University of West Attica

Department of Electrical and Electronics Engineering

and

Department of Industrial Design and Production Engineering

MSc Artificial Intelligence and Deep Learning

Study Guide
2025-2026
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Academic structure of the MSc Artificial Intelligence and Deep Learning

Director: Charalampos Z. Patrikakis Professor, Department of Electrical and Electronic Engineering, University of West Attica

Contact details

Charalampos Z. Patrikakis
Phone: +30 210 5381534
University of West Attica
Ancient Olive Grove Campus, 250 Petrou Ralli and Thivon str, Egaleo, P.O. Box 12241
Building Z, Office ZB215 Email: bpatr@uniwa.gr

Deputy Director: Dimitrios Cantzos Professor, Department of Industrial Design and Production, University of West Attica

Contact details

Dimitrios Cantzos
Phone:
University of West Attica
Ancient Olive Grove Campus, 250 Petrou Ralli and Thivon str, Egaleo, P.O. Box 12241
Building Z, Office ZA205
Email: cantzos@uniwa.gr

Curriculum Committee

Charalampos Z. Patrikakis	Professor
Maria Ragousi	Professor
Dimitrios Cantzos	Professor
Michael Papoutsidakis	Professor
Georgios Priniotakis	Professor

Coordinating Committee

Charalampos Z. Patrikakis	Professor
Maria Ragousi	Professor
Dimitrios Cantzos	Professor

Secretariat

Anastasia Ilia
E-mail: aidl@uniwa.gr
Phone: 2105381549 (Int.: 1549)
University of West Attica, Ancient Olive Grove Campus, Building Z, Office ZB109
250 Petrou Ralli and Thivon str, Egaleo, P.O. Box 12241, Greece

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Contact address

MSc Program "Artificial Intelligence and Deep Learning"
University of West Attica, Ancient Olive Grove Campus,
250 Petrou Ralli and Thivon str, Egaleo, P.O. Box 12241 Greece

Greetings from the Director of the Master of Science Program in Artificial Intelligence and Deep Learning

Dear students and colleagues,

I am very pleased to welcome you to the Interdepartmental MSc Postgraduate Program in the field of Artificial Intelligence and Deep Learning. Our program has the ultimate goal of advancing scientific knowledge and technology in a wide range of fields, focusing on the development of innovative solutions that will help improve the production of goods and services.
In this context, the MSc program will help you develop the skills needed to contribute to the research, development, production, transfer and application of specialised knowledge in the field of artificial intelligence and deep learning. Our goal is to provide an educational environment that will enhance your ability to design and develop state-of-the-art systems and solutions in electronics and automation using advanced artificial intelligence and deep learning techniques.

Beyond your academic education, the program seeks to strengthen collaboration with RnD teams in order to promote innovation and transform research results into services and products that contribute to quality of life, safety, and environmental protection.

We invite you to actively participate in the program, contribute to the scientific community, and develop your skills to become a pioneer in the exciting world of artificial intelligence.

Wishes for a flying start to all!

Charalampos Z. Patrikakis
Professor
Department of Electrical and Electronic Engineering
University of West Attica

INTRODUCTION

The MSc Program Study Guide serves as a key resource for students throughout their studies. It outlines the program's structure, academic procedures, and operational principles while providing essential details on courses, facilities, faculty, and departmental functions. Additionally, it covers study-related processes such as registration and course selection. Updated annually, the Study Guide is available on the MSc Program's website.

HISTORICAL DATA

The MSc program is a collaboration between the Departments of Electrical and Electronics Engineering and Industrial Design and Production Engineering at the School of Engineering, University of West Attica. It was officially established by Government Gazette 1104/B/22-3-2021 and later modified to be offered in English starting in the 2023-2024 academic year.
The program admitted its first students in the spring semester of 2021. As of the spring semester of 2023-2024, it operates as an English-language program, welcoming international students for the first time.

DETAILS OF THE PARTICIPATING DEPARTMENTS

Department of Electrical and Electronic Engineering

The Department of Electrical and Electronics Engineering belongs to the School of Engineering of the University of West Attica (Law 4521/2018). The Department of Electrical and Electronics Engineering is the largest and most comprehensively staffed department at the University, as well as one of the most well-equipped engineering departments in the country. It boasts 66 permanent academic staff members, including faculty of all ranks, who fulfill the teaching requirements for the entire curriculum. Additionally, the department is supported by 11 members of the Teaching Research Staff and 9 members of the Special Teaching Staff.

This structure ensures uninterrupted teaching each semester, guaranteeing the Department's sustainability, which is crucial for the success of its graduates.
The Department of Electrical and Electronics Engineering aims to:
(a) Provide a high standard of engineering education in the broader field of Electrical and Electronics Engineering through undergraduate, postgraduate, and doctoral programs
(b) Generate new knowledge and advance science and technology through original research, both independently and in collaboration with national, international, and European research initiatives
(c) Contribute to the regional and national development of the production, manufacturing, and distribution of electrical and electronic products and
(d) Support the growth of the local economy and industry.

The Program of Studies (PS) of the Department is five years long, organized in ten (10) academic semesters and corresponds to 300 credits of the European ECTS system. The 10th semester is dedicated to the preparation of a research-based MSc Thesis. Upon completion of the PS, the Department awards a Diploma in Electrical and Electronic Engineering. The degree gives access either to the engineering job

market or to postgraduate and doctoral studies. The PS includes a single Basic Course of Study of six (6) semesters, while the four (4) upper semesters offer three (3) cycles of study:

1. Energy
2. Communications and Networks
3. Electronics and Embedded Systems

The aim of the PS is to provide modern and high-level knowledge, skills and competences in the scientific fields that make up the broader cognitive subject of Electrical and Electronic Engineering, such as the production, transmission and distribution of electricity, renewable energy sources, energy management, electrical installations and industrial automation, modern applications of electronics, information technology, telecommunications, networks, electronics and embedded systems, and the development of new technologies.

In addition to providing a strong foundation of scientific and technical knowledge, the curriculum fosters a methodical approach to thinking and problem-solving. It also emphasizes the holistic development of students, focusing on the integration of their personality, the cultivation of essential skills, and the growth of their professional and social awareness.

The Department of Electrical and Electronics Engineering is also a pioneer in offering 3rd cycle studies (for a PhD degree): currently, sixty (60) PhD candidates are conducting research in the Department, under the supervision of the Department's faculty members. The PhD Candidates are the breeding ground for young scientists and researchers in the Department, and are actively involved in the research and education provided by the Department. New PhD Candidate positions are systematically advertised twice (2) a year (September and February).

The Department of Electrical and Electronics Engineering is one of the most active departments of the country's higher education institutions in research and innovation, with a strong presence and collaborations at national (NCSR "Demokritos", HETiA, KAPE, PPC-DEDDIE-ADMIE, etc.) and international level (Horizon 2020, European Nuclear Research Center CERN, Columbia University, Purdue University, etc.).
It is the first Greek Department to participate as an Associated Technical Institute in the international team of the CERN ATLAS experiment, with the development of electronic systems in the context of detector upgrades. It has eleven (11) institutionalized Research Laboratories (see here for information about each of them), in whose activities it actively involves its students already from the undergraduate level.

Department of Industrial Design and Production Engineering

The Department of Industrial Design and Production Engineering focuses on designing modern systems and services, utilizing the best approaches within the interdisciplinary field of design. It creatively combines knowledge and methodologies from various scientific disciplines, with a strong emphasis on using new technologies for the design and production of innovative products.

The Department aims to equip graduates with the skills to creatively apply new technologies, science, and art in designing practical and functional solutions across Products, Processes, and Systems. This approach addresses the evolving demand for skilled managers in industry and business, enabling them to thrive in the context of global competition.

The Department's Undergraduate Program of Studies has been developed considering the guidelines of the Quality Assurance and Accreditation Authority for Higher Education and aims to:

- the provision of high-quality education at both theoretical and laboratory level
- the continuous adaptation of the curriculum to align with advancements in science, research, and technology
- the cultivation of specialized skills in integrating sciences, technologies, methods, materials and properties for the development of innovative products and services
- the cultivation of a logical and analytical mindset, empowering students to apply theoretical knowledge effectively to both traditional and contemporary industrial practices
- provide a solid and extensive scientific background in order to be mobile and flexible in today's competitive international environment, meeting the needs of the labor market.

After completing the studies, the graduate Industrial Design and Production Engineer has knowledge, abilities and skills that allow him/her to:

- successfully navigate the competitive job market, with excellent career prospects.
- pursue and excel in Postgraduate Programs at higher educational institutions in Greece and abroad.

SCOPE and OBJECTIVES - LEARNING OUTCOMES - TITLE OF STUDIES

SCOPE and OBJECTIVES

The MSc program focuses on “Artificial Intelligence and Deep Learning”.
The aim of the MSc program is:

- To promote scientific knowledge and technology in the broader field of the subject of the MSc program. In this direction, the MSc program emphasises the promotion of research and development of innovative algorithms, processes and systems that improve the production of goods and services, taking into account the development needs of the country and in the light of the latest concepts of sustainable and human-centred development, environmental protection, bioethics and equal access.
- To train scientists who can contribute to the research, development, production, transfer, and application of the specialized knowledge and skills required by today’s knowledge-based society in the fields of artificial intelligence and deep learning. Specifically, the program targets graduates (preferably from technology, science, and economics backgrounds) and equips them with expertise in developing modern electronic and automation systems. It focuses on designing effective information systems for service delivery and decision-making, using artificial intelligence and deep learning techniques. The education provided aims to develop graduates with the necessary skills to

work in a wide range of sectors, including the design of complex systems for managing operational and environmental resources, total quality management, metrics, logistics, distribution, and e-commerce, all while considering relevant legislation.

- To train in research methods and documentation of research results, support of the research activity of the University of West Attica community and publication of research results in international conferences, magazines and scientific journals.
- To collaborate with research teams in academia and the wider research community to promote innovation and the transformation of research results into services and products that promote quality of life, safety and the protection of the environment and cultural heritage.
- To record the needs of society, with emphasis on the needs of the citizens, the environment, culture and cooperation with institutions and organizations, with the ultimate goal of recording and providing proposals and solutions to improve the standard of living, sustainable development and respect for the environment and human values.
- To continuously contact and cooperate with business and industry, aiming at cooperation with pioneering businesses and private sector initiatives, in order to link the theoretical and practical knowledge provided by the program.

LEARNING OUTCOMES

Upon completion of the Program, students will be able to:

- Design and analyse solutions that use artificial intelligence mechanisms and deep learning algorithms to meet the needs of different sectors of society, the economy and the market.
- Advance the science of artificial intelligence and deep learning by developing new techniques, algorithms and tools that facilitate the implementation and development of new solutions, focusing on user requirements.
- Understand and evaluate the implementation of artificial intelligence and deep learning solutions on different platforms and computing environments.
- Propose and develop integrated solutions in various sectors important to the country's economy, such as citizen services, health, agriculture and livestock, and communications and data security, using artificial intelligence and deep learning algorithms.
- Work alone or collaborate in teams on the design, programming and development of innovative solutions, using AI technological tools, both in terms of software and hardware, making full use of available cutting-edge technology solutions and combining them with innovative approaches and proposals.

TITLE OF STUDIES

The Master of Science in Artificial Intelligence and Deep Learning leads to the award of the Diploma of Postgraduate Studies after the full and successful completion of the studies based on its curriculum. This qualification corresponds to level seven (7) of the National and European Qualifications Framework, according to article 47 of Law No 4763/2020. Especially for students who select all three courses within one of the two specializations (minors), the title will also indicate the corresponding minor: "Autonomous Systems" or "Cognitive Systems". Otherwise, the title will not indicate a specialization. The title is awarded by the University of West Attica with the names of the two collaborating Departments indicated.

FEES

Students are required to pay a total of €3000 in tuition fees, which are divided into instalments. The first payment of €1000 (for full attendance) is due upon initial registration. The remaining €2000 is paid in four instalments of €500, which are due at registration and upon completion of the second and third semesters. For part-time attendance, the fees are reduced by half. Tuition fees are to be paid to the Special Account for Research Funds (ELKE) at the University of West Attica, which manages the payments. Payments can be made either directly by the student or by a third party (natural or legal) on the student's behalf.

The students must have paid all their financial obligations before a certificate of completion of studies and the award of the Diploma of Postgraduate Studies is granted.

A waiver of tuition fees may be granted in accordance with (a) the applicable exemption legislation, or (b) as described in Article 14 herein on scholarships.

In cases of interruption of studies, the total amount paid will not be refunded.

Ways of paying tuition fees:
Semester A: 1 instalment of €1000 (beginning of semester)
Semester B: 2 instalments of €500 (beginning and middle of semester)
Semester C: 2 instalments of €500 (beginning and middle of semester)

Tuition fees are paid directly to the University of West Attica and cover all the costs and expenses for the operation of the MSc program and for the material and software made available to students during the course of the program.

LANGUAGE

The language of instruction is English. Postgraduate students are required to have at least a certificate of good knowledge of English. Both the lectures and the assignments of the Master's degree course are in English.

If there is no proof of proficiency in English, candidates will be tested at a predetermined date and time in an English language proficiency test.

COMPETENT BODIES RESPONSIBLE FOR THE ESTABLISHMENT, ORGANISATION AND OPERATION OF THE MSc PROGRAM

The competent bodies for the organization and operation of the MSc are the following:

1. the Senate of UNIWA
2. the Curriculum Committee (CC),
3. the Coordinating Committee (CRC),
4. the Director of the MSc Program and
5. the Postgraduate Studies Committee.

All the above bodies have the competences defined by the legislation in force (Law 4957/2022, article 82, as in force).

SENATE

The responsibilities of the Senate of UNIWA are defined in paragraph 3.2 of the Postgraduate Studies Regulation of the MSc Program.

CURRICULUM COMMITTEE (CC)

The responsibilities of the Curriculum Committee (CC) are defined in paragraph 3.3 of the Postgraduate Studies Regulation of the MSc Program.

COORDINATING COMMITTEE (CRC)

The responsibilities of the Coordinating Committee (CRC) for the academic year 2025-2026 are defined in paragraph 3.4 of the Postgraduate Studies Regulation for Postgraduate Studies of the MSc Program.

DIRECTOR OF THE MSc PROGRAM

The Director of the MSc Program for the academic year 2025-2026 is Dr. Charalampos Z. Patrikakis, Professor of the Department of Electrical and Electronic Engineering, University of West Attica. The Director has the following responsibilities which are defined in paragraph 3.5 of the Postgraduate Studies Regulation of the MSc Program.

THE POSTGRADUATE STUDIES COMMITTEE.

The responsibilities of the Postgraduate Studies Committee for the academic year 2024-2025 are defined in paragraph 3.6 of the Postgraduate Studies Regulation of the MSc Program.

INTRODUCTION AND ENROLMENT IN THE MSc PROGRAM OF ADMITTED STUDENTS FOR THE ACADEMIC YEAR 2025-2026 (STARTING IN THE SPRING SEMESTER)

For the current academic year (the maximum number of students admitted to the "Artificial Intelligence and Deep Learning" program is sixty – 60) . The selection of the students is made according to what is described in paragraphs 4.1 to 4.6 of the Postgraduate Studies Regulation of the MSc Program. In addition to the number of students admitted, members of the categories of Teaching Research Staff and Special Teaching Staff can be admitted as supernumerary scholarship holders. The selection of students is made in accordance with the law 4957/2022, the provisions of the Regulation for Postgraduate Studies and the provisions of the annual call for expressions of interest and applications.

REGISTRATION

Successful candidates must register at the Secretariat of the MSc Program before the start of the first semester, within the deadlines set by the relevant authorities, as outlined in Article 3 of the Postgraduate Studies Regulation. These deadlines are also published on the MSc Program website. Registration must be completed using the candidate's application number, rather than their name, to ensure compliance with personal data protection requirements under the General Data Protection Regulation (GDPR). In exceptional cases, a postgraduate student may be permitted to register after the deadline, based on a reasoned request and a decision from the Board of Directors. Admitted students can find information

regarding registration on the MSc Program website, the websites of the two collaborating departments (EEE and IDPE) at UNIWA, and/or by contacting the Secretariat of the MSc Program.

DURATION OF STUDIES - ATTENDANCE - SUSPENSION OF STUDIES

Duration of studies

Full-time attendance

The duration of studies leading to the award of the Diploma of Postgraduate Studies is set at three (3) academic semesters, each of which consists of at least thirteen (13) weeks of teaching. The compulsory courses of each semester shall not be less than 39 teaching hours (Article 64 of Law 4957/2022), which includes the time for the preparation of the MSc Thesis. Students are allowed a maximum of two absences per course each semester. Exceeding this limit will result in disqualification from the course, unless an exceptional circumstance arises and the Board of Directors decides otherwise.

The maximum allowed duration for completing the studies (normal maximum duration) is five (5) academic semesters. This can be extended with a reasoned application by the student, subject to approval by the Curriculum Committee (CC). After the maximum duration is reached, the CC may issue a deed of withdrawal, subject to the following provisions.

In the first semester, students attend five (5) courses in total and accumulate thirty (30) ECTS credits. In the second semester, they attend two (2) compulsory courses and three (3) elective courses, which they choose from two groups of 3 courses each, corresponding to two specializations. a) Specialization in Autonomous Systems and b) Specialization in Cognitive Systems. Students have the option to choose to take additional 3 courses.

All courses, exams, and other activities in the MSc Program are conducted in English. Notes and teaching materials are provided in English, though individual lecturers may offer additional (optional) educational materials in Greek.

Part-time attendance

For postgraduate students, in accordance with paragraph g) of par. 4 of article 79 of Law No. 4957/2022 (A 141), the possibility of part-time study, the duration of which may not exceed twice the normal duration of study. Part-time attendance may be granted for the following (indicative) reasons:

- working students,
- illness,
- serious family reasons,
- military service obligations,
- reasons of force majeure, etc

The possibility of part-time attendance is provided upon reasoned request of the student and approval by the CC. The application must be accompanied by the relevant documents which document the reason for which part-time attendance is requested.

Attendance Policy

Classes commence at the time specified in the official timetable. Students arriving more than 15 minutes after the scheduled start time will be marked as absent, although they may still attend the class. For online sessions, a minimum attendance of one hour is required; otherwise, the session will be recorded as an absence.

Students who accumulate more than two unexcused absences in a course will be excluded from the final examination and must retake the course, pending approval by the relevant academic committee.

Student attendance and academic performance are continuously monitored by the course instructor, in accordance with Article 9 of Law No. 1387/2021.

Suspension of studies

A postgraduate student may apply for a suspension of studies for a serious reason, such as military service obligations, illness, being abroad, or force majeure, provided they submit the relevant supporting documents. The CC will make the decision on whether to accept the application, based on the recommendation of the CRC.

The suspension will be granted for full academic semesters and will not count toward the maximum allowed duration of study. Students may request suspension once or in parts, with each period lasting at least one (1) academic semester. However, the total duration of suspension may not exceed two (2) academic semesters.

Students on suspension shall lose their student status for the entire period of suspension. Upon returning to attendance, the student will continue to be subject to the attendance status of the time of his/her enrolment as a postgraduate student.

CURRICULUM

The MSc Program starts in the spring semester of each academic year. The successful examination in all courses of the curriculum and the successful completion of the MSc Thesis, are necessary prerequisites for the award of the Diploma of Postgraduate Studies.

Course Schedule

The detailed course schedule by semester is as follows:

Description
AIDL_A01: Fundamental knowledge of artificial intelligence and machine learning (6 ECTS)
Can machines think? Are they able to reason, create art, perceive human emotions or even learn? Artificial Intelligence (AI) is a scientific field with a long history, but in recent years it has been rapidly evolving and transforming the way people live, work and interact socially. Machine Learning (ML), as the driving force of modern AI, focuses on applications that learn from experience (data) and improve their decision making or predictive accuracy over time. The aim of the course is to acquire fundamental knowledge of artificial intelligence. To this end, AI terms and concepts such as intelligent agents, machine learning, ethics and bias in AI will be introduced. Also, intelligent agents for solving problems

with information-free search, informed search and exploration will be studied. Also, indicative areas of successful application will be presented, such as Self-driving Vehicles (Self-driving Vehicles), Precision Agriculture (Precision Agriculture), Content Recommendation (Content Recommendation). Upon completion of the course, students will have sufficient knowledge of algorithms and modern machine learning techniques and skills to develop machine learning applications for problem solving. They will also gain a basic theoretical background in new AI technologies while gaining practical experience in how to apply these powerful techniques to problems of their choice.

AIDL_A02: Neural Networks and Deep Learning (6 ECTS)

The aim of the course is to study and analyse Deep Learning models and methods and their application in various fields, such as Computer Vision. In this course, students will be exposed to cutting-edge technologies and will learn to implement, train and correct their own Deep Neural Networks, with image recognition as the focus of teaching. The course notes as well as the course assignment ideas make use of materials and teaching suggestions that are derived from materials developed for this purpose by the NVIDIA Deep Learning Institute (https://developer.nvidia.com/teaching-kits).

AIDL_A03: AI platforms and programming with Python (6 ECTS)

In the context of this course, students will be taught topics related to the hardware and software of artificial intelligence. In particular, all the popular hardware platforms available will be presented so that at the end students will be able to choose the most suitable platform for the given application. For each platform the relevant development tool ecosystems will be presented. Students will then be introduced to the Python language and its potential for developing artificial intelligence and machine/deep learning applications. Through development environments such as Jupyter notebook ID, learners will be taught data analysis, data visualization, machine learning and parallel data processing

AIDL_A04: Mathematics for Machine Learning (6 ECTS)

In this part we introduce the basic mathematical concepts needed to understand deep learning. We begin with general ideas from applied mathematics that allow us to define multivariable functions, find the highest and lowest points of these functions, and quantify degrees of certainty (confidence). Next, we describe the fundamental goals of machine learning. We describe how to achieve these goals by specifying a model that represents specific beliefs, designing a cost function that measures how well these beliefs correspond to reality, and using a training algorithm to minimize this cost function. This elementary framework is the basis for a wide variety of machine learning algorithms, including approaches to non-deep learning. Our goal is in the process to develop deep learning algorithms within the framework we have described.

AIDL_A05: Human-Centric - Applied Artificial Intelligence (6 ECTS)

The aim of the course is to integrate and complement the technical knowledge acquired in other courses within the framework of the program of the MSc Program, creating a holistic understanding of artificial intelligence. The aim is for students to gain knowledge of the application of AI in various scientific fields, highlighting its advantages over conventional methods; to become familiar with the ethical principles adopted by the European Union and the ethical applications of AI as defined by the AI HLEG; to understand the legal implications of AI, particularly in areas such as justice, security, health, labor and education, while highlighting the requirements of new legislation (In addition, through real-world case

studies, they are invited to experiment to illustrate and analyse problems and challenges related to AI while acquiring thematic methodological skills related to AI and Deep Learning research, including publishing research results, creating and using FAIR datasets, examining data quality and selecting appropriate tools for data use.

AIDL_B01: Data Centers and AI Support Infrastructures (6 ECTS)

The course "Data Centers and Infrastructures to Support Artificial Intelligence" provides a comprehensive presentation of the critical elements and technologies that support the AI infrastructure. The course examines the role of data centers and modern cloud infrastructures that are the key systems supporting artificial intelligence and introduces students to the key concepts of managing and scaling artificial intelligence workloads over these infrastructures. Students will be introduced to cloud computing and Kubernetes, a container orchestration platform widely used in data centers, and learn how it facilitates the efficient deployment, scaling and management of AI applications. They will also be introduced to hardware GPUs specifically designed to accelerate AI workloads, and understand how these powerful infrastructures help boost AI performance and training. In addition, the course will cover the use of hardware that supports the implementation of AI at the network edges, addressing the unique challenges and requirements of running AI models in such scenarios. Students will review real-world case studies and gain hands-on experience with available public open-source machine learning tools based on virtual infrastructure (e.g., Bright, Kubeflow) that accelerate the development and management of AI workflows in data centers

AIDL_B02: Special topics in deep learning (6 ECTS)

Due to the rise of Deep Learning (DL), we are in the era of Narrow Artificial Intelligence (NAR), where a computer program outperforms humans in very narrowly defined tasks such as image classification, speech recognition and automatic question answering. In addition, software agents have been able to outperform humans by choosing their own strategies in complex reasoning games, such as chess and Go and multi-agent computer games, such as StarCraft P, based on Deep Reinforcement Learning (DRL) algorithms. Also, Deep Learning algorithms have the ability to create artificial images that are indistinguishable from humans. But to move into the era of Universal AI (General Artificial Intelligence), Deep Learning models should be able to learn from a small amount of data and apply their acquired knowledge from one domain to new domains, just as humans behave. The purpose of this course is to study advanced Deep Learning techniques that have model training on numerous datasets and transfer learning between different domains. In addition, in this course students will also be introduced to Deep Reinforcement Learning methods with the aim of applying them to computer games, robotics simulators and finding optimal Deep Learning architectures. of data-driven approaches and in particular machine learning algorithms to achieve these goals. Through machine learning, long-standing difficult pattern recognition problems, such as speech recognition or content-based image classification, are solved faster and with higher accuracy than classical solutions. On the other hand, widespread signal processing techniques can be used as a preparatory stage in a machine learning algorithm to achieve improved performance with less data and lower computational cost. The purpose of this course is to study machine learning algorithms, to couple them with classical signal processing and pattern recognition methods, and to demonstrate their usefulness in modern problems.

AIDL_B_AS02: Advanced Intelligent Control and Robotic Systems (6 ECTS)

Advanced Intelligent Control and its applications in robotic systems arise from the need to enhance the "intelligence" of robotic systems, aiming at the synthesis of intelligent behavior, with elements of reasoning, learning and adaptation to the environment. The aim of the course is the study, analysis and application of models and methods of Computational Intelligence, which includes research topics related to Artificial Neural Networks, Deep Learning, Fuzzy Systems, Deep Neuro-Fuzzy Networks, Evolutionary Algorithms and Expert Systems. In this course, students will be introduced to models and theories of Computational Intelligence, as well as to advanced information technologies that have applications in industry, production units and transport.

AIDL_B_AS03: Autonomous Vehicles and Unmanned Aerial Vehicles (6 ECTS)

Autonomous vehicles and drones have entered our daily lives with commercial products from automotive companies such as Tesla and the extensive use of drones for entertainment, surveillance, audiovisual production to delivery of goods. Large companies such as Tesla, Mercedes, BMW, BMW, Volvo, Intel, Google, NVIDIA and Amazon are investing huge funds to develop Artificial Intelligence (AI) algorithms to solve their biggest challenges, such as autonomous driving. Autonomous driving of vehicles and drones requires sophisticated motion, positioning and telecommunication sensors and the "fusion" of the relevant information into the control system of the autonomous vehicle and drone in outdoor environments where operating conditions are volatile. Deep Learning is the state-of-the-art approach using Artificial Neural Networks to identify objects/obstacles in autonomous navigation processes. The aim of the course is to study the architecture of an autonomous vehicle/unmanned aircraft, its critical subsystems (sensors, positioning devices, motors/engines, motor/engine drive electronics, their programming toolchain, the analysis and development of models for their programming (Model Based Design-Model based programming) and the application of Deep Learning methods for their control and autonomous navigation. In this course students will be exposed to cutting-edge technologies and will learn to implement, train and debug their own Deep Neural Networks, aiming at autonomous vehicle navigation.

AIDL_B_CS01: Deep learning natural language processing (6 ects)

Applications that make use of Natural Language Processing (NLP) algorithms have proliferated over the last decade. With the rapid growth of artificial intelligence assistants and the trend for companies to enrich their services with more interactive human-machine interactions, it has become necessary to understand how NLP techniques can be used to manipulate, analyze and create text-based data. Modern techniques can capture the nuance, context, and sophistication of language as humans do. And when properly designed, developers can use these techniques to create powerful SFG applications that provide natural and seamless human-computer interactions with chatbots, intelligent software agents, etc. Deep Learning Models (Deep Learning) have gained widespread popularity for EFG because of their ability to generalize accurately across a range of contexts and languages. Transformer-based models, such as the Bidirectional Encoder Representations from Transformers (BERT) model, have revolutionized SFG by providing accuracy comparable to human reference lines on benchmarks such as the SQuAD dataset for question-answering, entity recognition, intent recognition, sentiment analysis, etc. In this course, students will be introduced to text processing techniques, word embedding methods and learn to implement, train and debug their own Deep Neural Graph models.

AIDL_B_CS02: Artificial intelligence in health and biometrics (6 ECTS)

Artificial Intelligence (AI) over the last decade has transformed industries around the world and has the potential to radically change the healthcare sector. Medical data is generated daily in large numbers either in hospital radiology departments or in their respective microbiology laboratories. Any data collected, as well as the procedures followed to collect them, can now be analysed by AI and Deep Learning (DB) algorithms with the aim of optimising patient care through more valid diagnosis and prognosis. In this course, students will be introduced to techniques for processing and analysing biosignatures (electroencephalogram, electromyogram, electrocardiogram, etc.) and 2D and 3D imaging data (X-ray, CT, MRI, etc.). etc.) as well as Diagnosis Support Systems using AI and BM techniques. In addition, students will have the opportunity to apply AI/BM algorithms for the analysis of real imaging data/biosignatures.

AIDL_B_CS03: Wearable Computation and Emotional Computation (6 ECTS)

Modern multifunctional fabrics and newer electronic systems make it possible to combine them to create wearable electronic and interactive garments. Topics of interest are activity recognition, personalised data processing, and user modelling, while physical and mental health monitoring and various types of personal assistance systems are important applications. Regarding research topics, these include non-intrusive communication channels for immediate real-time feedback, such as haptic feedback via touch actuators distributed on the body or audio feedback. Based on the above, in this course, an overview of a wide range of modern wearable technology will be provided, the basic electronic principles and interaction with software platforms to provide innovative technologies will be presented, so that graduate students can develop their own projects, and special emphasis will be placed on usability, interaction design and environment-related interfaces, focusing on multimodal interfaces. Emotion AI and Affective Computing arise from the need for AI and Machine Learning to be fed by knowledge inherent and/or derived from the socio-emotional and psychological sciences in order to become more 'human'. In this context, this course will deepen the study and analysis of the models and methods of Emotional Computing (branch of Artificial Intelligence) and their application in various fields (e.g. education). As a result, students will be introduced to models and theories of emotions from psychology, incidence and pedagogy, as well as cutting-edge applications and technologies for the collection, analysis and visualization of emotional information, coming from Emotional Computing and Artificial Intelligence.

AIDL_DIPL: Postgraduate MSc Thesis (30 ECTS)

The postgraduate MSc Thesis delves into a cutting-edge topic in the field of the specialty which is addressed comprehensively and has elements of originality, introducing students to the way of thinking and functioning of the researcher. The MSc Thesis is supervised by a professor of the MSc and is examined by a three-member committee of professors of the MSc Program. The MSc Thesis is written in English, and the student, before submitting it, must ensure that its content is at least 80% original, excluding bibliographical references. For this purpose, a special similarity check software available at the UNIWA will be used, and the submission of the MSc Thesis must be accompanied by a check report indicating the percentage of similarity of the MSc Thesis with existing texts, which should not exceed 20%.

The curriculum of the MSc Program corresponds to ninety (90) ECTS credits. Each course corresponds to a specific number of ECTS credits and is taught for one academic semester. During their studies, full-time students in the first semester attend a total of five (5) courses and accumulate thirty (30) ECTS credits. In the second semester, they attend two (2) compulsory (U) courses and three (3) elective (E) courses selected from two groups of three (3) courses each, which correspond to two specializations: A) Specialization in Autonomous Systems and B) Specialization in Cognitive Systems. For those who choose all three courses from the same group - specialization, this specialization (minor) will also be indicated in their degree, while for those who do not choose all three courses from one specialisation, no specialisation will be indicated in their degree.

Students who wish to study part-time for a semester must register for at least 2 courses for that semester, and in particular for each semester they have the following options:

- either to register two (2) courses with the obligation in the following academic year to register the remaining three (3) for the completion of the semester,
- either to register three (3) courses with the obligation to register the remaining two (2) in the following academic year in order to complete the semester.

For each semester of part-time attendance, the tuition fees are set at 50% of the regular tuition fees regardless of the number of courses registered.

SEMESTER A			
CODE	COURSE TITLE	TYPE OF COURSE (U: COMPULSORY E: ELECTIVE)	ECTS
AIDL_A01	Fundamental knowledge of artificial intelligence and machine learning	U	6
AIDL_A02	Neural Networks and Deep Learning	U	6
AIDL_A03	Artificial Intelligence platforms and programming with Python	U	6
AIDL_A04	Mathematics for Machine Learning	U	6
AIDL_A05	Human-Centric - Applied Artificial Intelligence	U	6
	TOTAL SEMESTER CREDIT UNITS		**30**
SEMESTER B			
CODE	COURSE TITLE	TYPE OF COURSE (U: COMPULSORY E: ELECTIVE)	ECTS
AIDL_B01	Data centres and AI support infrastructures	U	6
AIDL_B02	Specific deep learning topics	U	6
AIDL_B_AS01	Signal Processing, Pattern Recognition and Machine Learning	E (A Specialization)	6
AIDL_B_AS02	Advanced Intelligent Control and robotic systems	E (A Specialization)	6
AIDL_B_AS03	Autonomous vehicles and unmanned aerial vehicles	E (A Specialization)	6

AIDL_B_CS01	Natural language processing with deep learning	E (B Specialization)	6
AIDL_B_CS02	Artificial intelligence in health and biometric data	E (B Specialization)	6
AIDL_B_CS03	Wearable Computation and Emotional Computing	E (B Specialization)	6
	TOTAL SEMESTER CREDIT UNITS		**30**
SEMESTER C			
CODE	COURSE TITLE	TYPE OF COURSE (U: COMPULSORY E: ELECTIVE)	ECTS
AIDL_C01	Postgraduate MSc Thesis	U	30
		TOTAL SEMESTER CREDIT UNITS	**30**

MSc THESIS

In the third semester of the Master's degree in 'Artificial Intelligence and Deep Learning,' students are required to complete a Postgraduate MSc Thesis, worth 30 ECTS. The thesis explores an advanced topic within the program's specialization, addressed in a comprehensive and original manner, while familiarizing students with the research process and mindset. The thesis is supervised by a faculty member from the MSc Program and evaluated by a three-member examination committee appointed by the Curriculum Committee. Before submission for examination, the student must ensure that the thesis content is at least 80% original, excluding bibliographical references**.**

Educational purpose of the MSc Thesis

The MSc Thesis delves into a cutting-edge topic in the field of the specialty which is addressed comprehensively and has elements of originality, introducing students to the way of thinking and functioning of the researcher.

Proposed MSc Thesis topics

The topic of the MSc Thesis should be specialized, at the cutting edge of science and technology in the field of the Master's degree, with elements of originality and research character.

The lecturers of the MSc Program formulate proposed topics for the dissertation in their areas of research interest, and post them on the MSc Program website, as indicated in the section on the announcement of available topics.

Proposed topics include a title, topic abstract and indicative bibliography/sources, and their topics must be in line with the learning objectives of the MSc Program. Indicative, (but not exclusive) topics include work related to AI and deep learning mechanisms and algorithms; design, evaluation, application and implementation of AI and deep learning solutions in various platforms and computing environments and domains; and services leveraging AI and deep learning algorithms.

Students can also propose topics of their interest to the lecturers of the MSc Program, who then formulate them appropriately.

Assignment of the MSc Thesis topic

The MSc Thesis is individual. In all other cases, a documented recommendation by the supervisor and approval by the CC is required. In order to undertake a MSc Thesis topic, the student must have successfully completed the courses in the curriculum, unless otherwise decided by the relevant institution.

Evaluation of the MSc Thesis - approval – grading

In order for the project to be approved, the student must support it before the examination committee. For this purpose, the MSc Thesis are examined by the relevant three-member examination committee, with oral public support. The place and time of the support will be announced in time by the secretariat. During the support process, the MSc Thesis is evaluated and graded according to the following scheme (evaluation criteria and participation in the grading):

Evaluation criteria and their analysis			**Participation in the rating**
Criteria-Evaluation criteria-Content of the MSc Thesis	Targeting, organisation and bibliographic review of the topic	Definition and documentation of the purpose and objectives of the MSc Thesis	**5%**
		Adequate literature research and review of the topic	**10%**
		Design of the survey, choice of appropriate methodology and analysis of the survey	**10%**
	Quality and scope of work -Degree of originality	Qualitative and quantitative adequacy of the work done personally by the student	**10%**
		Critical analysis of the work in the context of the methodology (points of uncertainty, potential and limitations of the methodology)	**10%**
		Degree of originality and analysis of the contribution of the work to the wider scientific field in which it belongs	**10%**
	Structure, quality, Text quality and appearance	Text structure and clarity in the analysis of methodology and arguments	**10%**
		Use of language	**5%**
		Quality and appearance of text (references, figures, tables)	**5%**

Evaluation criteria for the presentation and support of theMSc Thesis	Presentation of the MSc Thesis	Presentation content – adequate Coverage of the MSc Thesis	**3%**
		Presentation organisation - structure, clarity	**4%**
		Method and way of presentation	**5%**
		Presentation time management	**3%**
	MSc Thesis	Answers to questions after the presentation	**10%**

MSc Thesis Guide

The MSc Thesis Guide of the MSc Program, which is available on the website of the Program, provides all the information regarding the preparation of the Master's Degree Program and in particular:

1. the educational purpose of the MSc Thesis
2. the stages of the submission of the MSc Thesis,
3. the fields of research interest,
4. the stages of conducting the MSc Thesis,
5. the procedure for changing the title of the MSc Thesis
6. the good practices of drafting the text and the electronic or printed reading of the MSc Thesis.

METHODS AND MEANS OF TEACHING

The educational process of the MSc program combines face-to-face instruction with modern synchronous distance learning methods, with the use of appropriate methods in accordance with the provisions of Law No. 4957/2022 and article 9 of the Standard Postgraduate Studies Regulation of the Master's Degree Programs of UniWA. (Government Gazette Vol. B4861/02.08.2023) as well as the Government Ministerial Decision (GMD) no. 18137/Z1/16-02-2023 (Government Gazette Vol. B 1079/28-02-2023).

The delivery of courses and student assessments combines both in-person and modern distance learning methods. "Modern distance learning" refers to an educational approach facilitated through technological tools, such as videoconferencing, where the instructor and students engage remotely but in real time. This method enables two-way communication and the sharing of various types of content, including slides and videos. Up to 75% of course lectures may be conducted via this modern distance learning method. The specific teaching and assessment methods for each course are outlined in the course syllabus and communicated at the start of each semester.

Modern distance learning makes use of the e-learning platforms and other online infrastructure of UNIWA. At the same time, the learning material and other supporting material for study (notes, presentations, suggested bibliography, scientific articles, images, diagrams, etc.) is available in digital form on the asynchronous distance learning platforms maintained by UNIWA. The organisation of the educational process using distance learning methods ensures accessibility for people with disabilities and special educational needs.

In particular, the following systems of the University of West Attica are used for the needs of distance education.

1. **MS TEAMS**. The MS TEAMS system is used for modern videoconferencing and virtual e-classroom sessions. The MS TEAMS system supports:
   - visual and audio communication in real time using appropriate equipment (computer with camera, microphones, speakers, headphones) so that the instructor and students can have voice and visual communication while being in different rooms,
   - using and sharing applications and documents (application and document sharing)
   - use and sharing of electronic whiteboards
   - access to chat rooms both between tutor and students for collaboration, exchange of views and joint work
   - breakout sessions for the organisation of group activities.

2. **e-class.** The eclass eLearning Management System of the University of West Attica is the central access point to all distance education services. All the courses of the distance learning program are hosted in e-class Moodle and their content is appropriately organized by the lecturers in charge per subject unit or lecture week and contains the slides, exercises, videos, tests, etc, as well as the links to the corresponding synchronous distance learning sessions of each course. Each course contains an announcements forum (for announcements to students by the teaching staff) and a discussion and query resolution forum in which all students can participate and there is the possibility for direct messaging, writing and completing questionnaires, announcing, assigning and grading assignments, as well as a calendar.

By registering and by being assigned teaching duties by the competent body of the MSc Program, the students and lecturers gain access to the integrated tele-education system of UNIWA. In accordance with what applies to undergraduate students and lecturers respectively regarding the user accreditation procedure and access rights. Course material intended to support distance learning are designed in accordance with the relevant pedagogical framework for student-centred distance education. The teaching staff involved in the teaching of the MSc Program are required to have digital skills. The policy of personal data protection and compliance with the provisions of the General Data Protection Regulation and Law no. 4624/2019, the information systems security policy targeting the field of e-learning systems development, and the policy for the management of the information privacy and cybersecurity are identical to the policies of UNIWA that apply to all graduate and undergraduate degree programs.

ASSESSMENT OF STUDENTS

The academic calendar is announced to the students at the beginning of each semester, prior to the commencement of courses in the MSc Program. This calendar is determined by a decision of the Curriculum Committee (CC), following a recommendation from the Curriculum Review Committee (CRC). The academic calendar includes the start and end dates of the academic semesters, holidays, and examination dates. The CC of the MSc Program is responsible for preparing and announcing the examination timetable for each examination period in a timely manner, and no later than ten (10) days before the start of the exams. A repeat examination period may also be scheduled.

Student performance in the courses required for the MSc Program is evaluated through assignments, which may include written or oral examinations, or a combination of these methods, conducted throughout the semester. The assessment method is outlined in each course's syllabus. Performance in each course is graded by the instructor according to the undergraduate grading scale, ranging from zero (0) to ten (10), with qualifying grades being five (5) or above. In cases of emergencies or force majeure, electronic means may be used for course evaluation, provided that the integrity of the evaluation process is maintained. Additionally, alternative assessment methods may be applied for students with disabilities or special educational needs, as outlined in the Internal Regulations of UNIWA.

To improve their grade, a student may be allowed to retake only one course they have successfully passed during an examination period that includes that course. To be eligible to improve the grade in a particular course, a student must submit a course grade improvement application form and declare their intent, during the course declaration period. If the student fails the same course more than three (3) times, they may submit an application to the Director of the MSc Program requesting evaluation by a three-member

committee. The committee will consist of teaching staff from the MSc AIDL Department of UNIWA, with expertise in the same or related subject matter as the course under examination, excluding the course's lecturer. If the Director of the MSc Program does not appoint the committee members within one (1) month of the application submission, the student may request the Chair of the Department of Electrical and Electronic Engineering (EEE) to make the appointments.

RIGHTS - OBLIGATIONS OF STUDENTS

Rights of Postgraduate Students

The students have all the rights and benefits provided for the students of the first cycle of studies except for the right to free textbooks. They may use the existing material and technical infrastructure of UNIWA, which includes teaching rooms equipped with modern teaching aids and computers, the Library, and the facilities of the Departments of EEE and IDPE, as well as the University Laboratories that support the MSc Program. The students who have no other medical and hospital care, are entitled to full medical and hospital care in the National Health System (NHS) with coverage of the relevant costs by the National Health Service Organization (NHS) in accordance with article 33 of Law No. 4368/2016 (A' 83), as amended and in force. The students are entitled to free food based on their individual and family financial situation and their locality.

The students may apply for external funding for their studies from various public and private sector institutions or bodies and Research Institutes.

Also, may be covered financially by funded research projects in which they participate. The relevant details are defined by a decision of the CC, following the recommendation of the Director of the MSc Program. Students can participate in the University's student exchange programs (e.g. ERASMUS) or in other research programs of foreign universities, within the framework of transnational agreements of the Department with similar institutions and enroll as visiting students.

The collaborating Departments are obliged to ensure accessibility to the proposed textbooks and teaching for persons with disabilities and/or special needs.

Obligations of Postgraduate Students

The students are required to renew their registration at the beginning of each semester. Renewal shall take place at the beginning of each semester, within deadlines set by the competent institutions.

The following obligations shall be incumbent on the students:

- Attend the courses of the current curriculum without interruption.
- Submit the required assignments within the specified deadlines.
- Attend the prescribed examinations.
- Declare responsibly that their MSc Thesis is not the product of plagiarism, either in whole or in part.
- Pay the prescribed tuition fees as specified in the Regulation of Studies of the MSc Program.
- Respect and adhere to the Regulations of the MSc Program., the decisions of the MSc Program, the Department and the University of West Attica, as well as academic ethics.

The MSc Program students are invited to participate and attend seminars, discussions, conferences/ workshops with a subject related to that of the MSc Program, lectures or other scientific events of the

MSc Program. The students may carry out auxiliary teaching work in first cycle programs of study by decision of a competent body of the MSc Program. The academic ID is issued by the Ministry of Education, Religious Affairs and Sports through the Electronic Service for Acquisition of Academic ID.

Dismissal of a Postgraduate Student

The dismissal of a student is made after a relevant recommendation of the CRC of the MSc Program to the CC and a relevant decision is taken by the CC. The decision shall be communicated in writing and in evidence within fifteen (15) days to the student concerned who shall have the right to lodge an appeal within fifteen (15) days from the date of its issuance. The appeal shall be finally decided by the above bodies. The CC, following the recommendation of the CRC, may decide to dismiss a student on the following grounds:

a. Failure to fulfill the obligations of the student, as described in the Regulation of Studies of the MSc Program
b. Failure to pay the prescribed tuition fees (in any case, a student who has not met his/her financial obligations is not entitled to receive either a certificate of completion of studies or the Diploma of Postgraduate Studies),
c. Disciplinary offences, such as violation of academic ethics and, in general, any violation of the applicable legislation and the Internal Regulations of UNIWA.
d. Request for dismissal by the student (himself/herself).
e. Repeatedly failing the examination of a course or courses as defined in the Internal Regulations of UNIWA.
f. Non-renewal of registration or attended classes for two (2) consecutive semesters
g. Found guilty of plagiarism or an offence under the law on intellectual property (Law 2121/1993).
h. Any other reason deemed necessary

In case of definitive discontinuation of studies or dismissal of a student for any reason, the fees already paid will not be refunded.

MOBILITY IN THE CONTEXT OF STUDY IN THE FRAMEWORK OF THE MSc PROGRAM.

During the period of study in the MSc Program, the MSc Program students have the right to use the opportunities for mobility support. For this purpose, they may make use of relevant mobility support programs such as ERASMUS+, or agreements concluded by the MSc Program or the UNIWA for this purpose, and provided that the conditions set out in the respective program or agreement are fulfilled. Mobility may be for the purpose of gaining experience in subjects relevant to the MSc Program or the preparation of a MSc Thesis.

Right to participate in mobility

Participation in the mobility is open to all the students who have successfully passed 50% of the courses of the MSc Program and meet the requirements set by the mobility support program (e.g. ERASMUS+).

Mobility for MSc studies

The MSc Program students have the opportunity to carry out their MSc Thesis in one of the countries of the European Union or the rest of the world using a mobility support program such as Erasmus+. With regard to the recognition of the MSc Thesis carried out in the context of mobility, the conditions for the preparation of the MSc Thesis of the MSc, as described in the relevant MSc Thesis regulations, and the corresponding conditions of the mobility support program must be fulfilled.

Mobility Regulation

Information on mobility in the context of studying at the MSc Program is provided by the Mobility Regulation which is available on the MSc Program website.

ACADEMIC ADVISOR

For each new student of the MSc Program, and within a maximum period of one month from the beginning of the first semester, a lecturer of the MSc Program is appointed by decision of the CC or the CRC as Academic Advisor (AA). Following the appointment of the Academic Advisor, a relevant announcement will be made by the Secretariat of the MSc Program and posted on the MSc Program website.
Each student has the right and is encouraged to contact the Academic Advisor assigned to him/her in order to seek advice on matters of concern. Indicative issues are:

- The solution of questions and everyday issues related to the educational, scientific and research work of the MSc Program
- Specific information about the curriculum and the correlation of the studies at the MSc Program with the scientific background and professional prospects of the student
- Advice on the formulation of his/her study objectives
- Advice on how to improve learning in relation to the requirements of the studies
- Advice on the use of the resources and infrastructure of the Department, and, more generally, on organisational or administrative matters
- The recommendation of matters concerning the student to the Director of the MSc Program.
- Discussion of future plans for the student's professional and scientific development

The Academic Advisor does not necessarily undertake the supervision of the student's MSc Thesis.

Student communication with the Academic Advisor

Students are encouraged to contact at least once the Academic Advisor to whom they have been assigned, preferably at the beginning of their studies, and provide the minimum necessary information and information about the type of academic support they need or any other problem related to their studies. This can be done by sending an e-mail from their institutional account (@uniwa.gr) to the AA, stating their status and the minimum necessary data for their academic support:

1. Name, Registration Number, e-mail (@uniwa.gr), telephone number (landline or mobile),
2. General information concerning the student, such as interests, particular reasons for choosing the particular department, future goals, etc.
3. Any specific issue of concern to the student that is related to his/her studies.

Students are strongly encouraged to maintain regular contact with their academic advisors. The Academic Advisor maintains a record of meetings with visiting students, documenting the student's details and the specific issues discussed during each meeting. These records are kept under the Advisor's responsibility and are submitted to the Curriculum Coordinating Committee upon completion of their term of office. A sample student record card is provided in Appendix I.

Under no circumstances should discussions during meetings with the Academic Advisor involve examination matters or specific course results, unless they relate to advisory topics such as study planning, course registration, or class attendance—in other words, matters directly concerning the organization of the student's academic program.

To protect students' sensitive personal data, these records are never disclosed publicly, and any action taken by the Academic Advisor must always be carried out with the student's consent.

COMPLAINTS AND THEIR MANAGEMENT

In the context of strengthening the student-centered educational process and the principles of transparency, the MSc Program has adopted the "Regulation for the Operation of the Mechanism for the Management of Student Complaints and Objections". The regulation aims at the qualitative upgrading of the operation of the MSc Program, putting at its heart the respect of all those involved in the educational process, but more importantly the recipients of this process, to whom it must be accountable. In this direction, the procedure for the submission and management of complaints from students of the MSc Program operates in order to ensure their satisfaction and to safeguard its prestige. This procedure applies to all complaints concerning the quality of the educational and administrative services provided by the MSc Program

The grievance management policy is addressed to active students of the MSc Program and aims to resolve a disagreement or problem, such as:

- disagreement on matters of study and attendance,
- inappropriate behavior by a member of academic or administrative staff,
- poor guidance of students by a member of academic or administrative staff.

In any case, the submission of a complaint should not be a reflex reaction to any unmet request by a student. A good-natured discussion at the outset and a willingness to resolve a problem interpersonally is a basic academic strategy of the general human resources of the MSc Program and should be chosen before the identified problem turns into a complaint.

Complaints management Stages

1: Direct Resolution

HEARING: examination of the student's complaint/problem by a member of the Department.

The student reports the problem/complaint to a tutor, to the course organizer or to a member of the administrative staff (Secretariat of the MSc Program), depending on the nature of the issue. The relevant member of MSc Program examines the problem/complaint in collaboration with the student and proposes an appropriate solution.

In cases where, after the completion of the direct resolution process, the student objects to the resolution proposal or the situation is still problematic, then he/she can submit his/her complaint in writing within 30 days from the day the problem appeared. to the Academic Advisor.

Stage 2: Formal Resolution.

I. MEDIATION: Examination of the student's complaint/problem by the Academic Advisor

The Academic Advisor examines the problem/complaint in collaboration with the student and proposes a solution. In this direction, the Academic Advisor, at his/her discretion, also communicates with other members of the MSc Program in order to ask for their assistance, as it is their duty to solve the problem.

II. ADMINISTRATIVE EXAMINATION: Examination of the student's complaint/problem by the Director of the MSc Program.

If, following the mediation process conducted by the Academic Advisor, the student remains dissatisfied with the proposed resolution or the issue persists, they may submit a written complaint to the Secretariat, addressed to the Director of the MSc Program. The complaint must be submitted using the designated **'Form for Submission of Complaints or Objections**,' which includes, among other details, a summary of the hearing and mediation procedures that were followed."

The Director of MSc Program takes the necessary actions to examine/investigate the problem. It is possible, depending on the nature of the problem, to invite the student to a hearing and request the assistance of any member or body of the MSc Program or the Foundation or to refer the problem/complaint to the Study Program Committee. In cases where the Director of the MSc Program refers the problem/complaint to the Curriculum Committee (CC), the decision is final and the student cannot lodge an objection and make use of the third stage of this procedure

Within a reasonable period of time and depending on the nature of the problem and the urgency of the matter, the student is duly informed of the outcome of the actions taken and the decisions taken regarding the problem/complaint.

Stage 3: Appeal and Final Review of problem/complaint.

I. OBJECTION: Review of problem/complaint by the Curriculum Committee.

If, after the completion of the administrative review process, the student remains dissatisfied with the proposed solution or the issue remains unresolved, they may submit a formal objection to the Secretariat, addressed to the Study Program Committee. This must be done using the designated **'Form for Submission of Complaints or Objections**,' which includes, among other details, a description of the hearing, mediation, and administrative review procedures that were followed.

In cases where the Director of the MSc Program has already involved the Curriculum Committee (CC) during the Administrative Examination stage, the student is not permitted to submit an objection or proceed with this step of the procedure. The decision made by the Study Program Committee at this stage is final.

SCHOLARSHIPS

The MSc Program may grant scholarships, remunerative and non-remunerative, or excellence awards to full-time students, according to a decision of the Study Program Committee. Scholarships are awarded based on objective, academic, financial and social criteria, which may include:

1. Academically:
   a) The study.
   b) The average grade of the previous semester (provided that the student has been successfully

examined in all the courses of the semester).
c) The degree grade with which the student was admitted to MSc Program
d) Recent academic achievements (awards and honors).

2. Financially:
Registered students of the MSc Program may study for free at an MSc Program, if the payment of tuition fees is foreseen, as long as they meet the financial or social criteria in accordance with the provisions of article 86 of Law 4957/2022 and No. 108990/Z1/8 -9-2022 H.A. (B' 4899/2022).

3. Social:
a) Divorced, with dependent children.
b) Candidate with a disability
c) Single-parent family.
d) Orphan of both parents, not exceeding 25 years of age.
e) Child from a large family
f) Members of the same family.

Also, the MSc Program may grant scholarships to students for the purpose of supporting the preparation of assignments abroad, upon request of the student and its evaluation by the CC.

Procedure: Following a recommendation from the CRC of the MSc Program, an invitation is issued for students to submit applications for the scholarship grant. Candidates must complete all mandatory fields of the application and provide the required supporting documents, as specified on a case-by-case basis. Applications must be submitted to the Department Secretariat by the deadlines outlined in the invitation. The application has the status of a Responsible Declaration of Law 1599/1986.
The competent body evaluates and ranks the candidacies based on the criteria defined in the Study Regulations of the MSc Program and recommends the list of names of the candidates to the CC. The maximum number of scholarships at MSc Program is set at three (3) per year in the case of application of the academic criteria. A scholarship is not granted in the event that the student is already receiving a scholarship from another source and in a student that has been entered in the MSc Program without the obligation to pay tuition fees.

DIPLOMA OF POSTGRADUATE STUDIES

The Diploma of Postgraduate Studies (D. P. S.) is a public document. The form of the report is defined by decision of the Senate and it is signed by the Rector, the Director of the MSc Program and the Secretary of the MSc Program or their legal deputies and bears the seal of UNIWA. The collaborating Departments are listed in the D. P. S. Especially for those who will choose all three courses from the same specialization (one of the two offered specializations), the title will also indicate the corresponding specialization: Autonomous Systems or Cognitive Systems Specialization. In other case no specialization will be indicated. Before the award, the graduate of the Master's degree may be granted a certificate that he/she has successfully completed the Master's degree and an analytical grade with the corresponding credit points. The Diploma of Postgraduate Studies is accompanied by a Diploma Supplement which is an explanatory document and does not replace the official degree or the detailed course grades. The Diploma Supplement

is attached to the MSc Program and provides information on the nature, level, general context, content and status of the studies successfully completed by the person named on the original of the diploma. There are no evaluative judgements in the Annex and there are no statements of equivalence or correspondence or proposals concerning the recognition of the MSc Program abroad. The Diploma Supplement is issued automatically and without any charge in Greek and in English, and must meet the authenticity requirements for the degree awarded. The date of issue of the Annex does not necessarily coincide with the date of the award of the MSc Program, but it can never be earlier than that.

The grade of the M. Sc. is derived from the evaluation grade in the courses and the MSc Thesis. More specifically, in each semester the student receives a grade in each course that is examined and if successfully evaluated, he/she is credited proportionally with the corresponding credits. The final grade of the M. Sc. is derived from the evaluation grade:

a) in the MSc Program courses,

b) in the Postgraduate MSc Thesis.

The grade of the Diploma of Postgraduate Studies is calculated with an approximation of two decimal places and is obtained from the formula:

B = (B1*P1 + B2*P2 + …….. + Bn*Pn) / (P1 + P2 + …..+ Pn)

where B1, B2, . . . , Bn are the grades of all the courses the student has successfully passed and P1, P2, ... , Pn are the ECTS credits corresponding to each course.

Qualifying points are five (5) and above. The rating scale for evaluating the performance of the students is defined from zero (0) to ten (10) as follows: **-Excellent:** from eight and fifty (8. 50) to ten (10),

-Very good: from six and fifty (6. 50) to eight and forty-nine (8. 49), **-Good:**

from five (5) to six and forty-nine (6. 49) or

-Rejected: from zero (0) to four and ninety-nine (4. 99).

TUTORS

Categories of tutors

The teaching work in the MSc Program is assigned, following a decision of the CC, to the following categories of tutors:

a) faculty members, Special Teaching Staff, Laboratory Teaching Staff and Special Technical Laboratory Staff of the collaborating Departments or other Departments of UNIWA or other universities or universities of applied sciences, with additional employment beyond their legal obligations,

b) Emeritus Professors or retired members of the collaborating Departments or other Departments of UNIWA or other universities,

c) cooperating tutors,

d) designated lecturer(s),

e) visiting professors or visiting researchers,

f) researchers and special operational scientists of research and technological institutions of article 13A of Law 4310/2014 (A΄ 258) or other research centers and institutes of Greece or abroad,

g) scientists of recognised prestige, who have specialised knowledge and relevant experience in the subject of the MSc Program.

Right to supervise a MSc Thesis.

Lecturers of the previous cases a) to f) are entitled to supervise MSc Thesis students, provided that they hold a doctoral degree. By decision of the CC, the supervision of MSc Thesis may be assigned to members of the faculty and Special Teaching Staff with a doctorate from the collaborating departments, who have not undertaken teaching work in the MSc Program.

Academic Advisor

The MSc Program applies the institution of the Academic Advisor by decision of the CC. The aim of the institution is to provide advice to the students during their studies on academic issues in an individualized way. The expected outcome is to facilitate the completion of the studies of the students while at the same time exploiting their particular skills and interests in the educational and research process. The Academic Advisor chooses the way of approaching and advising the students assigned to him/her in each academic year.

SERVICES FOR STUDENTS

Department of Financial Support for Food and Student Housing

According to the current legislation, students of the University of West Attica have the opportunity to apply for free meals. Three (3) meals (breakfast, lunch and dinner) are available to the students entitled to the free meals.

Students who are not eligible for free meals may still access the student restaurants by paying a nominal daily fee for a full meal (lunch and dinner). The University of West Attica also provides accommodation to eligible students.

More detailed information on the application procedure, as well as the necessary supporting documents, is provided at the beginning of each academic year by the Directorate of Student Affairs.

Related link: https://aidl.uniwa.gr/info_for_students/ Student Support Services

Health Service

According to the provisions of Law 4452/15-02-2017 (A' 17), article 31, par. 3 "undergraduate and postgraduate students and doctoral candidates who have no other medical and hospital care are entitled to full medical and hospital care in the National Health System with coverage of the relevant costs by the National Organization for the Provision of Health Services, in accordance with article 33 of Law 4368/2016 (A' 83)" only by using their Personal Health ID.

Related link: https://aidl.uniwa.gr/info_for_students/ Student Support Services

Department of Social Care, Counselling and Psychological Support

The above department is responsible for issues related to the psychosocial support of the members of the educational community of the University of West Attica (students, teaching and administrative staff).

Related link: https://aidl.uniwa.gr/info_for_students/ Student Support Services

Department of Career Counselling & Guidance

The main task of the department of Career Counselling & Guidance is to prepare and support the students and graduates of the Foundation in their professional careers, offering them information on postgraduate

studies and scholarships, informing them about training programs and jobs in the public and private sectors and enhancing the individual skills needed to explore and find work.

Related link: https://aidl.uniwa.gr/info_for_students/ Student Support Services

UNIWA Liaison Office

To the UNIWA operates an Liaison Office, whose mission is to offer high quality services to the Educational community as well as to the private and public sector enterprises, organizations, local government services and collective bodies in order to achieve the following objectives: a) the liaison and mediation between the Foundation and education, research, production and service providers, communication with the students and graduates of the Foundation and b) the promotion of the innovation and entrepreneurship.

Related link: https://aidl.uniwa.gr/info_for_students/ Student Support Services

Equal Access Unit for People with Disabilities (PwD) and People with Special Educational Needs

The Equal Access Unit for persons with disabilities and special educational needs serves as the Foundation's designated point of contact for overseeing the implementation of the relevant provisions of the United Nations Convention on the Rights of Persons with Disabilities. It is responsible for drafting and submitting proposals, along with legislative regulations, to the Individual Reference Point of the Ministry of Education and Religious Affairs, in accordance with Article 71 of Law 4488/2017 (A' 137). The unit also prepares annual progress reports and consults with members of the academic community with disabilities on these matters. The unit is staffed, preferably, by professionals with expertise in physical and digital accessibility, as well as disability-related issues, or by individuals who have received appropriate training in these areas.

Related link: https://aidl.uniwa.gr/info_for_students/ Student Support Services

Counsellors of Students with Disabilities (SwD)and their Deputies

The University of West Attica takes care to support students who, for different reasons (students with disabilities, students from vulnerable social groups, students with low incomes) are prevented from participating equally in the academic activities required by their studies and completing them by obtaining their degree.

The supervising department of the Master's Program, in accordance with the Internal Regulations of the University and the other applicable provisions, appoints Professors of SwD and the services of the Institution in cooperation with the Professors undertake actions for:

- continuous recording of students of the target group (SwD) and their specific needs
- assessment of individual functioning/study disabilities - identification and adaptation of assistive technologies
- counselling and psychological support services
- provision of accessible digital learning materials and an accessible institutional website
- volunteering - education - awareness raising initiatives
- accessibility of premises
- financial support for disadvantaged students to combat drop-outs

Related link: https://aidl.uniwa.gr/info_for_students/ Counselors of Professors of Students with special needs and their Deputies

Academic Advisors

With the registration of each student, an academic advisor is appointed, who is a faculty member of the University of West Attica who teaches at the MSc Program. The academic advisor monitors and collaborates on a regular basis with the student throughout the course of studies on issues of education, career guidance and integration into the academic community.

Related link: https://aidl.uniwa.gr/info_for_students/ Counselors of Professors of Students with special needs and their Deputies

Student Advocate

The University of West Attica operates the institution of the Student Advocate in accordance with the Internal Regulations of the University and other applicable provisions. Within the framework of its competences, the Student Advocate investigates cases on his/her own initiative or following a student's report and mediates with the competent bodies for their resolution. It is part of his/her authority to request from the Foundation's services any information, document or other evidence in the case, to examine persons, to conduct an autopsy and to order expert opinions. If it finds that in a specific case the legality is not respected, that there are phenomena of mismanagement or that the proper functioning of the Institution is disturbed, it draws up a conclusion, which it notifies the professor concerned or the competent administrative department and the student who submitted the report, and mediates in every appropriate way to solve the problem. The Student Advocate may, by act of the Student Advocate, place on file a report that is deemed manifestly vague, unfounded or unsubstantiated, and, if he/she finds that there is evidence of disciplinary misconduct, he/she shall forward the case to the appropriate disciplinary body. On the website https://advedu. uniwa. gr/ there is useful information about the institution of the Student Advocate, contact details, the online form for submitting requests and the online appointment form.

Related link: https://aidl.uniwa.gr/info_for_students/ Counselors of Professors of Students with special needs and their Deputies

Academic Identity

For all the postgraduate students of the MSc Program, an academic ID card is provided with the right to a reduced ticket, for the issue of which they are informed in detail about all the instructions with a relevant announcement by the MSc Program Secretariat.

Related link: https://aidl.uniwa.gr/info_for_students/ Academic ID

Scholarships

The MSc Program may grant scholarships, contributory and non-reimbursable, or excellence awards to full-time students, according to the decision of the CC. Scholarships are granted on the basis of objective, academic, economic and social criteria, which may include academic, economic and social criteria, as mentioned in article 14 of the Regulation of Studies of the MSc Program

Also, the MSc Program may grant scholarships to the students in order to support the preparation of projects abroad, upon request of the student and evaluation by the CC following the procedure described in article 14 of the MSc Program

Related link: https://aidl.uniwa.gr/info_for_students/ Scholarships

Sports- Gym

The University of West Attica has two gyms, one in the Egaleo Park Campus and the other in the Ancient Eleonas Campus. The gyms are fully equipped with fitness equipment, while the staff of the gyms guides and supervises every interested visitor.

The purpose of gyms is to offer a wide range of sports programs and activities that will ensure quality of life, as well as mental and physical health for participants.

Related link: https://aidl.uniwa.gr/info_for_students/ Sports - Gym

Electronic services

The Department of Network Support is responsible for the support of all electronic services provided at the University of West Attica. The Network Support Department provides a range of electronic voice and data services to members of the university community.

Below are listed some of the general electronic services of UNIWA and then we analyze the services of UNIWA that are used in the context of the operation of the MSc Program:

- Moodle
- Efdoxos
- Pyles
- SPSS
- Matlab
- Turnitin
- Office365
- Portal.azure.com
- Requests to the Technical Service
- Conference Center / hall reservations
- Video conferencing
- Access to APELLA
- Electronic Library
- Citizens' Central Protocol Service

Related link: https://aidl.uniwa.gr/info_for_students/ Online Services

Connectivity and Access

The University of West Attica and the FLIPP "Artificial Intelligence and Deep Learning" offer and rely on a series of electronic services. Indicatively, some of the main ones are listed below:

- Email services: user account and instructions
- wireless network connection (Wi-Fi & Edu roam)
- Virtual Private Network (VPN)
- Web Hosting (Institutional Platform)
- Private Web Hosting (Private Webhosting)

- File sender - Instructions
- Message notification lists
- Provision of Personal Certificates X. 509
- Digital Signature
- Electronic Portal for Financial Services, Electronic Portal for Administrative Services

Related link: https://aidl.uniwa.gr/info_for_students/ Online Services

Educational Process

- *E-class*[1]

The e-class is an integrated e-course management system and supports the asynchronous e-learning service in the UNIWA without restrictions and constraints. The service is accessed using a simple web browser without the requirement of specialized technical knowledge.

Related link: https://aidl.uniwa.gr/info_for_students/ Online Services

- *Electronic Secretariat Services*

Through the electronic secretariat information system, each lecturer has access to their respective classroom, allowing them to review course materials, communicate with registered students, and manage grades. Additionally, the e-secretariat system provides statistical data, such as pass rates and grade distributions, which are collected and analyzed on a case-by-case basis.

Related link: https://aidl.uniwa.gr/info_for_students/ Online Services

- *Student registers*[2]

Regarding student matters, the Secretariat of the MSc Program utilizes the student registry software purchased by UNIWA, which is available for use by students and lecturers across all departments. The entire electronic process of course assignment, monitoring, and completion is managed through the information system of the electronic secretariat, to which the Department's Secretariat has access.

Related link: https://aidl.uniwa.gr/info_for_students/ Online Services

- *Institutional Repository "Polynoe"*

The Institutional Repository (I.R.) "Polynoe" of the University of West Attica is an infrastructure of organized digital content which was created with the aim of collecting, documenting and promoting the scientific production of the Institution. In a systematic manner, following international practice and standards, documents from the entire educational research and administrative activity of the Foundation, as well as special collections when appropriate, are systematically recorded.

This material is classified into collections by subject or thematic category and for each case of material a digital entry is created with appropriate descriptive metadata, which is linked to the corresponding digital file that has been deposited. The posting of the MSc Thesis of the Master's degree in a specific format is

[1] Detailed information at the link https://eclass.uniwa.gr/

[2] Detailed information at the link https://services.uniwa.gr

necessary in order to complete the declaration of the students as graduates on the basis of other requirements.

Related link: https://aidl.uniwa.gr/info_for_students/ Online Services

- *Access to equipment for the needs of assignments*

In order to serve the needs of students for the preparation of assignments, the MSc Program provides access to technological equipment and hardware and software infrastructure, as well as resources in virtualized infrastructures. Through this access, students are able to create and run artificial intelligence and deep learning models. Information on the availability of infrastructure per course, how to apply and access it, as well as the operating procedures are provided by the course lecturers, and in the case of theses by the supervisor.

Related link: https://aidl.uniwa.gr/info_for_students/ Online Services

ASSISTIVE WORK BY POSTGRADUATE STUDENTS

By decision of the CC of the MSc Program it is possible to approve the participation of PhD students, doctoral candidates and post-doctoral fellows in the provision of assistive teaching work in first or second cycle programs of study. Reimbursable scholarships may be awarded to students with the obligation to support the educational process and provide assistive teaching. The assistive teaching work is defined as the assistance of faculty members in the exercise of their teaching work, the training of students, the conduct of tutorials, laboratory exercises, the supervision of examinations and the correction of exercises.

PLAGIARISM

Students are required to clearly indicate whether they have used the work and opinions of others in all papers, texts, reports, and presentations within the framework of the MSc Program, including the MSc Thesis. Additionally, students who have utilized Artificial Intelligence (AI) services or assistance in the preparation of papers and other texts for the MSc Program and/or Thesis must include a 'Statement on the Use of Generative AI and AI-Assisted Technologies in the Writing Process' in the preamble. This statement should specify which tool was used and explain the reasons for needing such services.

Plagiarism is considered a serious academic offence. Plagiarism is the copying of someone else's work, as well as the use of someone else's work - published or not - without proper attribution. The copying of any documentation material, even from studies/texts of the candidate himself/herself, without a relevant reference, may constitute reason leading to a decision of the CC for the expulsion of the student. In the above cases, the CC may decide to expel him/her, after giving him/her the opportunity to express, orally or in writing, his/her views on the matter. Any misconduct or violation of academic ethics is referred to the CC. Copying or plagiarism and, more generally, any infringement of the provisions on intellectual property are considered as violations by the student during the writing of papers in the context of the course or the preparation of the MSc Thesis.

AWARDING OF DIPLOMAS - SWEARING-IN

The student who has successfully completed the postgraduate studies is sworn in at a public swearing-in ceremony, before the Rector or the Vice Rector as the representative of the Rector and the Presidents of

the departments that co-organise the Master's degree program, which takes place after the end of each examination period, on a day and at a time determined by the Rector in collaboration with the Presidents of the Departments. The oath is not a component of successful completion of studies, but it is a necessary condition for the award of the Diploma of Postgraduate Studies. For reasons of force majeure (e. g. health reasons, residence or work abroad, military obligations) and with a request to the Secretariat of the Department, the graduate may request to receive the degree without participating in the swearing-in ceremony or to request to participate in a subsequent swearing-in ceremony. Exemption from the obligation to participate in an oath-taking ceremony is approved by the CC. Prior to the oath-taking ceremony or exemption from it, graduates may be given a certificate of successful completion of their studies.

A Diploma of Postgraduate Studies awarded may be revoked or cancelled if it is proven that the legal and institutional conditions for its award did not exist at the time of its acquisition. The revocation or cancellation is made after a decision of the EPS, which is communicated to the Rector of the Foundation.

WEBPAGE OF THE MSc PROGRAM

The official website and the social media accounts are constantly updated and contain all the information, announcements and news of the Program. The website of the MSc Program is the official information site of the students. Website of the MSc Program https://aidl. uniwa. gr/

Accounts in the social networks of the MSc Program

Facebook: Master of Science in Artificial Intelligence and Deep Learning – UNIWA

LinkedIn: Master of Science in Artificial Intelligence and Deep Learning – UNIWA

LinkedIn: MSc Artificial Intelligence and Deep Learning Students

Twitter: @MscAIDL_UNIWA

INTERNAL EVALUATION OF THE MSc PROGRAM

At the end of each semester an evaluation of each course and each lecturer is carried out by the students. The evaluation is carried out using a special evaluation form/questionnaire completed by the students. Courses are evaluated in terms of content, teaching method, teaching material and the degree of their correlation with the principles and philosophy of the course. Lecturers are evaluated on several levels, which may include, but are not limited to, evaluation of their knowledge and their ability to transfer it to students, their preparation, the use of up-to-date literature, their willingness to answer questions, timely grading and returning of assignments and written exams, and adherence to class time. The annual internal evaluation of the MSc Program is carried out in cooperation with the MO. D. I. P. of UNIWA. in the context of the internal evaluation of the Departments of Electrical and Electronic Engineering and Industrial Design and Production Engineering/School of Engineering according to the respective procedure of the internal Quality Assurance System of the UNIWA.

The external evaluation of the MSc Program is conducted in collaboration with MO.D.I.P., as part of the certification process, in accordance with the procedures established by the Hellenic Authority for Higher Education (HAHE). If, during the evaluation process outlined above, it is determined that the MSc Program does not meet the conditions required for its continued operation, the program will be discontinued upon the graduation of the currently enrolled students, in accordance with the decision of establishment and the regulations governing postgraduate and doctoral programs at UNIWA.