seven (7) of the National and European Qualifications Framework, in accordance with the provisions of Article 47 of Law 4763/2020 (Government Gazette A' 254).

4.4 Study Programme Bodies

The bodies responsible for the organisation, administration and operation of the InterSchool al Foreign Language Undergraduate Programme of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture are as follows:

1. The Senate of Aristotle University of Thessaloniki
2. The Curriculum Committee of the Programme of the collaborating School s
3. The Director of the Programme of the School
4. The Assembly of the School of Physics, which is responsible for organising the Programme

More specifically:

1. **The Senate of the Institution** exercises the following powers:

- Approves the establishment of the Programme, upon recommendation of the School Assembly, as well as the amendment of the decision to establish the Programme, upon recommendation of the Curriculum Committee
- It approves the Internal Regulations of the Programme, following a recommendation by the School Assembly, as well as any amendments thereto, following a recommendation by the Curriculum Committee.
- Establishes the Curriculum Committee of the Programme and appoints the Director of the Programme, following a recommendation by the School Assembly
- Approves the abolition of the Programme, following a recommendation by the School Assembly
- Exercises any other authority relating to academic, administrative, financial and organisational matters of the Programme, which are not specifically assigned to other bodies by this document

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2. **The Curriculum Committee of the Programme** consists of seven (7) members of the Teaching and Research Staff (T.R.S.) of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture, of which at least two (2) members of the Teaching and Research Staff are Professors or Associate Professors. The Committee has a four-year term and is formed by decision of the University Senate, following a recommendation by the Assemblies of the participating School s. The members of the Committee do not receive any compensation for the performance of their administrative duties. The Curriculum Committee of the Programme exercises the following powers:

- It recommends to the Senate the amendment of the decision establishing the Programme, as well as any other matter related to its operation, for which the Senate is the competent body.
- Distributes teaching duties among the teaching staff of the Programme
- It prepares the annual budget of the Programme
- Approves all types of expenditure for the operation of the Programme
- Confirms the successful completion of studies in order to award the title of the Programme
- Exercises any other authority related to the organisation, administration and management of the Programme.

3. **The Director of the InterSchool al Undergraduate Programmein Environmental Sciences and Engineering** is appointed by the Programme Committee for a four-year term. The Director exercises, indicatively, the following responsibilities:

- Chairs the Programme Committee and convenes its meetings

- Makes recommendations to the Programme Committee and other bodies of the University on matters relating to the effective operation of the InterSchool al Undergraduate Programme in Environmental Sciences and Engineering
- Is the Scientific Director of the Programme, in accordance with Article 234 of Law 4957/2022.
- By decision of the Curriculum Committee, a Programme Coordinator may be appointed for a period equal to the term of office of the Committee. The Coordinator is a member of the teaching staff of one of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture and works closely with the Programme Director and the Committee, undertaking coordination and organisational tasks under their supervision. The Coordinator, as assigned by the Curriculum Committee, has the following responsibilities:
  - **A.** He monitors the smooth daily operation of the Programme and ensures the timely implementation of the decisions of the Committee and the Director.
  - **B.** Organises the timetable and communication with the teaching staff
  - **C.** Cooperates with the Secretariat on issues related to the operation of the Programme
  - **D.** Ensures that students are informed about the curriculum, assessment procedures, mobility, scholarship opportunities and any other academic or administrative issues
  - **E.** In coordination with the Programme Secretariat, drafts and submits regular reports to the Committee and the Director on the operation of the Programme
  - **F.** Represents the Programme in administrative and/or academic contacts with bodies within and outside the Aristotle University of Thessaloniki, following a relevant decision by the Committee or the Director
  - **G.** Exercises, upon authorisation by the Committee, any other powers assigned to the Director by these Regulations.

4.5 Categories of Candidates for the Programme

Foreign candidates who are eligible to apply are:

a) Graduates of high schools or equivalent schools based abroad. Interested parties, provided they have completed the last two (2) years of high school or equivalent school in a foreign country, must submit a high school diploma ( ) or other equivalent secondary education qualification, which entitles them to enrol in higher education institutions in the country in which they graduated.

b) Graduates of a recognised foreign school in other Member States of the European Union or third countries, **which is legally established and operates in Greece**, whose qualification entitles them to admission to higher education institutions located in the country whose curriculum is followed by the foreign school from which they graduated, provided that:

ba) they and their parents do not have Greek nationality and

bb) they have attended at least the last two (2) years of high school on a full-time basis.

c) Students of School s of Science, Environment,

Polytechnic Schools or related School s of higher education institutions abroad, who hold the certificate referred to in paragraph 1 of Article 314A of Law 4957/2022, in order to continue their studies in the corresponding semester and be awarded a degree by the Programme

Foreign schools in Greece must be recognised as legally operating by the local Secondary Education Directorate.

The authenticity of the high school diploma and the candidate's detailed grades may be verified:

1. with an Apostille stamp, provided that the country of origin of the documents is a member of the Hague Apostille Convention,
2. with a notary's certification (notarial act),
3. with certification by the Ministry of Foreign Affairs and/or the Ministry of Education of the issuing country,
4. by submitting the leaving certificate and/or detailed transcript and simultaneously informing the foreign school by the interested party. The notification is accompanied by an official email from the foreign school, enabling the Programme Secretariat to verify the authenticity of the documents in question.

Proof of English language proficiency

Candidates must demonstrate proficiency in English at least at level B2, according to the Common European Framework of Reference for Languages (CEFR), in one of the following ways:

1. English as their mother tongue.
2. Possession of a language proficiency certificate of at least level B2 from a recognised examination body, in accordance with the applicable decisions of the Supreme Council for Personnel Selection (ASEP) or the Ministry of Education on recognised language proficiency certificates.
3. Degree from a School of Foreign Languages and Literature or a School of Foreign Languages, Translation and Interpreting in Greece, or an equivalent qualification from a recognised institution abroad.
4. Bachelor's/Master's/Doctorate degree from a recognised foreign university, provided that the Programme is conducted entirely in English.
5. High school diploma, provided that the candidate has attended at least the last two (2) years of secondary education at a school where the official language of instruction is English.
6. A foreign language teaching certificate does not constitute proof of knowledge of that language, as it is necessary to submit a certified degree on the basis of which the certificate was issued, as well as an official translation of it, if required.

4.6 Number of Admissions, Selection Criteria and Required Documents

The annual number of admissions to the interSchool al X.P.P.S. Environmental Sciences and Engineering is set at a maximum of 40 undergraduate students, while the minimum number of students admitted for the Programme to operate is set at 24 undergraduate students. Upon recommendation by the Curriculum Committee and decision by the Senate, the number of admissions may be changed in each cycle of the Programme .

In the event of a tie between candidates, those who are tied with the last successful candidate are admitted to the Programme, according to their evaluation ranking.

The selection of admitted students is based on the candidates' CVs, following evaluation of their files and supporting documents by the Study Programme Committee and the candidates' participation in the selection process. This includes an online interview conducted by members of the Committee, which assesses communication and reasoning skills, academic and personal readiness, and general understanding of environmental issues. By decision of the Curriculum Committee, which is referred to in the announcement, a knowledge test may be conducted prior to the interview, in a form and on topics to be determined each time by the said decision.

Applications are submitted electronically throughout the year and until the available places are filled. Prospective students are invited to submit their applications, accompanied by the necessary supporting documents, to the Programme Secretariat in electronic form. If the Programme Committee decides to conduct an English language test, the relevant announcement will specify the examination dates and subject areas, as well as the predetermined dates for the interviews. The order of evaluation follows the chronological order of receipt of applications. The relevant announcement is published by the Secretariat of the Programme in March of each year and the corresponding required supporting documents are published on the Programme 's website.

Candidates must submit the following supporting documents:

Application form for participation in the Programme, available in electronic form on the Programme's website

Photocopy of both sides of their Police Identity Card or Passport

High school diploma (with official translation into English)

Detailed grades for all courses in the final year of high school (with official translation into English), which must show that they have successfully passed in Mathematics, Physics and Chemistry or as described in the relevant certificate (leaving certificate).

Certificate of English language proficiency at least at level B2

Motivation letter of up to five hundred (500) words, presenting the candidate's interest in environmental sciences, their motivation for studying the Programme, and their future goals

Short CV including details of studies, distinctions, volunteering or other activities related to the subject.

The above-described candidate selection criteria and supporting documents may be modified following a proposal by the Programme Committee and approval by the Senate of Aristotle University of Thessaloniki.

In addition, the following optional academic criteria are taken into account positively in the evaluation of the candidate's file:

Minimum overall high school diploma grade: 65% of the maximum score or equivalent

Possession of admission test certificates for higher education, such as:

International Baccalaureate (IB): at least 28/45,

GCE A-levels: at least BBB in 3 subjects, with particular emphasis on subjects such as Mathematics, Physics, Chemistry, Biology, etc.

Advanced Placement (AP): Grade 4 or 5 in relevant subjects such as Mathematics, Physics, Chemistry, Biology, etc.

SAT / ACT: SAT: ≥ 1000/1600 ACT: ≥ 24/36

Additional criteria are taken into account for the evaluation and selection of candidates, which are defined and may be revised upon recommendation of the Curriculum Committee and in accordance with the applicable legal framework.

The relevant original documents, if deemed necessary, may be requested from the candidate to be sent by post or submitted in person to the Programme Secretariat.

The final selection process for candidates to the Programme is carried out by the Curriculum Committee as follows: The Committee compiles a complete list of all candidates and, after the relevant checks, it rejects those who do not meet the minimum criteria set by the Law and the Programme and invites the shortlisted candidates who have submitted the required supporting documents to an interview. After completion of the process (evaluation based on the supporting documents, the interview and the knowledge test (if applicable)), the final list of successful candidates is drawn up.

The final list of successful candidates and any alternates is validated by the Study Programme Committee. The candidate selection process, the publication of the results and the enrolment of successful candidates must be completed by 30 September of each academic year, subject to the filling of vacancies arising from students who have voluntarily withdrawn from the Programme by discontinuing their studies their application. These places are filled in order of priority from the list of runners-up compiled by the Study Programme Committee during the evaluation of applications.

In addition to the above, students of foreign higher education institutions who hold a certificate of evaluation of periods of study completed at a recognised foreign higher education institution (paragraph 1 of Article 314A of Law 4957/2022, as amended by Article 128 of Law 5094/2024), in the interSchool al X.P.P.S. Environmental Sciences and Engineering of the Aristotle University of Thessaloniki, in order to continue their studies and be awarded the corresponding degree.

Students must submit their application with the required supporting documents to the Secretariat of the School of Environmental Sciences and Engineering in printed or electronic form, via the Electronic Registration Information System of the Ministry of Education, Religious Affairs and Sports.

Filling vacant positions

In the event of a student's withdrawal or expulsion, the Study Programme Committee may, by means of a specially justified decision, fill the vacant place, exceeding the number of admissions for the corresponding year, in order to ensure the smooth operation of the Programme by maintaining a stable number of students in each year of study.

The position may be filled by students from the School s of Science, Environment, Polytechnic Schools or related School s who are studying in the same or higher semester at internationally recognised higher education institutions abroad.

Candidates may be selected either from those who applied in the initial application cycle or through a separate public call.

Interested parties are requested to submit the following supporting documents:

Copy of police ID or passport,

High school diploma (original and official translation into English),

Transcript of all final year high school grades (original and official translation into English),

Detailed transcript from the school of origin (in the cases of paragraph 1 of Article 314A of Law 4957/2022),

Official Study Programme of the school of origin for academic equivalence verification (in the cases of paragraph 1 of Article 314A of Law 4957/2022),

Proof of proficiency in English in accordance with the relevant section of Article 4 of these Regulations,

Letter of interest and

Curriculum vitae.

The Committee evaluates the candidates' files and may invite them to an interview before issuing its final decision.

Appeals against the results may be submitted within five (5) working days of the notification of the results, by written request to the Secretariat of the Programme

The registration of successful candidates takes place following a relevant announcement by the Secretariat of the Programme within fifteen (15) days, with the submission of any necessary supporting documents. If a candidate does not enroll within the specified deadline by paying the relevant tuition fees, this will be considered a refusal to accept the place, which will be filled by the next candidate on the waiting list.

It should be noted that applications and the possible acceptance of candidates relate exclusively to the academic year specified in the relevant call for applications. There is no provision for provisional admission for subsequent academic semesters or years, regardless of the reason, including, but not limited to, military service or personal obligations. Candidates who wish to study in a subsequent year must reapply in the next cycle and the corresponding call for applications.

Exceptionally, the Curriculum Committee may, by reasoned decision, approve the postponement of the start of studies for one academic year, provided that there are serious reasons that are sufficiently documented by the candidate concerned. The decision on whether or not to grant the postponement is at the sole discretion of the Committee.

4.7 Duration and Conditions of Study at the Programme

The duration of studies at the Programme leading to the award of a "Diploma with Integrated Master in Environmental Sciences and Engineering" is set at **ten (10)** full-time academic **semesters**.

The Programme for each semester-long course lasts thirteen (13) weeks and consists of lectures, assignments, etc., depending on the requirements of the course and the choice of the respective instructor.

All courses are conducted **in person,** utilising the infrastructure of the collaborating School s. The use of **modern distance learning** methods is provided for in exceptional cases for the provision of teaching carried out with the participation of professors from foreign institutions or collaborating professors, in cases of force majeure or exceptional circumstances, where it is not possible to conduct the educational process in person or to use the infrastructure of the collaborating School s for the conduct of educational, research and other activities, and for the organisation of in-depth courses and tutorial exercises, beyond the compulsory teaching hours

per course. Distance learning courses are conducted using ICT, utilising the material and technical infrastructure of the collaborating School s, as well as the expertise and support of the Digital Governance Unit (M.Ps.D.) of the Aristotle University of Thessaloniki.

The minimum duration of study at the Programme for the award of the degree is ten (10) academic semesters, while the maximum duration of study is defined as this period plus four (4) academic semesters.

After completing the maximum duration of fourteen (14) semesters, and subject to the provisions in force at any given time in accordance with the applicable legislation on Higher Education Institutions, a decision to expel the student is issued by the competent body of the Programme.

Once registration has been completed and all the procedures provided for in concerning the formal commencement of studies have been completed, students who have not exceeded the maximum period of study specified in paragraph 1 may apply for a leave of absence for a period not exceeding a total of two (2) academic years. The right to suspend studies may be exercised once or in instalments for a period of at least one (1) academic semester, but the duration of the interruption may not exceed a total of two (2) years if granted in instalments. Student status is suspended during the period of interruption of studies and participation in any educational process is not permitted. The period of interruption of studies is not counted towards the maximum duration of normal studies, and upon resumption of studies, students return to normal study status with all the rights and obligations provided for in the Programme . The relevant procedure is initiated by a written request from the student concerned to the Secretariat of the Programme, accompanied by the necessary documents, as appropriate, and is evaluated by the Study Programme Committee.

For serious health reasons relating to the student or a first-degree blood relative, spouse or person with whom the student has entered into a civil partnership, an exception may be made to exceed the maximum duration of study, which shall not exceed one (1) year. This extension is approved by the Study Programme Committee, following a fully justified and adequately documented request by the student, and may not exceed two (2) consecutive academic semesters.

Part-time study is not available at the Programme

For issues regarding the re-examination of courses in outstanding courses or withdrawal for reasons such as:

a) insufficient progress by the student (as evidenced by lack of participation in the educational process: attendance, exams),

b) behaviour that violates academic ethics, and

c) the student's own request,

shall be decided by the Study Programme Committee.

4.8 Student Rights and Obligations

Within the framework of the social policy of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture, in collaboration with the Equal Access Unit of Aristotle University of Thessaloniki, full, equal and meaningful participation of all students with disabilities

or special educational needs in all educational, research and administrative activities of the School in general and the X.P.P.S. in particular.

Access to the teaching and examination areas of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture is facilitated by appropriate infrastructure, such as ramps, special bars and lifts. Students who, due to disability or learning difficulties, are unable to participate in written examinations are given the opportunity to take an oral examination either in person in an accessible room or remotely via a digital teleconferencing platform.

Students enrol and participate in the Programme under the terms and conditions set out in these Regulations. Students in the Programme have **all the rights**, benefits and facilities provided for students in the Greek-language Programme, **except for** the right to free textbooks.

Students admitted to the Programme **are required to**:

1. Attend all courses of the Study Programme, regardless of whether they are conducted in person or, exceptionally, remotely, provided that the latter has been approved by the competent bodies of the Programme. Participation in courses, exercises, examinations, public lectures and other educational activities is compulsory. Students are entitled to up to thirty per cent (30%) absence from the total teaching hours of each course per semester. In the event of a serious and justified impediment, it is possible to make up for the teaching hours, after consultation with the lecturer and with the approval of the Study Programme Committee.
2. Submit the required assignments on time, if these are specified in the course by the instructor.
3. Declare in a timely manner, at the beginning of each semester, any courses from previous years that have not been successfully completed. Declarations are submitted electronically through the electronic secretarial service and are included in the student's individual file. A mandatory declaration is required in the final year for elective courses.
4. They must purchase or borrow the necessary textbooks, as recommended by the course coordinator, if deemed necessary.
5. They must systematically follow the announcements of the Programme and the Secretariat, regularly checking their electronic mail.
6. Obtain an academic ID card through the relevant electronic service of the Ministry of Education, Religious Affairs and Sports.
7. Pay tuition fees on time before the winter and spring semesters of each academic year, in accordance with the deadlines set.
8. They must have settled any financial or other outstanding issues with the Programme and the Foundation before their graduation. Otherwise, they are not entitled to participate in the graduation ceremony.
9. In the case of a reciprocal scholarship, they must provide the required work, which may involve supporting the educational or research activities of the Programme, the library or other needs of the School.
10. Respect the decisions of the Programme 's bodies and adhere to the rules of academic ethics.

Systematic or serious violation of the obligations arising from these Regulations, without sufficient and documented justification, may result in failure of a course or, in serious cases,

exclusion from educational activities and/or expulsion of the student from the Programme, following a decision by the Programme Committee.

The same penalty may be imposed in cases of disciplinary offences that offend the academic community and the dignity of its members, such as sexist, racist, homophobic or transphobic behaviour, verbal or physical violence, inappropriate behaviour on university premises, as well as any action that is contrary to the principles of respect, equality and inclusion. Finally, the Committee reserves the right to refer relevant cases to the competent disciplinary bodies of the Institution or, if there are grounds for doing so, to forward them to the competent authorities of the legal system, in accordance with the applicable legislation.

4.9 Study Programme- Course Content - Assessment

The interSchool al Foreign Language Undergraduate Programme "Diploma with Integrated Master in Environmental Sciences and Engineering" offers a unified, full-time study Programmel asting five (5) academic years, structured into ten (10) academic semesters. The Programmeincludes a total of fifty (50) courses and a thesis, of which thirty-four (34) courses are compulsory and sixteen (16) are elective. As a general rule, five (5) courses are offered per semester.

Compulsory courses (Y). Students are required to attend and successfully pass thirty-four (34) compulsory courses, from which they will accumulate two hundred and four (204) credit units (ECTS) during their studies. Compulsory courses aim to provide students with the fundamental knowledge and methodology of the subjects that traditionally form the core of Environmental Science and Engineering around the world.

Elective Courses (E). Sixteen (16) elective courses (E) are offered, from which students must choose to attend eleven (11) courses from these in any combination they wish, so that, upon successful completion of these courses, they will earn an additional sixty-six (66) credit units (ECTS) during their studies. Elective courses (E) aim to introduce students, at their discretion, to the logic of more specific subjects. In the tenth (10th) semester, students will write a thesis, for which they will earn thirty (30) credit units (ECTS). Completion of the Programme earns three hundred (300) credit units (ECTS).

Teaching is conducted in person, with the use of digital support for educational material and communication between students and teachers via the Aristotle University of Thessaloniki e-learning platform. Attendance at courses is compulsory, and absences exceeding thirty per cent (30%) of the teaching hours of each semester are not permitted, unless there are documented reasons of force majeure.

The academic year is divided into two (2) semesters (winter and spring), each of which consists of thirteen (13) weeks of teaching, with an examination period at the end of each semester. Successful completion of studies requires the accumulation of three hundred (300) credit units (ECTS).

All courses are taught in English.

The Programme does not include a compulsory internship, but students are offered the opportunity to participate in environmental research projects.

Environmental Science and Engineering Programme

Code	CURRICULUM | Mandatory Courses	Hours/week	ECTS
	1st Semester	**[21]**	**[30]**
1.1	Physics I (Mechanics, Waves, Optics, Thermodynamics, Heat transfer)	5	6
1.2	Mathematics I (Calculus, Linear algebra, Vectors)	4	6
1.3	Introduction to Environmental Science and Engineering	4	6
1.4	Principles of General Chemistry	4	6
1.5	Principles of Biology	4	6
	2nd Semester	**[21]**	**[30]**
2.1	Physics II (ElectroMagnetism, Modern Physics)	5	6
2.2	Mathematics II (Calculus II, Multi variable)	4	6
2.3	Principles of Ecology	4	6
2.4	Programming (Python)	4	6
2.5	Fundamentals of Physical and Analytical Chemistry	4	6
	3rd Semester	**[20]**	**[30]**
3.1	Earth Sciences	4	6
3.2	Environmental Chemistry	4	6
3.3	Bioeconomy and Rural Sustainable Development	4	6
3.4	Introduction to Data Analysis - Reporting and Management Tools	4	6
3.5	Applied Mathematics with programming (Differential Equations, Numerical Analysis)	4	6
	4th Semester	**[20)**	**[30]**
4.1	Animals and Plants	4	6
4.2	Chemical and Biochemical processes and engineering	4	6
4.3	Atmospheric Physics and Climate	4	6
4.4	Irrigation Engineering and Water Management in Agriculture	4	6
4.5	Environmental Engineering and Assessment Tools	4	6

	5th Semester	**[21]**	**[30]**
5.1	Physics of Climate Change	4	6
5.2	Environmental Policy	4	6
5.3	Natural Resources Management	5	6
5.4	Industrial Process Design and Economics	4	6
5.5	Ecosystem Dynamics and Management	4	6
	6th Semester	**[20]**	**[30]**
6.1	Remote Sensing of the Environment	4	6
6.2	Climate change mitigation	4	6
6.3	Biodiversity and conservation	4	6
6.4	Circular Economy and Environmental Economics	4	6
6.5	Energy Systems and Environment	4	6
	7th Semester	**[20]**	**[30]**
7.1	Air quality	4	6
7.2	Waste Management	4	6
	Elective course	4	6
	Elective course	4	6
	Elective course	4	6
	8th Semester	**20**	**30**
8.1	Agricultural waste valorization	4	6
8.2	Energy systems in the urban environment	4	6
	Elective course	4	6
	Elective course	4	6
	Elective course	4	6
	9th Semester	**20**	**30**
	Elective course	4	6
	Elective course	4	6
	Elective course	4	6

	Elective course	4	6
	Elective course	4	6
	10th Semester		**30**
	Diploma/Master thesis		30

Table with Elective Courses (choose 11 out of 16)

E1	Atmospheric Measurement Techniques	4	6
E2	Air Quality Modeling	4	6
E3	Solar radiation modeling tools	4	6
E4	Environmental Radioactivity	4	6
E5	Earth-Space Interactions	4	6
E6	Environmental Impact Assessment Tools	4	6
E7	Environmental Data Science and Informatics	4	6
E8	Sustainable Supply Chain Management	4	6
E9	Recycling	4	6
E10	Agricultural Ecosystems	4	6
E11	Climate-resilient cities: Floods and droughts	4	6
E12	Evolutionary Biology	4	6
E13	Environmental Microbiology and Biotechnology	4	6
E14	Ecosystem modeling and assessment	4	6
E15	Natural and Man-made Disaster Management	4	6
E16	Applied Experimental Design and Predictive Modeling	4	6

Course content

A. COMPULSORY COURSES

1.1 – PHYSICS I

COURSE CONTENT: This course provides a comprehensive introduction to classical physics, covering fundamental physical quantities, vectors and kinematics. It develops Newtonian mechanics, including forces, work, energy, momentum and rotational motion, followed by the dynamics and equilibrium of rigid bodies. Basic thermodynamic principles are introduced, including temperature, heat, the laws of thermodynamics, and ideal gases. The course also covers oscillatory motion, mechanical waves, sound, and resonance. Finally, it introduces geometric and wave optics, including reflection, refraction, lenses, interference, diffraction and polarisation, for applications in environmental science and engineering.

1.2 – MATHEMATICS I

COURSE CONTENT: The course introduces fundamental topics in differential and integral calculus, vector calculus, and linear algebra. It covers complex numbers, real functions of one variable, limits, derivatives, extreme values, Taylor series, and functions expressed in parametric form. Integral calculus includes indefinite, definite, and improper integrals, with applications to real-world problems. Vector spaces and vector operations in three dimensions are presented, followed by matrix algebra and methods for solving systems of linear equations. Emphasis is placed on analytical thinking, quantitative problem solving, and the mathematical tools required for applications in environmental science and engineering.

1.3 – INTRODUCTION TO ENVIRONMENTAL SCIENCE AND ENGINEERING

COURSE CONTENT: The course introduces students to the scope and role of environmental science and engineering, focusing on the interaction between the principles of engineering and environmental systems. It covers important environmental challenges and corresponding engineering solutions, including water and wastewater treatment, sources and control of air pollution, solid and hazardous waste management, environmental impact assessment, sustainability, and resilience. The course emphasises basic environmental measurements, problem-solving approaches and the application of sustainability principles in engineering practice, preparing students for the interdisciplinary solution of environmental problems.

1.4 – PRINCIPLES OF GENERAL CHEMISTRY

COURSE CONTENT: THE course introduces fundamental principles of general chemistry with an emphasis on environmental applications. Topics include atomic structure, periodic trends, chemical bonds, molecular structure, and stoichiometry. The course examines chemical reactions, states of matter, gas laws, thermochemistry, and the chemistry of solutions, including acids, bases, buffers, and pH. The chemistry of coordination compounds and heavy metal complexes is also examined. Environmental relevance is emphasised through applications in air and water chemistry, acid rain, ocean acidification, and pollutant behaviour. Laboratory exercises develop basic techniques in the chemical laboratory, safety practices and analytical skills related to the monitoring of environmental phenomena**.**

1.5 – PRINCIPLES OF BIOLOGY

COURSE CONTENT: This course provides an introduction to fundamental biological concepts at the molecular, cellular, organismal and ecological levels. It covers the chemical basis of life, cell structure and function, metabolism and energy transfer, DNA structure and gene expression, and the principles of evolution and natural selection. The course also explores biological diversity, ecosystems, and environmental biology, emphasising the role of biology in understanding and protecting the natural environment. Scientific methodology, critical thinking and effective communication of biological knowledge are key components of the course**.**

2.1 – PHYSICS II

COURSE CONTENT: The course extends classical physics to electromagnetism and modern physics. It covers electrostatics, electric potential, conductors, and magnetic fields produced by currents, including electromagnetic induction and Maxwell's equations. Concepts such as electromagnetic waves, radiation, reflection, and polarisation are introduced. The course then explores special relativity, including Lorentz transformations and relativistic energy and momentum. The foundations of quantum mechanics are presented through basic experiments, wave-particle duality, the Schrödinger equation, and simple quantum systems. Concepts of atomic, molecular, solid state, nuclear, and particle physics are discussed, linking microscopic structure to the properties of materials and modern cosmology.

2.2 – MATHEMATICS II

COURSE CONTENT: THE course develops differential calculus and analysis for functions of several variables, with an emphasis on geometric interpretation and applications. Topics include limits, continuity equations, partial derivatives and the chain rule for multivariable functions. Vector calculus is introduced through vector fields, directional derivatives, gradient, divergence and curl. Fundamental theorems such as Green's, Stokes' and Gauss' theorems are applied using line, surface and volume integrals. The course also introduces ordinary differential equations, covering first-order equations and basic second-order linear differential equations, providing mathematical tools necessary for environmental sciences and engineering.

2.3 – PRINCIPLES OF ECOLOGY

COURSE CONTENT: This course examines the ecological principles governing organisms and their interactions with the environment, with an emphasis on ecosystem structure and function. Topics include evolution, population dynamics, ecological interactions, community structure, food webs, energy flow, and biogeochemical cycles. The course deals with the dynamics of ecosystems in space and time and ecological responses to environmental change. Laboratory and field exercises focus on population and community models, as well as measurements of productivity, abundance, and biomass in relation to abiotic factors, linking theory with applied environmental assessment.

2.4 – PROGRAMMING (PYTHON)

COURSE CONTENT: The course introduces fundamental principles of programming and computational problem solving using Python. Students learn basic syntax, control structures, functions, modules, and common data structures. Object-oriented programming concepts, file handling, and basic database operations are introduced. The course also covers introductory data processing and visualisation using standard Python libraries. Emphasis is placed on algorithmic thinking, debugging, documentation, and best programming practices. Through practical exercises and a final project, students develop practical skills for designing and implementing software solutions related to scientific and engineering applications.

2.5 – FUNDAMENTALS OF PHYSICAL AND ANALYTICAL CHEMISTRY

COURSE CONTENT: This course introduces basic principles of physical chemistry and analytical chemistry with applications in environmental systems. Topics in physical chemistry include states of matter, thermodynamics, phase equilibria, molecular structure, transport phenomena, and chemical kinetics. Students study chemical reaction mechanisms, the change in reactant-product concentration over time, and factors affecting reaction rate, supported by experimental measurements. Analytical chemistry covers qualitative and quantitative analysis, volumetric and gravimetric methods ( ), chemical equilibrium, buffer systems, pH, instrumental analysis, and method validation. Laboratory exercises develop practical skills for environmental chemical analysis and monitoring.

3.1 – EARTH SCIENCES

COURSE CONTENT: This course introduces Earth Sciences as an integrated system of the Earth, covering the interactions between the lithosphere, hydrosphere, atmosphere and biosphere. Topics include the formation of the Earth and the Solar System, geological time, minerals and rocks, plate tectonics, faults and mountain formation. Surface processes such as weathering, erosion and sedimentation are examined alongside the hydrological cycle, groundwater systems, oceans and ocean-atmosphere interactions. The course also deals with atmospheric structure, weather systems, climate, climate change and natural hazards, linking Earth Science knowledge to sustainability, resource management and social challenges.

3.2 – ENVIRONMENTAL CHEMISTRY

COURSE CONTENT: This course explores the chemical processes governing the atmosphere, hydrosphere, lithosphere and the built environment. It covers the composition of the atmosphere, the greenhouse effect, ozone depletion, sources of air pollution, dispersion, photochemical smog and acid rain. Topics in aquatic chemistry include water pollution, heavy metals, toxic organic compounds, and the fate of pollutants in surface and groundwater. Soil pollution, wastewater treatment, and solid and hazardous waste management are also examined. Particular emphasis is placed on the chemical degradation of natural stones and cultural heritage materials due to environmental stress factors, biological activity and atmospheric pollution, supported by laboratory experimental training.

3.3 – BIOECONOMY AND SUSTAINABLE RURAL DEVELOPMENT

COURSE CONTENT: This course introduces the principles of the bioeconomy and their application to sustainable rural and agricultural development. It examines biological resources, biomass use and bio-based value chains, with an emphasis on environmental sustainability and socio-economic impacts. Students explore theories and practices of rural development, entrepreneurship and innovation, supported by case studies from European and Mediterranean contexts. The course highlights strategies for sustainable rural transformation, integrating environmental protection, economic resilience and social development.

3.4 – INTRODUCTION TO DATA ANALYSIS – REPORTING AND MANAGEMENT TOOLS

COURSE CONTENT: This course provides an introduction to probability, statistics and data analysis for scientific and engineering applications. Students learn descriptive statistics, data visualisation and frequency distributions, followed by fundamental concepts of probability and probability distributions. Statistical inferences are introduced through sampling distributions, point estimation, confidence intervals, and hypothesis testing. The course also covers goodness-of-fit tests and simple linear regression for modelling relationships between variables. Emphasis is placed on statistical reasoning, data interpretation, and effective communication of results using modern analytical tools.

3.5 – APPLIED MATHEMATICS WITH PROGRAMMING

COURSE CONTENT: This course integrates applied mathematics with scientific programming to solve real-world environmental and engineering problems. It covers numerical methods for finding roots, linear and nonlinear systems, interpolation, numerical differentiation and integration, and ordinary differential equations. Fourier analysis and fast Fourier transform methods are introduced for signal processing. The course also includes probability methods, Monte Carlo simulations, numerical optimisation, and introductory concepts of machine learning such as artificial neural networks. Emphasis is placed on algorithm development, error analysis, data visualisation, and critical evaluation of numerical solutions.

4.1 – ANIMALS AND PLANTS

COURSE CONTENT: The course introduces the fundamentals of organism biology, focusing on the diversity, evolution, morphology, and functional adaptations of animals and plants. It covers basic principles of biological classification, evolutionary relationships, and biodiversity. Major groups of invertebrates, vertebrates, non-vascular plants, and vascular plants are examined, along with comparative morphology and anatomy. Functional adaptations related to respiration, circulation, transport, growth, reproduction, and environmental response are explored. Laboratory and field exercises provide practical experience in microscopy, anatomy, identification and comparative analysis of representative organisms.

4.2 – CHEMICAL AND BIOCHEMICAL PROCESSES AND ENGINEERING

COURSE CONTENT: This course introduces fundamental principles of chemical and biochemical engineering related to environmental and industrial processes. Topics include mass and energy balances, thermodynamics, and reaction kinetics for chemical and biochemical systems. Students study the modelling, analysis and design of chemical reactors and bioreactors, including batch and continuous systems, as well as enzyme- . Basic concepts of heat, mass and momentum transfer are presented, along with experimental methods for process characterisation. Emphasis is placed on environmental impact, safety, sustainability and effective problem solving in engineering.

4.3 – ATMOSPHERIC PHYSICS AND CLIMATE

COURSE CONTENT: This course examines the physical and physicochemical processes governing the atmosphere and climate system. Topics include atmospheric composition, thermodynamics, hydrostatic equilibrium, radiation laws, radiation transfer, and the greenhouse effect. Atmospheric dynamics are introduced through equations of motion, geostrophic and thermal winds, waves, and general circulation. The course also examines atmospheric pollution on urban, regional and large-scale urban.

4.4 – IRRIGATION ENGINEERING AND WATER MANAGEMENT IN AGRICULTURE

COURSE CONTENT: The course focuses on the sustainable management of water resources in agriculture. It covers methods for estimating crop water requirements, calculating irrigation needs and developing optimised irrigation planning strategies. Students study the design of irrigation systems and collective irrigation networks, the hydrology of groundwater and surface water, and the quality of irrigation water. The course incorporates drainage system design, smart farming technologies, precision irrigation, remote sensing, and policy frameworks that support climate-resilient and sustainable water management in agriculture.

4.5 – ENVIRONMENTAL ENGINEERING AND ASSESSMENT TOOLS

COURSE CONTENT: THE course introduces the principles and applications of Environmental Impact Assessment (EIA) and environmental management systems in the context of sustainable development. It examines environmental legislation, project-environment interactions and key

elements of Environmental Impact Assessments. Students explore environmental management and monitoring tools, including ISO 14001 and ISO 50001 standards, with an emphasis on environmental and energy management, waste management, environmental risks, and energy-environment interactions. Case studies are used to illustrate best practices in environmental performance assessment and decision-making.

5.1 – PHYSICS OF CLIMATE CHANGE

COURSE CONTENT: The course provides an in-depth understanding of climate change, focusing on the composition of the atmosphere, radiation and climate change mechanisms. Topics include multiple spatial and temporal scales of atmospheric processes, global biogeochemical cycles, ozone chemistry and dynamics, aerosol properties and radiation phenomena, and solar and terrestrial radiation transport. The course examines photochemical processes, energy balance, the greenhouse effect, and radiation from natural and anthropogenic sources. Large-scale atmospheric and oceanic interactions, climate variability, teleconnections, and long-term climate change are analysed using observational and modelling perspectives. Emphasis is placed on the interpretation of quantitative data, scientific writing and independent research skills.

5.2 – ENVIRONMENTAL POLICY

COURSE CONTENT: The course introduces the fundamentals of environmental policy and governance, focusing on how environmental challenges are addressed through regulatory frameworks and strategic planning. Students examine governance structures, the policy cycle and key policy instruments, including regulations, market-based tools and voluntary approaches. Emphasis is placed on European environmental and agri-environmental policies, including the Common Agricultural Policy, the 'Farm to Fork' Strategy, the EU Biodiversity Strategy and the European Climate Law. Through case studies and applied policy analysis, students learn to evaluate policy effectiveness and produce evidence-based policy briefs and recommendations.

5.3 – NATURAL RESOURCE MANAGEMENT

COURSE CONTENT: This course examines principles and practices of sustainable natural resource management. Topics include integrated water resource management, irrigation efficiency, optimisation of surface and groundwater systems, and interactions between land use and climate change. The course also examines soil quality, resilience, fertility, nutrient cycling, and the role of soil organic matter. Terms such as biomass and bioconversion processes for energy production, such as biogas and bioethanol, are introduced. Emphasis is placed on the application of quantitative methods and interdisciplinary approaches to support sustainable development and environmental decision-making.

5.4 – INDUSTRIAL PROCESS DESIGN AND ECONOMICS

COURSE CONTENT: THE course focuses on techno-economic analysis and the design of chemical and environmental engineering processes, with particular emphasis on wastewater treatment

systems. Students conduct comprehensive feasibility studies, develop process flow diagrams, and apply mass and energy balances. The course covers preliminary equipment sizing, cost estimation, economic evaluation, and profitability assessment. Specialised software tools are used for process design and optimisation. Additional topics include bottleneck analysis, scaling principles, and environmental performance evaluation to ensure regulatory compliance and sustainable operation.

5.5 – ECOSYSTEM DYNAMICS AND MANAGEMENT

COURSE CONTENT: This course explores the structure, function and dynamics of ecosystems in terrestrial, freshwater and marine environments. Topics include trophic levels, food webs, energy flow, ecosystem resilience, and sustainability in relation to biotic and abiotic factors. Anthropogenic pressures such as land use change, overexploitation of natural resources, pollution, and climate change are analysed. Laboratory and computational exercises introduce trophic indicators, spatial planning and ecosystem modelling, while field exercises provide practical experience in ecosystem assessment and management. The course emphasises interdisciplinary approaches to ecosystem management and policy-related decision-making.

6.1 – ENVIRONMENTAL REMOTE SENSING

COURSE CONTENT: This course introduces the physical principles and environmental applications of satellite remote sensing. Topics include solar and terrestrial radiation, radiometric quantities, radiation emission and propagation through the atmosphere, and radiation transfer theory. Students learn the basic principles of remote sensing, spectral signatures, atmospheric windows, and satellite orbits. The course covers Earth observation systems and sensor technologies, including passive and active sensors, multispectral, hyperspectral, thermal, and microwave instruments. Emphasis is placed on linking radiation transfer theory to environmental phenomena and on accessing and analysing satellite data using information technology.

6.2 – CLIMATE CHANGE MITIGATION

COURSE CONTENT: This course examines scientific, technological and policy-based approaches to climate change mitigation. Topics include greenhouse gas emissions accounting, energy efficiency strategies, land use mitigation for agriculture and forestry, soil and water mitigation practices, and carbon farming. Sector-specific mitigation pathways for cropping systems, livestock, urban environments, and food systems are analysed. Students explore mitigation scenarios, climate models, carbon markets and offset Programme s, and evaluate policy instruments such as carbon pricing and international agreements. The course emphasises data interpretation, integrated mitigation planning, and communication of mitigation strategies through projects and case studies.

6.3 – BIODIVERSITY AND CONSERVATION

COURSE CONTENT: This course explores biodiversity patterns, drivers of biodiversity loss, and conservation strategies in the Anthropocene. Topics include measuring and assessing biodiversity, the impacts of human land use, climate change, pollution, invasive species, and species extinction. Students examine trade-offs between conservation and human development, the role of biodiversity data and museum collections, and emerging conservation pathways. The course emphasises critical reading of scientific literature, evaluation of conservation approaches, and application of scientific knowledge to biodiversity protection and management.

6.4 – CIRCULAR ECONOMY AND ENVIRONMENTAL ECONOMICS

COURSE CONTENT: This course provides an interdisciplinary introduction to environmental economics and the principles of the circular economy. Students examine market trends, externalities, environmental valuation, and transitions from linear to circular economic models. Topics include circular strategies such as reuse, recycling, nutrient recovery and energy efficiency, as well as sustainability policies, SDGs, ESG criteria and key EU directives. Life Cycle Assessment (LCA) and sustainability management tools are introduced through real-life case studies, with a focus on agriculture, agri-food systems and low-carbon transitions in European and Mediterranean contexts.

6.5 – ENERGY SYSTEMS AND THE ENVIRONMENT

COURSE CONTENT The course examines the main energy systems and their environmental impacts, integrating perspectives from engineering, environmental science and policy. Students study conventional energy systems, renewable energy technologies, and emerging energy systems, examining their performance, sustainability, and environmental impacts.The course examines energy policy, carbon reduction strategies, global energy trends, and the life cycle assessment (LCA) of energy systems. Real-world case studies are used to analyse energy transitions and support evidence-based assessment of sustainable energy pathways.

7.1 – AIR QUALITY

COURSE CONTENT: This course provides an in-depth examination of the physical and chemical processes that determine air quality. Topics include the natural and polluted atmosphere, the spatial and temporal scales of air pollution, and the role of environmental meteorology. Students study the structure and dynamics of the atmospheric boundary layer, turbulence, and pollutant dispersion using similarity theory. The course also covers atmospheric chemistry, including chemical kinetics, photochemical reactions, pollutant sources and sinks, tropospheric ozone, nitrogen oxides, hydrocarbons, sulphur dioxide oxidation and acid deposition. Emphasis is placed on understanding pollutant pathways from emission to removal and on the quantitative analysis of air quality processes.

7.2 – WASTE MANAGEMENT

COURSE CONTENT: The course introduces the principles and practices of integrated waste management in the context of the circular economy. Students examine waste generation, classification and characterisation, as well as collection, transport and storage systems. Treatment options such as recycling, composting, anaerobic digestion, thermal treatment and landfill are analysed in terms of environmental performance, energy recovery and cost. Special attention is given to hazardous, sanitary, construction, electronic, agricultural and marine waste. The course also examines the impact on the environment and public health, waste management policy and governance, and the use of decision support tools such as life cycle assessment, carbon footprint and material flow analysis.

8.1 – UTILISATION OF AGRICULTURAL WASTE

COURSE CONTENT: The course focuses on the sustainable management and utilisation of agricultural waste in the context of the circular bioeconomy. Topics include classification and characterisation of agricultural residues, waste generation and disposal, logistics collection and safe storage systems. Students study physical, chemical, biological and thermochemical treatment processes, including composting, anaerobic digestion, biogas production, pyrolysis and gasification. The course also covers the production of biofertilisers, biofuels, bio-based materials and high-value bioproducts. Integrated waste management planning, environmental assessment and real-life case studies are emphasised through project-based learning.

8.2 – ENERGY SYSTEMS IN THE URBAN ENVIRONMENT

COURSE CONTENT: This course examines the transition of cities towards sustainable, low-carbon energy systems. Students explore energy demand in buildings, transport and urban infrastructure, as well as renewable energy technologies suitable for urban environments. The course integrates urban planning, energy policy and environmental assessment, with an emphasis on climate-resilient infrastructure and resource efficiency. Students evaluate buildings using holistic sustainability certification systems such as LEED and BREEAM and analyse real-world urban energy case studies. The course provides analytical and practical tools for designing integrated, resilient solutions for buildings and cities.

B. ELECTIVE COURSES

E1 – Atmospheric Measurement Techniques

Course content: This course introduces cutting-edge techniques for atmospheric measurements and environmental monitoring. Topics include remote sensing of aerosols and ozone using lidar systems, calibration of solar photometers and spectroradiometers, noise characterisation, and optical depth measurements of aerosols. Students are trained in experimental data acquisition,

algorithm implementation, data analysis, and scientific presentation, with an emphasis on atmospheric pollution measurements and the interpretation of observational data sets.

E2 – Air Quality Modelling

Course content: This course focuses on the theoretical foundations and practical applications of air quality and atmospheric dispersion models. Students study the physical and chemical mechanisms governing pollutant transport and transformation, the mathematical formulation of dispersion equations, and the assumptions used in model development. Eulerian and Lagrangian photochemical models are introduced, along with trajectory analysis. Practical training is provided using widely applied models such as FLEXPART, CALINE, and HYSPLIT for simulations of past and future air pollution episodes.

E3 – Solar Radiation Modelling Tools

Course content: This course familiarises students with radiation transfer modelling in atmospheric physics using the freely available libRadtran model. Students learn how to install the model, select input parameters, and obtain the necessary atmospheric and surface data. Through guided exercises, they explore the sensitivity of the model outputs to the input assumptions and the accuracy of the solver. Applications include studies of solar and terrestrial radiation, atmospheric processes, and interpretation of radiation and remote sensing measurements for environmental analysis.

E4 – Environmental Radioactivity

Course content: This course provides an introduction to environmental radioactivity and the behaviour of radioactive nuclides in natural and anthropogenic systems. Topics include cosmogenic and terrestrial radionuclides, atmospheric dispersion, radioactivity in marine and fresh waters, soils, plants and drinking water. Anthropogenic sources such as uranium mining, radioactive waste and nuclear accidents are examined, along with cloud processes and radiation dosimetry. Environmental transport mechanisms and impacts on human health are emphasised.

E5 – Earth-Space Interactions

Course content: This course examines the interactions between Earth, the Sun and the wider solar system as driving forces of environmental and climate change. Topics include planetary formation and habitability, celestial mechanics, Earth-Moon interactions, orbital perturbations, and long-term climate stability. Students explore solar activity, the heliosphere, space weather, Earth's magnetosphere, and their environmental impacts. The course also covers artificial satellites, space exploration, Earth observation missions, and space debris challenges, linking fundamental physics to environmental monitoring applications.

E6 – Environmental Impact Assessment Tools

Course content: This course introduces methodologies, legislation and practical tools used in Environmental Impact Assessment (EIA). Students study EU and national EIA frameworks, the structure of EIA reports and assessment procedures for projects, buildings and industrial systems. Key environmental management and certification systems are presented, including ISO 14001, EMAS, ISO 50001, Ecolabel, LEED and BREEAM. Emphasis is placed on carbon footprint reduction strategies, circular economy principles, and proposing interventions to improve environmental, energy, and economic performance.

E7 – Environmental Data Science and Informatics

Course content: This course equips students with data science and informatics tools for environmental analysis and decision-making. Topics include environmental data systems, data pre-processing, statistical analysis, time series methods, and quality assurance. , students apply machine learning techniques to environmental forecasting, develop data pipelines, and design monitoring systems using sensor networks and IoT technologies. Citizen science, participatory monitoring, and environmental information services are also covered through project-based learning focused on real-world environmental challenges.

E8 – Sustainable Supply Chain Management

Course content: The course introduces principles and practices of sustainable supply chain management in the context of the circular economy. Students analyse procurement, production, logistics and distribution systems using sustainability criteria, carbon footprint analysis and resource efficiency metrics. Topics include supply chain mapping, stakeholder collaboration, digital traceability, green logistics, sustainable packaging, and corporate sustainability reporting aligned with ISO 14001, GRI, and UN SDGs. Case studies highlight mechanical and operational strategies for reducing emissions, waste, and social impacts in global supply chains.

E9 – Recycling

Course content This course provides a comprehensive introduction to recycling in the context of sustainable development and the circular economy. Students study the waste hierarchy, life cycle thinking and recycling methods for large material streams, with a strong focus on polymer recycling. Topics include the characterisation and sorting of plastic waste, mechanical, solvent-based, chemical and thermochemical recycling, and the recovery of value-added products. Case studies cover the recycling of PET bottles, plastic packaging, Waste Electrical and Electronic Equipment, end-of-life vehicles, tyres, multilayer films, composites, paper, metals and glass. Contemporary issues such as microplastics, single-use plastics and hazardous additives are addressed, supplemented by field visits to recycling facilities and laboratory or field research.

E10 – Agricultural Ecosystems

Course content This course examines the structure and function of agricultural ecosystems from an ecological perspective. Topics include soil as an ecosystem, plant biology in agroecosystems,

population ecology, species interactions, the water and nutrient cycles, energy flow, pest ecology, and biodiversity in agricultural systems. The environmental impacts of agricultural practices are analysed and conventional, organic, and regenerative systems are compared. Emphasis is placed on agroforestry, climate interactions, ecosystem services and sustainable agroecosystem design, with case studies and student presentations supporting ecosystem-based agricultural management.

E11 – Climate-resilient cities: Floods and droughts

Course content The course focuses on the impacts of climate change in urban environments, with an emphasis on floods and droughts as significant climate-related risks. Students explore how urban infrastructure affects vulnerability and how climate change affects people, assets and services. Topics include meteorological hazards, flood and drought modelling, risk assessment, and future climate projections. Adaptation and mitigation strategies are examined, with a particular focus on nature-based solutions and resilience planning to reduce urban climate risks.

E12 – Evolutionary Biology

Course content: This course presents evolution as the unifying framework of modern biology. Topics include the history of evolutionary thought, mechanisms of evolutionary change, mutation, natural and sexual selection, genetic drift, gene flow, and population genetics. Students study phylogeny, homology, neutral theory, evolution in the genomic era, adaptation, and the evolution of behaviour. Emphasis is placed on creating and testing evolutionary hypotheses, interpreting evidence from fossils and comparative data, and clearly communicating evolutionary concepts in biological and environmental contexts.

E13 – Environmental Microbiology and Biotechnology

Course content: This course explores the role of microorganisms in terrestrial and aquatic ecosystems and their applications in environmental biotechnology. Topics include microbial structure, metabolism, growth and diversity, aquatic and terrestrial microbiology, and microbial biotechnology techniques. Applications focus on bioremediation, waste management, pollutant detoxification, treatment of xenobiotics and resistant compounds, and genetic engineering approaches. The course links microbial processes to environmental protection, agriculture, and sustainable resource management.

E14 – Ecosystem Modelling and Assessment

Course content: The course introduces principles and tools for modelling marine and terrestrial ecosystems and assessing the status of these ecosystems under anthropogenic pressures. Students learn model development, parameterisation, validation and scenario analysis, as well as ecosystem indicators ( ) and assessment frameworks related to sustainability, ecosystem health and climate impacts. Practical training includes the use of Ecopath with Ecosim (EwE)

software for food web modelling, time simulations, spatial dynamics and policy-relevant ecosystem assessment, supporting evidence-based environmental decision-making.

E15 – Natural and Man-made Disaster Management

Course content: The course provides a comprehensive overview of natural and technological disasters, with an emphasis on hazard identification, risk assessment and vulnerability analysis. Students examine strategies for disaster prevention, preparedness, response, and recovery within national and international contexts. Practical components include field environmental sampling in disaster-affected areas and laboratory analysis of environmental samples to detect contamination and assess ecosystem damage. Emphasis is placed on interpreting assessment results to support recovery planning, public health protection, and post-disaster recovery**.**

E16 – Applied Experimental Design and Predictive Modelling

Course content: The course introduces experimental design, predictive modelling and forecasting for data-driven decision making. Topics include principles of experimental design (randomisation, exclusion, factorial designs), regression modelling, model diagnostics, and goodness-of-fit evaluation. Students learn forecasting techniques such as time series decomposition and ARIMA models and apply statistical software to real data sets. Emphasis is placed on interpreting results, communicating quantitative findings, and supporting informed environmental and engineering decisions.

Teaching - Knowledge assessment - Student evaluation

The Programme is taught with the physical presence of teachers and students in the classrooms. By decision of the Curriculum Committee, a weekly online education zone may be established, common to all Programme students.P.P.S. students, which will be used for tutorials and/or seminars and, exceptionally, for make-up classes in cases where classrooms are not available for this purpose on other days of the week. In exceptional cases of emergency circumstances that prevent face-to-face teaching, the Director of the Programmemay, by specially justified decision, online teaching may be conducted for a limited period of time, which is necessary in order to deal with the exceptional circumstances that justify the transition to distance learning in the short term.

Similarly, examinations are conducted with the physical presence of students and examiners in the School's classrooms, whether they are written or oral. As an exception, only oral examinations may be conducted remotely, provided that the identity of the examinees is verified and best practices for conducting oral examinations via the internet are followed in order to ensure their integrity. Remote written examinations are not permitted, except in the cases and under the conditions provided for by applicable law. By decision of the Curriculum Committee, written examinations may be conducted using tablets, laptops or PCs, provided that they are conducted in the presence and under the supervision of the examinees in the School's classrooms, under the guarantees of a comprehensive plan for the conduct of these examinations, which will ensure their integrity and the equal treatment of examinees.

Attendance at lectures, tutorials and any other organised educational activity of the Foreign Language Undergraduate Programmeis compulsory. Students may be absent for up to thirty per cent (30%) of the total teaching hours of each course per semester, while deviations from this limit are allowed only in exceptional cases, upon approval by the ProgrammeCommittee. Regular attendance at lectures, tutorials and examinations is considered an essential element of academic excellence for the successful completion of the Programme .

Before the start of each semester, the Secretariat of the Programme prepares and publishes the detailed teaching schedule for the semester, ensuring that, as far as possible, compulsory and elective courses (a) are distributed evenly throughout the week, (b) there is no long time gap between courses on the same day on which they happen to be taught , and (c) they do not coincide with the teaching of other Y or E courses of the same semester.

At the end of the tenth (10th) week of teaching each semester, students are invited to participate in an anonymous online evaluation of the courses taught to them, as well as of the teachers, for the purpose of improving their level of studies.

Student evaluation

1. Students of the School's Programme are assessed by written or oral examinations, which are held at the end of the semester for the courses taught in the same semester. All courses are examined during the repeat examination period in September. Participation in an oral examination excludes the student from participating in the written examinations for the same course during the same examination period.

2. The lecturer must submit two (2) grades at the end of each examination period: one corresponding to the student's performance during the course (continuous assessment mark) and one corresponding to the student's performance in the final written or oral examination (final examination mark). The final grade is calculated as twenty-five per cent (25%) of the continuous assessment grade and seventy-five per cent (75%) of the final examination grade.

3. Lecturers take special care for the oral examination of students with dyslexia, serious mobility problems or visual impairments that substantially hinder their participation in written examinations, as proven prior to their admission to the Programme, in accordance with the procedure laid down in the provisions in force.

4. The ProgrammeS ecretariat publishes the detailed schedule of written examinations for each upcoming examination period in a timely manner. The teaching staff, assisted by the Secretariat of the Programme, shall ensure that there are a sufficient number of invigilators from among doctoral candidates and postgraduate students. Lecturers must be present at all times in the examination rooms, supervise the smooth and impartial conduct of the examinations, and take the necessary measures for these purposes.

5. Before taking the exam, each examinee must check that their name is listed in the Secretariat's computerised list of those eligible to take the exam for that particular course. Candidates are prohibited from copying or falsifying in any other way the results of the examination process, as well as from bringing books, aids, notes or electronic means of communication into the examination rooms. Any attempt to use electronic means of communication during the examination process constitutes a particularly aggravating circumstance to the detriment of the examinee ( ). For this purpose, they are allowed to use the last page of their written paper. In the event of a violation of these terms, the written paper will be marked as zero as an internal measure to ensure the integrity of the examination process, without prejudice to any other penalty that may be imposed under the provisions in force.

6. The designated invigilators are required to check the academic ID card proving the student's status and certifying the identity of the examinee, verify that the student's full name and special registration number are written on their paper, initial each paper, supervise the examinees so that they do not copy or talk to each other, constantly monitor the entrances and exits of the room, especially at the end of the examination time and when the papers are handed

in, and ensure that no examinee leaves or departs from the examination room before thirty minutes (30') have elapsed since the distribution of the examination papers.

7. The written examination for each subject lasts a maximum of two (2) hours for all subjects.

8. After the papers have been handed in, the invigilators count the papers they have received and one of them certifies the number of papers received. The papers are then handed over to the lecturer, who counts them and confirms the number of papers received by signing in front of the invigilator.

9. Lecturers are required to submit the results of the final written written and/or oral, in a single grade list for each course, no later than twenty-five (25) days after the date of each examination. In the case of oral examinations, the instructor is not allowed to announce the results of the examination to the students who took it, but only collectively for all those who took it, in writing and/or orally, at the end.

10. In all X.P.P.S. courses, the result of the student's knowledge assessment is expressed numerically with grades from zero (0) to ten (10). In the grade book, failure is marked with grades from zero (0) to four (4) and success with grades from five (5) to ten (10).

11. The publication of examination results in any way that reveals the names and special registration numbers (AEM) of the examinees is not permitted.

12. It is not permitted to transfer a student's grade from one examination period to the next. Clauses that may be included in the examinees' written work and concern their desire to be expelled if they are assessed with a grade lower than the desired one, or references to how many courses one owes in order to obtain a degree, are not permitted and, if included, they will not be taken into account.

13. The answers to the written exam questions, both practical and theoretical, are discussed after the results are released by the lecturers with the interested students at specially designated times, and examinees have the right to see their written exam - for the current examination period - and request explanations on how it was assessed. Lecturers are required to post the suggested solutions to the practical questions they set in the examinations on their course's e-learning platform.

14. For the calculation of the degree grade and the composition of the courses listed on it, the thirty-four (34) compulsory courses required to accumulate two hundred and four (204) credit units (ECTS) from Compulsory Courses (C) and the eleven (11) Elective Courses (E) required to accumulate sixty-six (66) credit units (ECTS), plus the thesis, which will earn thirty (30) credit units (ECTS), for a total of three hundred (300) credit units (ECTS).

Scholarships

Within the framework of the interSchool al Foreign Language Undergraduate Programme in Environmental Sciences and Engineering of the School s of Physics, Chemistry, Biology,

Mechanical Engineering and Agriculture, Aristotle University of Thessaloniki, provides for the possibility of awarding scholarships to students, based on academic and objective criteria and following a decision by the Study ProgrammeC ommittee. Indicatively:

- Up to three (3) scholarships per academic year may be awarded to students who distinguish themselves during the selection process, based on an overall assessment of their qualifications (including the results of the oral interview), and ranked among the top admitted students of the cycle. These scholarships consist of full exemption from tuition fees for the first academic year.
- A scholarship of excellence with exemption from fifty per cent (50%) of the tuition fees for the following academic year may be awarded to the student who achieves the highest average grade in all courses each year, provided that they have successfully completed all courses within the prescribed time. In the event of a tie, the scholarship may be awarded to more than one student.
- The Curriculum Committee may award prizes for excellence to students who demonstrate outstanding performance during their studies. The awards may be accompanied by an honorary distinction or a cash prize. In particular, at the end of each academic year, an award may be given to the top first-year student, based on their overall performance in all courses and their consistency in attendance. Similarly, an award for the best graduate may be given to the student with the highest academic performance during the course of study.
- The Curriculum Committee may, upon justified decision, grant full or partial exemption from tuition fees for students from war zones or under international or subsidiary protection, based on documented social and humanitarian criteria.
- In exceptional cases, a social scholarship may be awarded to candidates or students of the Programme who face serious financial difficulties, health issues, loss of a parent, or are living in a state of emergency or long-term crisis, following examination of the relevant application and accompanying supporting documents by the Programme Committee.
- There is also the possibility of granting reciprocal scholarships, which consist of exemption from paying part of the tuition fees, with the student being required to offer specific work in support of the Programme. This work may include library assistance, administrative support, assistance with research projects or other activities to be determined by the Study Programme Committee, in consultation with the Secretariat and the members of the Academic Staff. The duration and content of the reciprocal scholarship are clearly specified at the time of award, and failure to comply with the obligations may result in its revocation.

The awarding of the above-mentioned scholarships and/or excellence awards, the specific conditions for awarding them, the obligations and rights of the scholarship recipients are determined by decision of the Programme Committee and are at its sole discretion, based on the financial capabilities of the Programme and its cash reserves.

Teaching Staff of the InterSchool al Foreign Language Undergraduate Programme

The teaching work of the InterSchool al Foreign Language Undergraduate Programme is assigned by decision of the Curriculum Committee to lecturers whose field of expertise is relevant to the teaching work assigned to them. By decision of the Curriculum Committee, the teaching of the courses of the Programme for the following academic year is assigned on the basis of the teaching staff that will be available during that year, taking into account the retirements at the end of the current year and the licences for the following year. In particular, the following may be employed as teaching staff of the X.P.P.S.:

1. members of the Teaching and Research Staff (Δ.Ε.Π.) of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture or other School s of the Aristotle University of Thessaloniki or other Higher Education Institutions (HEIs) with additional employment beyond their legal obligations as defined in Article 155 of Law 4957/2022,

2. Emeritus Professors or retired members of the teaching staff of the School s of Physics (supervising), Chemistry, Biology, Mechanical Engineering and Agriculture or other School s of the Aristotle University of Thessaloniki or other Higher Education Institutions,

3. members of Special Teaching Staff (EEP), Laboratory Teaching Staff (E.D.I.P.) and Special Technical Laboratory Staff (E.T.E.P.) of Higher Education Institutions, who hold a doctoral degree and have teaching experience, as well as sufficient scientific, writing or research activity,

4. appointed lecturers,

5. visiting professors and visiting researchers,

6. contract researchers,

7. researchers and specialist operational scientists at the research centres referred to in Article 13A of Law 4310/2014 (A' 258) or other research organisations in Greece and abroad, who hold a doctoral degree and have teaching experience and sufficient scientific, writing or research activity,

8. postdoctoral researchers and young scientists, holders of at least a doctoral degree, who have specialised knowledge or relevant experience in the subject area of the X.P.P.S.,

9. collaborating professors.

The teaching duties of the interSchool al X.P.P.S. are assigned by decision of the Curriculum Committee, following a recommendation by the Director, who collaborates for this purpose with the chairs of the participating School s. The decision of the Curriculum Committee ensures that the teaching and educational activities in general assigned to faculty members of the participating School s within the framework of the interSchool al X.P.P.S. in no way affect their other educational, research and administrative obligations towards the School s of the Greek-language P.P.S. The decision of the Curriculum Committee on the assignment of teaching duties is issued no later than the beginning of each academic semester and must include the teachers of the InterSchool al Postgraduate Programme, the courses, educational activities and total teaching hours assigned to each lecturer in accordance with the curriculum for each academic

semester, as well as the total cost of their remuneration, if remuneration is provided for, and is communicated without delay to the Special Research Fund Account (ELKE) of the Aristotle University of Thessaloniki. All categories of teaching staff are remunerated exclusively from the resources of the Programme, provided that their remuneration is provided for. The amount of remuneration per category of teaching staff is determined by decision of the Curriculum Committee and in accordance with the rules governing the E.L.K.E. A.U.Th. regarding contracts for the remuneration of the Institution's staff, external collaborators, the performance of additional teaching work and the total number of teaching hours assigned in each case.

The obligations of teaching staff include, among other things, the description of the course or lectures, the method of examination of the course, as well as the communication with students necessary for the academic purposes of the Programme .

Teachers are obliged to adhere to the weekly teaching schedule in accordance with the course timetable, as drawn up and determined by the Committee, and to follow the examination and assessment conditions as described in these Regulations.

The contact details and office hours of the teaching staff are available on the XPS website (https://envsen.auth.gr).

List of teaching staff (full-time teaching staff, part-time teaching staff, honorary members of the Aristotle University of Thessaloniki)

Full name	School	Position
Gioulatos D.	Biology	Professor
Kallimanis	Biology	Professor
Michaloudi E.	Biology	Professor
Papathodorou E.	Biology	Professor
Sagonas K.	Biology	Professor
Stergiou K.	Biology	Professor
Tsikliras A.	Biology	Professor
Tsiripidis I.	Biology	Professor
Hatzipetros A.	Geology	Professor
Georgiou P.	Agriculture	Professor
Golia E.	Agriculture	Professor
Dordas H.	Agriculture	Professor
Karpouzos D.	Agriculture	Professor
Kotsopoulos Th.	Agriculture	Professor
Mamolos A.	Agriculture	Professor
Molasiotis A.	Agriculture	Professor

Nastis S.	Agriculture	Professor
Natos D.	Agriculture	Professor
Partalidou M	Agriculture	Professor
Sergaki P.	Agriculture	Professor
Ypsilantis I.	Agriculture	Professor
Fotidis I.	Agriculture	Professor
Charatsari H.	Agriculture	Professor
Vlachokostas H.	Mechanical Engineering	Professor
Vlachos D.	Mechanical Engineering	Professor
Georgiadis G.	Mechanical Engineering	Professor
Giama E.	Mechanical Engineering	Professor
Diamantis G.	Mechanical Engineering	Professor
Karatzas K.	Mechanical Engineering	Professor
Kyriaki E.	Mechanical Engineering	Teaching Staff
Michaïlidou A.	Mechanical Engineering	Professor
Behtis D.	Mechanical Engineering	Professor
Panagiotidou S.	Mechanical Engineering	Professor
Panaras G.	Mechanical Engineering	Professor
Papadopoulos A.	Mechanical Engineering	Professor
Theodosiou N.	Civil Engineering	Professor
Petala M.	Civil Engineering	Teaching Staff
Garané A.	Physics	Teaching Staff
Ioannidou A.	Physics	Professor
Kiosseoglou I.	Physics	Professor
Kordas K.	Physics	Professor
Melas D.	Physics	Emeritus
Meleti C.	Physics	Professor
Bais A.	Physics	Emeritus
Balis D.	Physics	Professor
Papadopoulos P.	Physics	Professor
Sarafidis C.	Physics	Professor
Stergioulas N.	Physics	Professor
Topaloglou C.	Physics	Teaching Staff
Tourpali K.	Physics	Professor
Tsiganis K.	Physics	Professor
Angaridis P.	Chemistry	Professor
Achilias D.	Chemistry	Professor
Dendrinou-Samara A.	Chemistry	Professor
Kalogouri N.	Chemistry	Professor
Karapantsios Th.	Chemistry	Professor

Katsogiannis I.	Chemistry	Professor
Kostoglou M.	Chemistry	Professor
Karapanagiotis I.	Chemistry	Professor
Binas V.	Chemistry	Professor
Noli F.	Chemistry	Professor
Prochaska C.	Chemistry	Teaching Staff
Fotopoulos A.	Chemistry	Teaching Staff
Psomas G.	Chemistry	Professor

Tuition Fees of the DXPPS

For enrolment in the X.P.P.S., a total tuition fee of thirty thousand (30,000) euros is payable, six thousand (6,000) euros per academic year. The amount of tuition fees is set and amended by decision of the Senate of the Aristotle University of Thessaloniki, while the method and time of payment may be adjusted by decision of the Study Programme Committee.

Tuition fees are paid by the students themselves (or by a third party on their behalf) into a bank account held by the Special Account for Research Grants (ELKE) of the Aristotle University of Thessaloniki. AUTH, in ten (10) equal instalments of three thousand (€3,000): The first instalment is paid during the student's enrolment in the Programme and the subsequent instalments are paid before the start of each semester. After payment of the tuition fees, the corresponding receipt is issued and the student is notified electronically.

When submitting their application, candidates must pay the amount of one hundred and fifty (150) euros as a file management fee. The application is not considered complete and is not forwarded for evaluation if the corresponding amount has not been paid and the relevant proof of transaction has not been sent by the candidate.

Payment is made electronically, according to the instructions sent with the confirmation of receipt of the application. The amount is deposited with the E.L.K.E. A.P.Th. and is not refundable in case of rejection or withdrawal of the application.

If accepted into the Programme, candidates are required to pay an additional €1,000 as a deposit for tuition fees. This amount is also paid to the ELKE-AUTH and is non-refundable in case of withdrawal from the Programme .

Administrative Support - Material and Technical Infrastructure

The International Student Support Unit is responsible for supporting international students of the Programme, based on Article 212 of Law 4957/2022. The mission of the International Student Support Unit is to support international students enrolled in first, second and third cycle

Programmes at the University. In particular, the responsibilities of the International Student Support Unit are:

1. Supporting foreign students in enrolling in foreign-language study Programmes at Aristotle University of Thessaloniki.

2. Supporting foreign students in obtaining entry visas and residence permits in Greece for study purposes and communicating with the relevant public authorities on these matters

3. Supporting the process of concluding contracts for the rapid issuance of residence permits for study purposes, in accordance with Article 37 of Law 4251/2014 (A' 80).

4. Supporting students during their settlement in Greece

5. Cooperation with the relevant School s of the Aristotle University of Thessaloniki to assist foreign students

6. Arranging Greek language courses or other foreign language courses in cooperation with the relevant School s of Aristotle University

7. Exercising any other responsibility specified in the Organisation of the Higher Education Institution and related to the subject matter of the International Student Support Unit.

Administrative support for the Programme .

The School of Physics (in charge) of the Aristotle University of Thessaloniki, with its long experience in the organisation and implementation of first, second and third cycle study Programmes, undertakes the overall administrative and technical support of this interSchool al Foreign Language Undergraduate Study Programme . Secretarial support for the Programme is provided by the Secretariat of the Programme Secretariat, which may be staffed by personnel from the Secretariat of the School of Physics, constituting a key operational arm of its administration and operating under the supervision of the Curriculum Committee.

More specifically, the Secretariat of the Programme:

1. Provides administrative support to the Committee and the Director of the Programme

2. Handles matters relating to the educational life cycle of students, from enrolment to graduation and the awarding of their degrees

3. Maintains the protocol, printed and digital archives of the Programme

4. Handles administrative procedures relating to the Programme 's teaching staff (contracts, travel, etc.)

5. It works with the Aristotle University of Thessaloniki Special Research Fund Account for the financial management of the Programme and support for related procedures.

Coordinates the Secretariat of the Programme and keeps the minutes of the Programme 's Committee. is undertaken by a member of the Secretariat of the Greek-language Undergraduate Programmein Physics, who has the formal qualifications to perform the duties of Head, in accordance with Article 1 of Law 3839/2010. The relevant assignment is made by decision of the Programme Committee.

In this context, in order to support the needs of the Programme, the following may be employed, in accordance with Article 104 of Law 4957/2022:

1. Members of the regular administrative staff of the Aristotle University of Thessaloniki, with additional employment beyond their legal obligations, following a decision by the Research Committee of the Special Account for Research Grants, upon recommendation by the Committee of the Programme

2. additional staff, selected in accordance with the procedure of Article 243 of Law 4957/2022.

The cost of remuneration for all categories of staff shall be borne exclusively by the Programme budget.

Technical support for the operation of the Programme is provided centrally by specialised staff of the Digital Governance Unit of the Aristotle University of Thessaloniki, the existing technical staff of the General Directorate of Technical Services and Computerisation of the Aristotle University of Thessaloniki, and the technical staff of the School of Sciences.

The existing building and technical infrastructure of the participating School s of the Aristotle University of Thessaloniki is used for the implementation of the Programme courses.

Type of Degree Awarded

The interSchool al X.P.P.S. diploma is a public document and is awarded to graduates of the Programme .

The diploma is issued by the Secretariat of the InterSchool al Postgraduate Programme . It bears the names of the School s of Physics, Chemistry, Biology, Mechanical Engineering and Agriculture and the Foundation, the emblem of the Aristotle University of Thessaloniki, the date of completion of studies, the date of issue of the diploma, the graduation protocol number, the title of the Programme, the degree of the diploma, the student's details and the evaluation rating: Good, Very Good, Excellent.

Graduates may be awarded a certificate of successful attendance and completion of the Programme prior to the award ceremony.

In addition to the degree, a Diploma Supplement is also awarded, in accordance with Article 15 of Law 3374/2005 and Ministerial Decision Φ5/89656/Β3/13-8-2007 (Government Gazette 1466/Β΄). The Diploma Supplement is an explanatory document that provides detailed information on the nature, level, content, educational context and legal status of the studies successfully completed. It does not replace the official degree or the detailed transcript issued by the Institution.

Certification - Evaluation of the Programme

Following the issuance of the decision to establish the Programme and prior to its commencement of operation, the Programme must be certified by the National Authority for Higher Education (E.T.A.A.E.), in accordance with paragraph c) of Article 8(1) of Law 4653/2020 (A' 12). After their establishment, Programme are periodically certified, in accordance with subparagraph bb) of paragraph b) of Article 8 of Law 4653/2020, as part of the evaluation of the academic unit to which they belong.

The Programme is evaluated in the context of the periodic evaluation/certification of the academic unit by the National Authority for Higher Education. In particular, the overall assessment of the work carried out at the Programme is evaluated, the degree to which the objectives set at its establishment have been achieved, its sustainability, the absorption of graduates into the labour market, the degree of its contribution to research, its internal evaluation by graduates, the advisability of extending its operation, as well as other information relating to the quality of the work produced and its contribution to the national strategy for higher education.

If, during the evaluation stage, the Programme is deemed not to meet the conditions for continuing its operation, its operation shall be terminated upon the graduation of the students already enrolled, in accordance with the decision establishing it.

Internal Evaluation of MODIP

In order to ensure and improve the quality of the Programme, the Quality Assurance Unit of the Aristotle University of Thessaloniki (MO.DI.P.-AUTH) conducts periodic internal evaluations of the Programme within the framework of the Institution's Internal Quality Assurance System and in accordance with the instructions and guidelines of the ETH.A.A.E.

The obligations of the Programme 's administrative bodies and teaching staff also include all procedures provided for in the relevant instructions and guidelines of MO.DI.P.-A.P.Th. for the internal and external evaluation and certification of Study Programme s and academic Units.

Evaluation of teachers and courses by students

With the sole purpose of improving the level of studies at the Programme and with absolute assurance of anonymity, students are asked to evaluate the courses and teachers each semester.

For reasons of uniformity in the collection of statistical data and the ability to extract information that can be used for the educational work of the Schools, School s and the Institution as a whole, the evaluation questionnaires are prepared by the MO.DI.P. and may vary slightly, based on the specific characteristics and needs of each academic unit and/or course. They are completed electronically.

The evaluation is conducted under the responsibility of the Internal Evaluation Team (O.M.E.A.) of the Programme, which consists of four (2) faculty members from the School of Physics, two (2) faculty members from the School of Chemistry, one (1) member of the School

of Mechanical Engineering, one (1) member of the School of Biology and one (1) faculty member of the School in collaboration with the MO.DI.P. of the Aristotle University of Thessaloniki, and is carried out through the latter's Quality Management Information System. The School 's Administration and OM.E.A. are required to take systematic action to involve students in the evaluation, in accordance with the guidelines of the MODIP and the relevant decisions of the Senate.

The OMEA of the Programme monitors, through the MODIP's Quality Management Information System, the degree of student participation in the evaluation process, analyses the relevant results and informs the administrative bodies of the Programme and the respective academic unit. The evaluation questionnaires concern the course taught and the lecturer separately.

The administrative bodies of the Programme and the academic unit, in collaboration with the corresponding O.M.E.A. of the Programme, must study the results of the evaluation, announce their findings, decide on the publication of the summary results of the evaluation, when deemed necessary and in any case after the announcement of the semester course grades, in accordance with the applicable legislation on the protection of personal data, and take action to address any problems or improve the Programme.

4.10 Student welfare

All students of Aristotle University of Thessaloniki have the opportunity to take advantage of the facilities provided by the University through its various services or independent state institutions related to their accommodation, food, sports, etc.

Libraries - Reading Rooms

The University Library is located on the main campus of Aristotle University of Thessaloniki, opposite the Meteorological Observatory building. It has a rich collection of university publications and spacious reading rooms.

Accommodation

For Aristotle University students, there are three student residences in the Saranta Ekklisies area and an annex in the former Egnatia Hotel (11 Leontos Sofou Street).

The student residences have a total capacity of approximately 1,500 beds, a ceremony hall, sports facilities, etc. The student residences have a restaurant that provides meals for all eligible students. Each student residence also has a reading room, a café, a computer room with internet connection, and all residences have wireless networking (WiFi).

Undergraduate and postgraduate students, as well as doctoral candidates from large or low-income families, are eligible for accommodation. Beneficiaries are selected on the basis of social and economic criteria. Beneficiaries are entitled to stay in the residences for the duration of their studies plus two years (n+2). The residences also accommodate foreign students. Students residing in the Student Residences are also provided with two meals a day throughout their stay. Both accommodation and meals are provided to students in return for a nominal contribution towards the costs of the Student Residences, amounting to half the daily wage of an unskilled worker.

Meals

Student meals are served in the Club's dining areas, which consist of two large halls with a capacity of 1,000 (Lower Club) and 500 people (Upper Club) respectively, while the Club has two smaller halls for feeding the staff of the Aristotle University of Thessaloniki.

Outside the Club, meals are provided to students of the decentralised School s of the School of Fine Arts in Thermi and Stavroupoli, at the T.E.F.A.A. of Serres and Thermi, at the Clinics of the Veterinary School, as well as at the Forestry facilities in Foinikas. Finally, during the summer months, the Club undertakes the catering of Forestry students who are doing their practical training in the University Forests in Pertouli, Trikala and Taxiarchis, Chalkidiki, and supports the operation of the Aristotle University of Thessaloniki Camp in Kalandra, Chalkidiki.

Today, the Club has the capacity to produce more than 15,000 meals per day. Free meals are provided to all undergraduate and postgraduate students who are not graduates of another university or technical college and do not have a high income themselves or whose parents do not have a high income (as evidenced by a tax office statement), to expatriates, Cypriots, foreigners who have been awarded a scholarship and certain other categories of students, under specific conditions.

Medical care – Health services

All students who are not insured are entitled to free medical care under the law (Law 4452/2017). The health and social policy services of the Aristotle University of Thessaloniki include the Primary Health Care Centre, the Counselling and Psychological Support Centre, the regulations for student health care, the activities of the Social Policy and Health Committee and the Aristotle University Student Progress Monitoring Committee belonging to vulnerable social groups, as well as the operation of the Diagnostic Unit of the School of Dentistry.

Study and Career Liaison Office

The Study and **Career** Liaison Office (SCLO) of Aristotle University of Thessaloniki has been operating since 1997, following the model of similar career offices that have been operating for many years at universities abroad.

The aim of the OC is to help students and graduates of the Aristotle University of Thessaloniki to smoothly approach their future careers and seek employment commensurate with the knowledge they have gained from their studies, by providing information on the opportunities available to them, both in terms of continuing their studies and transitioning to the labour market.

The main areas of information provided are, with regard to studies, the study Programme s of Greek and foreign universities, scholarships and bequests, student mobility Programmes in Europe, educational seminars, conferences, workshops and European Union issues.

With regard to employment, the main areas of information are job vacancies in the private and public sectors, internship Programmes, research on the labour market and the employment of Aristotle University graduates, employers and professional bodies (e.g. associations, chambers) and support for business ideas.

In addition, the GD provides advisory services on CV and cover letter writing, job interviews, career planning and job search techniques.

Finally, during the academic year, workshops and seminars are organised on the above topics.

Sports-Arts-Entertainment

Aristotle University of Thessaloniki has a modern University Gym where University students can exercise. The facilities are located next to the University Student Club (tel. 2310992672) and include gyms, football pitches, basketball courts, volleyball courts, tennis courts, etc.

The University Student Club has a games room, a music School for students with musical interests, a reading room, a low-priced canteen that operates as a record store in the evening, a low-priced barber shop and hairdresser, etc. Students can also participate in events that include theatrical performances, educational or recreational excursions, and various cultural, social, and sporting events. In the summer, students can also holiday at the University's campsites in Posidi, Chalkidiki.