Faculty of Artificial Intelligence and Informatics

Artificial Intelligence Engineering
Bachelor's Degree Program
Program Information Package

1. GENERAL INFORMATION OF THE FACULTY

1.1. Establishment of the Faculty

A) History of the Faculty and Academic Processes

The Near East University Faculty of Artificial Intelligence and Informatics was established in 2025 and began its educational activities in the same year. Turkish citizens are admitted to the faculty's programs through the Student Selection and Placement Examination (ÖSYM) in line with the decision of the Council of Higher Education (YÖK). The Faculty of Artificial Intelligence and Informatics was founded with the vision of becoming a leading institution in the contemporary world, integrating research and education through a student-centered approach and possessing international academic standards. The faculty offers undergraduate, master's, and doctoral programs in both Turkish and English.

B) Educational Policy and Academic Goals

The Faculty of Artificial Intelligence and Informatics, in line with its progressive educational philosophy, adopts a contemporary understanding of education and implements a student-centered teaching model that promotes interdisciplinary collaboration. The educational programs are structured in accordance with international standards. Graduates of the faculty make qualified contributions to the professional and academic fields as competent, innovative, and ethically responsible individuals in artificial intelligence, software engineering, and information technologies. The academic staff contribute to science and aim to lead technological advancement through their scientific research, R&D (Research and Development) activities, and community projects.

C) Physical and Academic Infrastructure

Located at the heart of the Near East University campus, the Faculty of Artificial Intelligence and Informatics possesses a modern infrastructure designed to support advanced education and training activities. The multi-story faculty building houses fully equipped classrooms, computer laboratories, seminar halls, academic and

administrative offices, and shared facilities. Theoretical courses are delivered in 18 classrooms, all equipped with projection systems, smart boards, and internet connectivity. The faculty includes five fully equipped computer laboratories and specialized labs focused on artificial intelligence, machine learning, data science, cybersecurity, and software development, providing undergraduate and graduate students with opportunities for project-based and practical work.

The faculty collaborates with units such as the Near East University International Artificial Intelligence and IoT Research Center to strengthen its research activities. Dedicated offices are provided for academic staff, along with separate administrative units and a student affairs office. In addition, relaxation areas, meeting rooms, and club rooms are allocated to enhance students' social and academic engagement. These facilities enable students to gain hands-on experience alongside theoretical knowledge and to actively participate in university life.

D) Accreditation and Quality Policy

The Faculty of Artificial Intelligence and Informatics embraces national and international quality standards in its education and research processes and aims to enhance the quality of education through a philosophy of continuous improvement. The faculty actively participates in national and international accreditation processes, regularly reviewing and improving its academic programs. These programs are structured with consideration for professional ethics, security standards, and current industry requirements, with the goal of equipping students with a strong and well-rounded professional foundation.

1.2. Mission, Vision, and Core Values of the Faculty

A) Mission

The Faculty of Artificial Intelligence and Informatics aims to achieve excellence and leadership at both regional and global levels in the fields of artificial intelligence and informatics education, research, and community engagement. Moving beyond traditional approaches focused solely on mathematics, physics, and the natural sciences, the faculty strives to cultivate a new generation of dynamic, innovative, and visionary professionals equipped with comprehensive scientific and practical knowledge. Graduates are

educated to be individuals who, guided by ethical values, can respond to the evolving demands of the global workforce and are ready to lead cutting-edge intelligent projects in the fields of informatics and data science.

B) Vision

Drawing strength from its natural connection with technology, the Faculty of Artificial Intelligence and Informatics envisions creating a unique environment that fosters interdisciplinary collaboration, advanced research, and innovation. The faculty aims not only to contribute to scientific projects but also to educate professionals who will lead and shape these projects with a forward-looking perspective. In this context, it aspires to become a nationally and internationally recognized institution, pioneering both research and practical applications.

C) Core Values

1) Embracing a culture of quality
2) Supporting continuous improvement
3) Ensuring sustainable development
4) Commitment to scientific and universal standards
5) Adherence to ethical values
6) Student-centered approach
7) Encouraging innovative thinking

1.3. Faculty's Goals and Objectives

A) Faculty Goals

- To educate qualified engineers and researchers in the fields of artificial intelligence and informatics, contributing to scientific and technological development.
- To Produce innovative solutions in education, research, and community service in accordance with ethical values and universal academic principles.
- To conduct interdisciplinary studies and strengthen scientific collaborations at national and international levels.

- To increase interaction with the public, private sector, and society, contributing to digital transformation and the information society.
- To develop students' analytical thinking, problem-solving, and lifelong learning skills.

B) Faculty Objectives

- To Ensure that students acquire knowledge and skills in artificial intelligence and informatics in line with international standards.
- To Continuously improve educational programs to meet the technological needs of the era.
- To Increase research activities and produce scientific projects at national and international levels.
- To strengthen knowledge and technology transfer through collaboration with public and private sectors.
- To increase societal contribution and promote arAI literacy.
- To enhance graduates' analytical thinking, problem-solving, and innovative application competencies.

C) Education-Oriented Goals and Objectives

Goal 1: To Conduct pioneering research in artificial intelligence and informatics at national and international levels.

- **Objective 1.1:** To increase the number of scientific publications through interdisciplinary projects.
- **Objective 1.2:** To obtain support from national and international research funds.
- **Objective 1.3:** To establish and strengthen advanced research laboratories within the faculty.

Goal 2: To produce innovative AI solutions for regional and global challenges.

- **Objective 2.1:** To develop joint R&D projects with industry and public institutions.

- **Objective 2.2:** To carry out applied research in priority areas such as smart cities, health technologies, and cybersecurity.

- **Objective 2.3:** To strengthen technology transfer mechanisms to convert developed projects into societal benefits.

D) Research Oriented Goals and Objectives

Goal 1: To generate high-quality knowledge in artificial intelligence and informatics at a global level.

- **Objective 1.1:** To provide laboratory and project environments that enhance students' scientific research skills.
- **Objective 1.2:** To provide opportunities that strengthen the interdisciplinary research identity of academic staff.
- **Objective 1.3:** To support academic staff participation in national and international scientific events and conferences.
- **Objective 1.4:** To create academic support and funding mechanisms that encourage sustainable and innovative AI projects.

Goal 2: To develop innovative AI solutions addressing regional and global challenges.

- **Objective 2.1:** To develop joint R&D projects with industry, public institutions, and research centers.
- **Objective 2.2:** To conduct applied research in priority areas such as smart cities, health technologies, data science, and cybersecurity.
- **Objective 2.3:** To strengthen technology transfer mechanisms to convert scientific outputs into societal benefits.

E) Community and Educational Service-Oriented Goals and Objectives

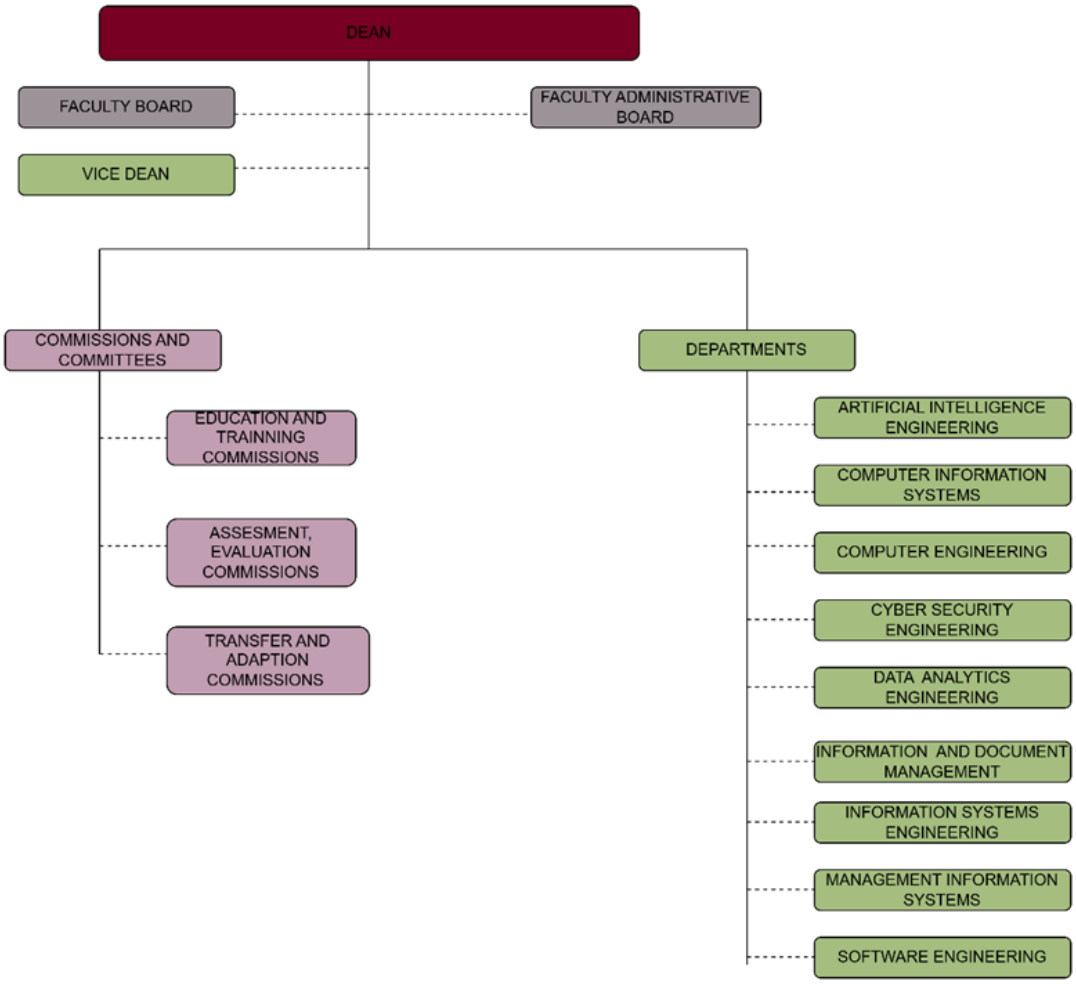
Goal 1: To educate qualified individuals who contribute to the digital transformation of society and promote AI literacy.

- **Objective 1.1:** To support students' participation in community responsibility projects and technology-focused voluntary activities.
- **Objective 1.2:** To organize seminars, workshops, and training programs that increase digital awareness in society.
- **Objective 1.3:** To develop socially impactful projects in AI and informatics that address community needs.
- **Objective 1.4:** To establish joint education and certification programs with public and private sectors, contributing to technological development in society.

Goal 2: To provide sustainable educational services that support lifelong learning and professional development.

- **Objective 2.1:** To develop continuous education and certification programs that support the professional growth of academic staff and students.
- **Objective 2.2:** To accelerate society's adaptation to technology by conducting joint projects with local and international stakeholders.
- **Objective 2.3:** To create educational platforms with online and face-to-face content accessible to different age groups and professions.

1.4. Organizational Chart of the Faculty



1.5. Faculty Administration

Academic Title and Full Name	Academic Unit of Appointment
Prof. Dr. Fadi Al-Turjman	Software Engineering
Prof. Dr. Nadire Çavuş	Computer Informatics Systems
Prof. Dr. Fezile Özdamlı	Management Information Systems
Prof. Dr. Gülsüm Aşıksoy	Artificial Intelligence Engineering
Prof. Dr. Rahib Abiyev	Computer Engineering
Assoc. Prof. Dr. Idoko John Bush	Cybersecurity Engineering
Assoc. Prof. Dr. Seren Başaran	Data Analysis Engineering
Asst. Prof. Dr. Dr. Amr Abdelbari	Information Systems Engineering

1.6. Academic Staff of the Faculty

A) Academic Structure and Departments

The Near East University Faculty of Artificial Intelligence and Informatics conducts innovative education and research activities in artificial intelligence, information technologies, and data science through its interdisciplinary structure.

The faculty consists of nine academic departments: Information and Records Management, Information Systems Engineering, Cybersecurity Engineering, Software Engineering, Computer Informatics Systems, Data Analysis Engineering, Artificial Intelligence Engineering, Management Information Systems, and Computer Engineering. Each department offers both theoretical and practical courses in its field, thereby contributing effectively to undergraduate and postgraduate programs.

Computer Engineering and Software Engineering provide fundamental engineering skills in software development, algorithms, and system design. Artificial Intelligence Engineering and Data Analysis Engineering offer advanced training and research opportunities in AI techniques, machine learning, and big data analytics. Cybersecurity Engineering focuses on network security, cryptography, and cyber defense. Information

Systems Engineering and Management Information Systems emphasize the integration of information technologies into business and organizational structures. Computer Informatics Systems equips students with interdisciplinary IT infrastructure and solution development skills, while Information and Records Management contributes to society and academia through expertise in information resource management and digital archiving.

Through this comprehensive academic structure, the faculty delivers technology-oriented, innovative, and research-based education, offering students a broad range of specializations and actively contributing to both regional and global scientific development.

B) Distribution and Strength of Academic Personnel

No	Faculty/School/Institute	Department / Academic Unit	Academic Staff (with Title)
1	Faculty of Artificial Intelligence and Informatics	Software Engineering	Prof.Dr. Fadi Al-Turjman
2	Faculty of Artificial Intelligence and Informatics	Computer Informatics Systems	Prof.Dr. Nadire Çavuş
3	Faculty of Artificial Intelligence and Informatics	Management Information Systems	Prof.Dr. Fezile Özdamlı
4	Faculty of Artificial Intelligence and Informatics	Artificial Intelligence Engineering	Prof. Dr. Gülsüm Aşıksoy
5	Faculty of Artificial Intelligence and Informatics	Computer Engineering	Prof.Dr. Rahib Abiyev
6	Faculty of Artificial Intelligence and Informatics	Computer Engineering	Assoc. Dr. Ahmet İlhan

7	Faculty of Artificial Intelligence and Informatics	Computer Engineering	Assoc. Dr. Boran Şekeroğlu
8	Faculty of Artificial Intelligence and Informatics	Cybersecurity Engineering	Assoc. Dr. Idoko John Bush
9	Faculty of Artificial Intelligence and Informatics	Computer Informatics Systems	Assoc. Dr. Sahar Ebadinezhad
10	Faculty of Artificial Intelligence and Informatics	Data Analysis Engineering	Assoc. Dr.Seren Başaran
11	Faculty of Artificial Intelligence and Informatics	Information Systems Engineering	Assist.Prof.Dr.Amr Abdelbari
12	Faculty of Artificial Intelligence and Informatics	Computer Engineering	Assist.Prof.Dr. Elbrus Bashir Imanov
13	Faculty of Artificial Intelligence and Informatics	Artificial Intelligence Engineering	Assist.Prof.Dr. Kaan Uyar
14	Faculty of Artificial Intelligence and Informatics	Computer Informatics Systems	Assist.Prof.Dr. Nasim Ahmadzadeh
15	Faculty of Artificial Intelligence and Informatics	Computer Engineering	Assist.Prof.Dr. Ümit İlhan
16	Faculty of Artificial Intelligence and Informatics	Software Engineering	Assist.Dr. Oluwaseun Priscilla Olawale
17	Faculty of Artificial Intelligence and Informatics	Cybersecurity Engineering	Dr. Galip Savaş İlgi

18	Faculty of Artificial Intelligence and Informatics	Data Analysis Engineering	Dr. Hamit Altıparmak
19	Faculty of Artificial Intelligence and Informatics	Artificial Intelligence Engineering	Dr. Mohamad Ziad Altabel
20	Faculty of Artificial Intelligence and Informatics	Computer Informatics Systems	Dr. Oluwafemi Ayotunde Oke
21	Faculty of Artificial Intelligence and Informatics	Information and Records Management	Dr. Sıla Gürler
22	Faculty of Artificial Intelligence and Informatics	Software Engineering	Dr.Ramiz Salama
23	Faculty of Artificial Intelligence and Informatics	Information Systems Engineering	MSc. Çağrı Özkan
24	Faculty of Artificial Intelligence and Informatics	Information and Records Management	MSc.Rabiu Abubakar
25	Faculty of Artificial Intelligence and Informatics	Artificial Intelligence Engineering	MSc.Sinem Alturjman

C) Academic Development and Quality Policy

Within the Near East University Faculty of Artificial Intelligence and Informatics, there are nine academic departments: Information and Records Management, Information Systems Engineering, Cybersecurity Engineering, Software Engineering, Computer

Informatics Systems, Data Analysis Engineering, Artificial Intelligence Engineering, Management Information Systems, and Computer Engineering.
The faculty stands out with its expert and experienced academic staff. As of the 2024–2025 academic year, the faculty employs a total of 25 academic personnel, comprising 5 professors, 5 associate professors, 6 assistant professors (doctoral faculty members), 6 PhD holders, and 3 lecturers.
The academic staff provide education at both undergraduate and graduate levels and contribute to scientific studies in artificial intelligence and information technologies through their research. They also participate in various training and development programs to support their professional growth and play active roles in national and international projects, thereby advancing their individual academic careers and increasing the faculty's recognition at the international level.

1.7. Programs within the Faculty

The Faculty of Artificial Intelligence and Informatics offers a wide range of academic programs at undergraduate, master's, and doctoral levels, providing students who wish to gain in-depth knowledge in artificial intelligence and informatics with extensive opportunities. Each program enables students to specialize in their chosen field and contribute to the ecosystem of information technologies and artificial intelligence.

The programs offered by the faculty are as follows:

Undergraduate Programs

- Software Engineering
- Computer Informatics Systems
- Artificial Intelligence Engineering
- Information Systems Engineering
- Computer Engineering
- Data Analysis Engineering
- Cybersecurity Engineering
- Management Information Systems
- Information and Records Management

Master's Programs (Thesis and Non-Thesis)

- Software Engineering
- Information Systems Engineering
- Computer Engineering
- Artificial Intelligence Engineering

Doctoral Programs

- Computer Engineering

2. GENERAL INFORMATION OF THE PROGRAM

2.1. Brief History and Development of the Program

The Near East University Department of Artificial Intelligence Engineering was established in 2019 and commenced its educational activities following the decision of the Higher Education Supervision and Accreditation Board (YÖDAK). Both the undergraduate and the master's (MSc) programs are offered in English.

The Department of Artificial Intelligence Engineering aims to educate qualified individuals who can develop innovative, ethical, and sustainable solutions in the field of artificial intelligence and possess interdisciplinary thinking skills. The department seeks to equip students with both the theoretical and practical foundations of AI technologies, providing advanced knowledge and skills in areas such as data analytics, machine learning, deep learning, natural language processing, and autonomous systems. Furthermore, by promoting research and development activities through collaboration between industry and academia, the department aims to enhance scientific productivity and social impact at both national and international levels.

2.2. Type of Education of the Program

The Department of Artificial Intelligence Engineering offers formal (on-campus) education. In this context, courses are conducted through face-to-face, online, and hybrid methods, combining both theoretical and practical components

2.3. Educational Level of the Program

The Artificial Intelligence Engineering undergraduate program consists of 240 ECTS credits and covers a four-year course of study. It meets the "Level 6" qualifications defined by the Turkish Higher Education Qualifications Framework (TYYÇ).

To graduate, students must achieve a Cumulative Grade Point Average (CGPA) of at least 2.00 out of 4.00 and successfully complete all courses in the program with a minimum grade of DD/S. In addition, students are required to complete a compulsory internship of the specified duration and quality.

The program includes 51 courses in total, with at least five courses offered in each semester, excluding university-wide required and elective courses. Alongside the

compulsory courses mandated by the Turkish Higher Education Council (YÖK), additional common courses determined by the University Senate are also included.

Starting from the third year, elective courses are offered each semester, and approximately 25% of these electives may be taken from other faculties. Each undergraduate program contains a minimum of 13 elective courses.

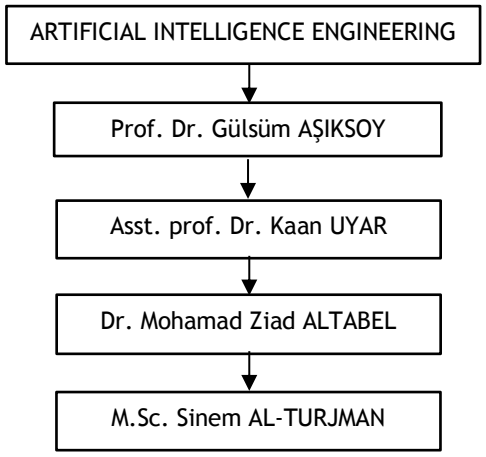
2.4. Language of Instruction of the Program

The language of instruction in the Department of Artificial Intelligence Engineering is English.

2.5. Duration of the Program

The Artificial Intelligence Engineering undergraduate program has a duration of four years (eight semesters). It is structured into two academic terms each year—Fall and Spring—spanning a total of 28 weeks annually.

2.6. Organizational Chart of the Program



2.7. Program Coordinator

Program Coordinator:
Prof. Dr. Gülsüm AŞIKSOY
Head of Department
gulsum.asiksoy@neu.edu.tr

2.8. Program Management and Academic Staff

The Artificial Intelligence Engineering Program within the Faculty of Artificial Intelligence and Informatics aims to educate qualified professionals who can develop innovative, ethical, and sustainable solutions in the field of artificial intelligence and possess interdisciplinary thinking skills. As of 2025, the department employs 25 full-time academic staff members, consisting of 5 professors, 5 associate professors, 6 assistant professors (Doctoral Faculty Members), 6 PhD holders, and 3 lecturers. The academic staff actively participate in undergraduate and postgraduate education, providing thesis supervision and conducting scientific research that makes significant contributions to the field. Faculty members also play an active role in national and international projects, in-service training programs, and academic collaborations that support their professional development, thereby continuously advancing the faculty's scientific and academic growth.

3. MISSION AND VISION OF THE PROGRAM

3.1. Mission

The Department of Artificial Intelligence Engineering aims to provide students with a high-quality education that combines theory and practice in fields such as machine learning, deep learning, natural language processing, data science, and robotics, built upon a strong academic foundation in mathematics, computer science, and engineering principles. In this context, our department adopts a research and development-oriented approach in collaboration with industry and academia, aiming to educate engineers who can think critically, possess analytical problem-solving skills, develop innovative projects, and uphold ethical responsibility. Thus, the department's mission is to nurture individuals capable of competing at an international level and open to interdisciplinary collaboration, guiding the transformation in the field of artificial intelligence.

3.2. Vision

To be a department that produces pioneering, innovative, and sustainable solutions in the field of artificial intelligence at both national and international levels, and that guides the transformation of science, technology, and society. To educate students not only for today's technologies but also for the unknown challenges of the future, cultivating ethical, creative, and leadership-oriented artificial intelligence engineers.

4. CORE VALUES OF THE PROGRAM

Core Values

- Respect for scientific and ethical values
- Commitment to ethical principles in artificial intelligence applications
- Human-centered and responsible AI development
- Protection of data security and privacy
- Critical, analytical, and creative thinking
- Innovation and entrepreneurship
- Awareness of environmental and social responsibility
- Interdisciplinary collaboration
- Openness to continuous learning and personal development
- Sense of responsibility and contributing to society
- Competitiveness at a global scale

5. FIELDS OF ACTIVITY OF THE PROGRAM

Education and Training Activities

The Department of Artificial Intelligence Engineering provides its students with a solid academic foundation in mathematics, computer science, and engineering principles, while also implementing a modern curriculum that integrates theory with practice in core areas of AI, such as machine learning, deep learning, natural language processing, data science, and robotics. Moreover, the curriculum, shaped by current scientific developments and societal needs, is supported by student-centered active learning techniques and an ethical perspective. Academic advising and mentoring systems further support students' personal and professional development.

Research and Development Activities

The program fosters a strong R&D environment through scientific research and projects carried out by faculty members and students. In projects conducted in collaboration with the university's research centers, students take an active role and are given the opportunity to participate in national and international events such as TEKNOFEST, TÜBİTAK, IEEE competitions, hackathons, and data science marathons. This enables students to develop their problem-solving, innovative thinking, and project creation skills.

Professional Development and Continuing Education Activities

The program aims to continuously enhance the professional knowledge, skills, and competencies of students and faculty members. Professional development is supported through certificate programs covering current industry trends (such as the Artificial Intelligence Certificate Program) and technology-enabled workshops. Adaptation to educational technologies is facilitated through interdisciplinary contributions, while academic growth is encouraged through research opportunities and scholarly publications.

Social Contribution and Community Service Activities

Within higher education institutions, great importance is given to the impact of artificial intelligence on community service and sustainability. For example, projects that

contribute to society are carried out in areas such as AI-supported environmental monitoring systems, support for underserved communities in healthcare, and innovative solutions for disaster response and humanitarian crisis management. Within the program, students and faculty members enhance their social awareness and sensitivity skills through projects and seminars addressing societal needs.

6. OBJECTIVES AND GOALS OF THE PROGRAM

6.1. Purpose of Program

This program aims to continually improve the quality of education, to equip students with the knowledge, skills, and competencies required by the contemporary era, and to contribute to scientific research as well as to society through education and community-oriented services.

6.2. Goals of Program

A) Objectives and Goals Covering the Field of Education

Goal 1: To educate engineers equipped with theoretical knowledge and practical skills in the field of Artificial Intelligence, who possess analytical thinking and problem-solving competencies.

- **Objective 1.1:** To provide students with in-depth knowledge of core topics such as AI algorithms, machine learning, deep learning, natural language processing, and computer vision.
- **Objective 1.2:** To develop data analysis and modeling skills through an education based on mathematical and statistical foundations.
- **Objective 1.3:** To provide practical experience in software development and system design for AI applications.
- **Objective 1.4:** To provide practical experience in software development and system design for AI applications.

Goal 2: To enhance students' ability to apply AI solutions by enabling them to gain competence in industry- and research-oriented projects.

- **Objective 2.1:** To provide hands-on experience through industry projects and internship programs.
- **Objective 2.2:** To teach model development and optimization skills using real datasets and problem scenarios.
- **Objective 2.3:** To develop teamwork and project management skills, enabling students to take an active role in interdisciplinary projects.
- **Objective 2.4:** To equip students with the competence to design and develop innovative and sustainable AI solutions.

B) Objectives and Goals Covering the Field of Research

Goal 1: To contribute to the production of scientific knowledge and enhance students' research skills by conducting original and innovative research in the field of Artificial Intelligence Engineering.

- **Objective 1.1:** To carry out original research projects in the areas of machine learning, deep learning, and data science.
- **Objective 1.2:** To make academic contributions by preparing scientific publications and papers at national and international levels.
- **Objective 1.3:** To provide students with hands-on research experience by encouraging their active participation in research projects.
- **Objective 1.4:** To develop solutions for real-world problems by establishing collaborations with industry.

C) Objectives and Goals Covering Contributions to Society and Educational Services

Goal 1: To contribute to societal well-being by developing AI-based projects that address community needs.

- **Objective 1.1:** To organize educational programs that promote the ethical and safe use of AI systems.
- **Objective 1.2:** To enhance students' sense of service to society through social responsibility projects and volunteer activities.
- **Objective 1.3:** Transfer the faculty's knowledge base to public institutions, the private sector, and non-governmental organizations.
- **Objective 14:** Develop and disseminate projects that provide solutions to social problems.

7. PROGRAM COMPETENCIES

7.1 Program learning Outcomes

Program Qualifications of the Department of Artificial Intelligence Engineering

Knowledge – Theoretical and Factual Learning Outcomes

- ***PR1.*** *Has sufficient knowledge in mathematics, natural sciences, and artificial intelligence engineering.*

Skills – Cognitive and Practical/Applied Learning Outcomes

- ***PR2.*** *Identifies, defines, formulates, and solves engineering problems; selects and applies appropriate analytical methods and modeling techniques for this purpose.*
- ***PR3.*** *Analyzes a system, its components, or a process and designs it under realistic constraints to meet desired requirements; applies modern design methods accordingly.*
- ***PR4.*** *Design experiments, conduct them, collect data, analyze results, and interpret them to investigate field-specific research topics.*

Competencies – Competency in Autonomous Working and Taking Responsibility Learning Outcomes

- ***PR5.*** *Ability to work effectively in disciplinary and multidisciplinary teams; ability to work individually.*
- ***PR6.*** *Accesses information and conducts resource research for this purpose; uses databases and other information sources.*

Competencies – Learning Competency and Learning Outcomes

- ***PR7.*** *Is aware of the necessity of lifelong learning; follows developments in science and technology and continuously updates oneself.*
- ***PR8.*** *Selects and uses modern techniques and tools necessary for engineering applications.*

Communication and Social Competency Learning Outcomes

- ***PR9.*** *Is aware of the universal and societal impacts of engineering solutions and applications; recognizes entrepreneurship and innovation issues and has knowledge about contemporary problems.*

Competencies – Field-Specific Competency Learning Outcomes

- ***PR10.*** *Has awareness of professional and ethical responsibility.*

7.2. The Relationship Between Program Qualifications and the Turkish Higher Education Qualifications Framework

Through this structure, the knowledge, skills, and competencies of graduates of the Artificial Intelligence Engineering Bachelor's Program are defined in alignment with both the European Qualifications Framework for Lifelong Learning (EQF-LLL) and the Turkish National Qualifications Framework (TYYÇ).

A) Structure of THEQF

Based on the Turkish Higher Education Qualifications Framework (THEQF), the **Artificial Intelligence Engineering program** is classified at Level 6, which corresponds to a Bachelor's Degree level. This level provides students with comprehensive theoretical and practical knowledge, equipping them with the skills required for professional practice in the field.

ARTIFICIAL INTELLIGENCE ENGINEERING PROGRAM LEARNING OUTCOMES

Knowledge – Theoretical and Factual Learning Outcomes	**PR1.** Has sufficient knowledge in mathematics, natural sciences, and artificial intelligence engineering.
Skills – Cognitive and Practical/Applied Learning Outcomes	**PR2.** Identifies, defines, formulates, and solves engineering problems; selects and applies appropriate analytical methods and modeling techniques for this purpose.
	PR3. Analyzes a system, its components, or a process and designs it under realistic constraints to meet desired requirements; applies modern design methods accordingly.
	PR4. Design experiments, conducts them, collects data, analyzes results, and interprets them to investigate field-specific research topics.
Competencies – Competency in Autonomous Working and Taking Responsibility Learning Outcomes	**PR5.** Ability to work effectively in disciplinary and multidisciplinary teams; ability to work individually.
	PR6. Accesses information and conducts resource research for this purpose; uses databases and other information sources.
Competencies – Learning Competency and Learning Outcomes	**PR7.** Is aware of the necessity of lifelong learning; follows developments in science and technology and continuously updates oneself.
	PR8. Selects and uses modern techniques and tools necessary for engineering applications.
Communication and Social Competency Learning Outcomes	**PR9.** Is aware of the universal and societal impacts of engineering solutions and applications; recognizes entrepreneurship and innovation issues and has knowledge about contemporary problems.
Competencies – Field-Specific Competency Learning Outcomes	**PR10.** Has awareness of professional and ethical responsibility.

B) Matrix of Program Learning Outcomes and NQF Alignment

Turkish Higher Education Qualifications Framework (THEQF) Level 6 (Bachelor's Education) Core Field Qualifications	NEAR EAST UNIVERSITY-FACULTY OF ARTIFICIAL INTELLIGENCE AND INFORMATICS- DEPARTMENT OF ARTIFICIAL INTELLIGENCE ENGINEERING									
KNOWLEDGE – Theoretical and Factual Learning Outcomes	**PR1**	**PR2**	**PR3**	**PR4**	**PR5**	**PR6**	**PR7**	**PR8**	**PR9**	**PR10**
Possession of advanced theoretical and practical knowledge supported by textbooks, practical tools, and other resources containing up-to-date information in their field.	5	4	4	4	1	3	4	1	2	2
SKILLS – Cognitive and Practical/Applied Learning Outcomes	**PR1**	**PR2**	**PR3**	**PR4**	**PR5**	**PR6**	**PR7**	**PR8**	**PR9**	**PR10**
Ability to apply the advanced theoretical and practical knowledge acquired in their field.	5	4	4	4	2	3	4	2	3	3
Ability to interpret and evaluate data, identify and analyze problems, and develop evidence- and research-based solutions by using the advanced knowledge and skills acquired in their field.	4	5	4	5	2	4	1	2	3	3
COMPETENCIES – Competency in Autonomous Working and Taking Responsibility Learning Outcomes	**PR1**	**PR2**	**PR3**	**PR4**	**PR5**	**PR6**	**PR7**	**PR8**	**PR9**	**PR10**
Ability to independently conduct an advanced study in their field.	3	4	4	3	5	4	3	5	1	3
Ability to take responsibility, both individually and as a team member, to solve complex and unforeseen problems encountered in practical applications in their field.	3	5	4	3	5	2	3	5	4	5
Ability to plan and manage activities aimed at the development of personnel under their responsibility within the framework of a project.	2	4	4	3	5	2	2	5	3	4
COMPETENCIES– Learning Competency and Learning Outcomes	**PR1**	**PR2**	**PR3**	**PR4**	**PR5**	**PR6**	**PR7**	**PR8**	**PR9**	**PR10**
Ability to critically evaluate the advanced knowledge and skills acquired in their field.	4	4	4	4	1	5	2	1	2	1
Ability to identify their learning needs and direct their own learning.	2	3	3	3	4	3	4	4	3	1
Ability to develop a positive attitude toward lifelong learning.	2	3	2	2	3	4	5	3	2	2
COMPETENCIES–Communication and Social Competency Learning Outcomes	**PR1**	**PR2**	**PR3**	**PR4**	**PR5**	**PR6**	**PR7**	**PR8**	**PR9**	**PR10**
Ability to inform relevant individuals and institutions about topics in their field and communicate their ideas and proposed solutions to problems both in writing and orally.	2	3	3	3	5	3	3	5	3	3
Ability to share their ideas and proposed solutions to problems in their field with both experts and non-experts, supported by quantitative and qualitative data.	1	3	3	3	5	3	1	5	2	4
Ability to organize and implement projects and activities for their social environment with a sense of social responsibility.	1	2	2	2	4	2	3	4	5	4
Ability to follow knowledge in their field and communicate with colleagues using a foreign language at least at the B1 General Level of the European Language Portfolio.	1	1	1	1	4	4	4	4	5	3
Ability to use information and communication technologies along with computer software at least at the Advanced Level required by the European Computer Driving Licence in their field.	4	5	5	5	3	5	4	3	2	1
COMPETENCIES–Field-Specific Competency Learning Outcomes	**PR1**	**PR2**	**PR3**	**PR4**	**PR5**	**PR6**	**PR7**	**PR8**	**PR9**	**PR10**
Acting in accordance with social, scientific, cultural, and ethical values in the stages of collecting, interpreting, applying, and disseminating data related to their field.	3	4	4	5	3	4	1	3	5	5
Having sufficient awareness of the universality of social rights, social justice, quality culture, preservation of cultural values, as well as environmental protection, and occupational health and safety.	1	1	1	1	3	1	2	3	5	5
NOTE: In the matrix, 1 indicates 'very low', 2 'low', 3 'medium', 4 'high', and 5 'very high' contribution.										

7.3. The Relationship Between Courses and Program Qualifications

1st SECTION				2nd SECTION										
		Basic Education Courses Relevant to the Field		PROGRAM COMPETENCIES										
		General Common Courses	–											
		General Culture Elective Courses												
		Professional Knowledge Courses												
	CODE	COURSE NAME	ECTS	PR1	PR2	PR3	PR4	PR5	PR6	PR7	PR8	PR9	PR10
1st Year, 1st Semester	MTH113	Linear Algebra	5	5	4	3	3	1	1	2	1	1	1
	AII102	Programming and Problem Solving	5	4	5	4	3	2	2	3	2	1	1
	MTH101	Calculus I	5	5	3	2	2	1	1	2	1	1	1
	PHY101	General Physics I	5	5	3	2	2	1	1	2	1	1	1
	CHM101	General Chemistry I	5	5	2	1	2	1	1	1	1	1	1
	ENG101	English I	3										
	CAM100	Campus Orientation	2										
1st Year, 2nd Semester	AII104	Discrete Structures	5	5	4	3	2	1	1	2	1	1	1
	AII108	Object Oriented Programming	6	4	5	4	3	2	3	3	2	2	1
	MTH102	Calculus II	6	5	3	2	2	1	1	2	1	1	1
	PHY102	General Physics II	6	5	3	2	2	1	1	2	1	1	1
	ENG102	English II	3										
	CAR100	Career Planning	2										
	GEC351	21st Century Skills	2										
2nd Year, 1st Semester	AII001	Logic Design	6	4	4	5	3	2	1	2	2	1	1
	AII201	Data Structures & Algorithms	6	4	5	4	3	2	2	3	2	1	1
	AIE201	AI Principles and Techniques	3	4	5	4	4	3	3	3	3	2	2
	MTH201	Diferential Equations	6	5	3	2	2	1	1	2	1	1	1
	AII007	Multimedya Sistemleri	5	3	4	5	3	3	3	3	3	2	1
	AIT103	Atatürk Principles and Reforms I	2										
	YIT101	Turkish for Foreigners I	2										
2nd Year, 2nd Semester	AII202	Database Management Systems	5	3	4	4	3	3	5	3	3	2	2
	AIE206	Reasoning and Agents in AI	7	4	5	4	4	3	3	3	3	2	2
	MTH251	Probability and Statistics	6	5	4	3	4	1	1	2	1	1	1
	AIE299	Summer Training I	6	3	3	3	3	4	3	3	5	4	4
	AIT104	Atatürk Principles and Reforms II	2										
	CHC100	Cyprus History and Culture	2										
	YIT102	Turkish for Foreigners II	2										
3rd Year, 1st Semester	AII302	Operating Systems	6	4	4	5	3	2	3	3	2	1	1
	AIE301	Pattern Recognition	5	4	4	4	5	3	3	4	3	2	2
	ENG201	Oral Communication Skills	4	1	1	1	1	4	4	3	5	3	3
	AIE303	Natural Language Proccessing	3	4	4	4	5	3	4	4	3	2	2
	AII439	Occupational Health and Safety I	4	1	1	1	1	2	1	2	2	4	5
	AII427	Management for Engineers	5	1	2	2	1	4	3	3	5	4	3
	AIE204	Neural Computation	3	4	5	4	4	2	2	4	2	2	2
3rd Year, 2nd Semester	AIE302	Introduction to Machine Learning	7	4	4	4	5	3	3	4	3	2	2
	AII303	Data Communications and Networks	5	3	4	5	3	3	2	2	3	2	1
	AIE304	Learning in Humans	5	4	2	2	2	3	3	5	3	3	3
	AIE306	Deep Learning	5	4	4	4	5	3	4	4	3	2	2
	AII440	Occupational Health and Safety II	2	1	1	1	1	2	1	2	2	4	5
	AIE399	Summer Training II	6	3	3	3	3	4	3	3	5	4	4
4th Year, 1st Semester	AIE401	Introduction to Robotics	7	4	4	5	4	3	2	3	3	2	2
	AIE403	Computer Vision	7	4	4	4	5	3	3	4	3	2	2
	AIE491	Senior Project I	6	4	4	4	4	5	4	4	5	4	4
	TE	Techical Elective	5	4	4	4	5	3	4	4	3	2	2
	TE	Techical Elective	5	4	4	4	5	3	4	4	3	2	2
4th Year, 2nd Semester	AII429	Engineering Ethics	6	1	1	1	1	3	2	3	3	4	5
	AIE492	Senior Project II	7	4	4	4	4	5	4	4	5	4	4
	AIE402	Speech Processing	7	4	4	4	5	3	4	4	3	2	2
	TE	Techical Elective	5	4	4	4	5	3	4	4	3	2	2
	TE	Techical Elective	5	4	4	4	5	3	4	4	3	2	2

Total Courses: 51 **Total ECTS: 240**

NOTE: In the matrix, 1 indicates "very low," 2 "low," 3 "medium," 4 "high," and 5 "very high" contribution.

8.COURSE LIST

8.1. Distribution Tables of Core and Elective Courses by Semester for the Program

A) Semester-wise Distribution of Courses

1st Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
MTH113	LINEAR ALGEBRA	DOĞRUSAL CEBİR	C	3	0	3	5
AII102	PROGRAMMING AND PROBLEM SOLVING	PROGRAMLAMA VE PROBLEM ÇÖZME	C	3	2	4	5
ENG101	ENGLISH I	İNGİLİZCE I	C	3	0	2	3
MTH101	CALCULUS I	MATEMATİK I	C	4	0	4	5
PHY101	GENERAL PHYSICS I	GENEL FİZİK I	C	3	2	4	5
CAM100	CAMPUS ORIENTATION	KAMPÜSE UYUM	C	2	0	0	2
CHM101	GENERAL CHEMISTRY I	GENEL KİMYA I	C	3	2	4	5
Total				21	6	21	30

2nd Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
AII104	DISCRETE STRUCTURES	DİSKRİT YAPILAR	C	3	0	3	5
ENG102	ENGLISH II	İNGİLİZCE II	C	3	0	2	3
MTH102	CALCULUS II	MATEMATİK II	C	4	0	4	6
PHY102	GENERAL PHYSICS II	GENEL FIZIK II	C	3	2	4	6
AII108	OBJECT ORIENTED PROGRAMMING	NESNE YÖNÜMLÜ PROGRAMLAMA	C	2	2	3	6
CAR100	CAREER PLANNING	KARİYER PLANLAMA	C	2	0	0	2
GEC351	21ST CENTURY SKILLS	21. YY BECERİLERİ	E	2	0	0	2
Total				19	4	16	30

3rd Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
AII001	LOGIC DESIGN	SAYISAL MANTIK	C	3	2	4	6
AII201	DATA STRUCTURES & ALGORITHMS	VERI YAPILARI VE ALGORITMALAR	C	3	2	4	6
AIE201	AI PRINCIPLES AND TECHNIQUES	YAPAY ZEKA İLKE VE TEKNİKLERİ	C	3	0	3	3
MTH201	DIFFERENTIAL EQUATIONS	DİFERANSİYEL DENKLEMLER	C	4	0	4	6
AII007	MULTIMEDIA SYSTEMS	MULTİMEDYA SİSTEMLERİ	C	3	0	3	5
AIT103	ATATÜRK PRINCIPLES AND REFORMS I	ATATÜRK İLKELERİ VE İNKILAP TARİHİ I	C	2	0	2	2
YIT101	TURKISH FOR FOREIGNERS I	YABANCILAR İÇİN TÜRKÇE I	C	2	0	2	2
Total				20	4	22	30

4th Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
AII202	DATABASE MANAGEMENT SYSTEMS	VERİ TABANI YÖNETİM SİSTEMLERİ	C	4	0	4	5
AIE206	REASONING AND AGENTS IN AI	YAPAY ZEKADA AKIL YÜRÜTME VE	C	4	0	4	7
MTH251	PROBABILITY AND STATISTICS	OLASILIK VE İSTATİSTİK	C	3	0	3	6
AIT104	ATATÜRK PRINCIPLES AND REFORMS II	ATATÜRK İLKELERİ VE İNKILAP TARİ	C	2	0	2	2
AIE299	SUMMER TRAINING I	STAJ 1	C	0	0	0	6
CHC100	CYPRUS HISTORY AND CULTURE	KIBRIS KÜLTÜRÜ VE TARİHİ	E	2	0	0	2
YIT102	TURKISH FOR FOREIGNERS II	YABANCILAR İÇİN TÜRKÇE II	C	2	0	2	2
Total				17	0	15	30

5th Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
AII302	OPERATING SYSTEMS	İŞLETİM SİSTEMLERİ	C	3	0	3	6
AIE301	PATTERN RECOGNITION	DESEN TANIMA	E	2	2	3	5
ENG201	ORAL COMMUNICATION SKILLS	SÖZLÜ İLETİŞİM BECERİLERİ	C	3	0	3	3
AIE303	NATURAL LANGUAGE PROCESSING	DOĞAL DIL İŞLEME	E	3	2	3	3
AII439	OCCUPATIONAL HEALTH AND SAFETY I	İŞ SAĞLIĞI VE GÜVENLİĞİ I	C	2	0	2	4
AII427	MANAGEMENT FOR ENGINEERS	MÜHENDİSLER İÇİN YÖNETİM	C	3	0	3	5
AIE204	NEURAL COMPUTATION	SİNİRSEL HESAPLAMALAR	C	2	2	3	4
Total				18	6	20	30

6th Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
AIE302	INTRODUCTION TO MACHINE LEARNING	MAKİNE ÖĞRENİMİNE GİRİŞ	E	3	2	4	7
AII303	DATA COMMUNICATIONS AND NETWORKING	VERİ İLETİŞİMİ VE AĞLAR	C	3	2	4	5
AIE304	LEARNING IN HUMANS	İNSANLARDA ÖĞRENME	E	3	0	3	5
AIE306	DEEP LEARNING	DERİN ÖĞRENME	E	2	2	3	5
AII440	OCCUPATIONAL HEALTH AND SAFETY II	İŞ SAĞLIĞI VE GÜVENLİĞİ II	C	2	0	3	2
AIE399	SUMMER TRAINING II	STAJ II	C	0	0	0	6
Total				13	6	17	30

7th Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
AIE401	INTRODUCTION TO ROBOTICS	ROBOTİĞE GİRİŞ	E	2	2	3	7
AIE403	COMPUTER VISION	BİLGİSAYAR GÖRÜŞÜ	E	2	2	3	7
AIE491	SENIOR PROJECT I	BİTİRME PROJESİ I	C	3	0	3	6
TE	TECHNICAL ELECTIVE	TEKNİK SEÇMELİ	E	2	2	3	5
TE	TECHNICAL ELECTIVE	TEKNİK SEÇMELİ	E	2	2	3	5
Total				11	8	15	30

8th Semester

CODE	COURSE NAME	DERS ADI	C/E	T	P	C	E
AII429	ENGINEERING ETHICS	MÜHENDİSLİK ETİĞİ	C	3	0	3	6
AIE492	SENIOR PROJECT II	BİTİRME PROJESİ II	C	4	0	4	7
AIE402	SPEECH PROCESSING	KONUŞMA İŞLEME	E	2	2	3	7
TE	TECHNICAL ELECTIVE	TEKNİK SEÇMELİ	E	2	2	3	5
TE	TECHNICAL ELECTIVE	TEKNİK SEÇMELİ	E	2	2	3	5
Total				7	0	16	30

Total No. of Courses	51
Total No. Of Electives	14
Total No. Of Credits	142

Percentage of Electives	27
Total ECTS	240

Key:

C/E:Compulsory/Elective	T: Hours of Theoretical Study	P:HoursofPractice/Lab
C: Credits	E: ECTS	

Previous Total No. of Credits	141
New Total No. of Credits	142
Previous Total ECTS	240
New Total ECTS	No change

B) Types and Number of Elective Courses

Course Code	Course Name	Theory	Practice	Credit	ECTS
AII415	Decision Making	2	2	3	5
AII419	Image Processing	2	2	3	5
AIE411	Advanced Data Analysis	2	2	3	5
AIE412	Information Retrieval and Web Search	2	2	3	5
AIE413	Human-Robot Interaction	2	2	3	5
AIE414	Deep Reinforcement Learning and Control	2	2	3	5
AIE415	Mobile Robot Programming	2	2	3	5
AIE416	Autonomous Agents	2	2	3	5
AIE417	Introduction to Quantum Computing	2	2	3	5
AIE418	Computer Animation & Visualization	2	2	3	5
AIE419	Algorithmic Game Theory and its Applications	2	2	3	5
AIE420	Fuzzy Systems	2	2	3	5
AIE458	Artificial Intelligence and Internet of Things	2	2	3	5
AIE457	AI and Cloud Computing	2	2	3	5
AII461	Fundamentals of Generative Artificial Intelligence	2	2	3	5

C) ECTS (European Credit Transfer and Accumulation System) Information and Local Credits

The Artificial Intelligence Engineering Bachelor's Program comprises a four-year (eight-semester) undergraduate education with a total of 240 ECTS credits. The ECTS load for each semester is planned as 30 ECTS, in alignment with the student's expected workload. The program's total local credit is within the range of 120–160 credits, meeting the standards set by the Council of Higher Education (YÖK) for undergraduate programs. The ECTS value of each course is presented in detail in the relevant semester-based course distribution tables.

COURSE DESCRIPTIONS OF THE ARTIFICIAL INTELLIGENCE ENGINEERING PROGRAM

SEMESTER 1

MTH101 Mathematics I (course type: required) (4 Credits, 5 ECTS)

Course Objective: This course aims to give fundamentals of Calculus to students.

Course Content: Functions, limits and continuity. Derivatives. Mean value theorem. Sketching graphs. Definite integrals, infinite integrals (antiderivatives). Logarithmic, exponential, trigonometric and inverse trigonometric functions and their derivatives. L'Hospital's rule. Techniques of integration. Applications of the definite integral, improper integrals.

PHY101 Physics I (course type: required) (4 Credits, 5 ECTS)

Course Objective: This course aims to introduce students about general physics.

Course Content: Measurement, vectors, kinematics, force, mass. Newton's laws, applications of Newton's laws. Work and kinetic energy. Conservation of linear momentum. Impulse, collisions, rotation, moments of inertia. Torque, angular momentum, conservation of angular momentum, static equilibrium.

CHM101 G. Chemistry (course type: required) (4 Credits, 5 ECTS)

Course Objective: The aim of this course is to give fundamentals of Chemistry to engineering students.

Course Content: A basic course with emphasizing the metric system. Introduction to atomic theory, stoichiometry. The structural and physical properties of matter. Periodic relationship among elements and periodic table. Gaseous state. Thermo-chemistry. Energy and enthalpy. Electronic structure of atoms. Chemical bonding.

MTH113 Linear Algebra (course type: required) (3 Credits, 5 ECTS)

Course Objective: This course aims to give details of Linear Algebra to students.

Course Content: This course aims to give details of Linear Algebra to students. Matrices and Systems of Equations, Determinants, Vector Spaces, Linear Transformations, Orthogonality, Eigenvalues, Numerical Linear Algebra will be thought during the semester.

AII102 Programming and Problem Solving (course type: required) (4 Credits, 5 ECTS)

Course Objective: This course provides an introduction to fundamental concepts of programming and use of built-in data structures in solving problems using the Python general-purpose programming language.

Course Content: In this course, students study how write user-defined functions using iteration as well as recursion in Python. This course also stresses the importance of programming tools such as programming editors and debuggers. The students are expected6to work within a GNU/Linux environment. The course provides a basic introduction into object-oriented programming.

ENG101 English I (course type: required) (2 Credits, 3 ECTS)

Course Objective:

Designed for English-medium departments, ENG101 develops students' ability to understand and respond to everyday dialogues and contexts in English-speaking environments. Meaning and communication are prioritized; grammar supports communication. Content is supported with visual, audio, and written materials and tailored to each topic. ENG101 targets A1 (CEFR).

Course Content: 1. Introducing oneself 2. Giving personal information 3. Giving personal information 4. Talking about objects 5. Talking about family 6. Describing and discussing buildings and furniture 7. Talking about timetables/schedules 8. Talking about daily routines 9. Talking about daily routines 10. Ability 11. Asking for and giving directions 12. Talking about food and quantities.

SEMESTER 2

MTH102 Mathematics II (course type: required) (4 Credits, 6 ECTS)

Course objective: This course aims to give advances of Calculus to students.

Course Content: Plane and polar co-ordinates, area in polar co-ordinates, arc length of curves. Limit, continuity and differentiability of function of several variables, extreme values, method of Lagrange multipliers. Double integral, triple integral with applications. Line integrals, Green's theorem. Sequences, infinite series, power series, Taylor's series. Complex numbers.

Prerequisite: MTH101

PHY102 Physics II (course type: required) (4 Credits, 6 ECTS)

Course objective: This course aims to introduce students about electricity.

Course Content: Electrical charges. Coulomb's law. Electrical fields. Gauss's law. Electrical potential. Capacitance and dielectrics. Current and resistance. Direct current circuits. Magnetic fields. Sources of the magnetic field. Faraday's law of induction. Inductance and inductors.

Prerequisite: PHY101

AII104 Discrete Structures (course type: required) (3 Credits, 5 ECTS)

Course objective: This course aims to introduce students about discrete structures.

Course Content: Sets and Logic, Proofs, Functions, Sequences and Relations, Algorithms, Introduction to Number Theory, Counting Methods and the Pigeonhole Principle, Recurrence Relations, Graph Theory, Trees, Network Models, Boolean Algebras and Combinatorial Circuits, Automata, Grammars and Languages, Computational Geometry.

AII108 Object-Oriented Programming (course type: required) (3 Credits, 6 ECTS)

Course objective: This course provides an in-depth discussion of object-oriented programming and how object-oriented programming can be used in solving real-life problems.

Course Content: This course requires a more advanced use of programming tools (mainly editors and debuggers) that were introduced in AII102 (Programming and Problem Solving). This course uses Python 3 to teach the fundamental concepts of

object-oriented programming. The students are expected to work within a GNU/Linux environment. The course builds upon the knowledge of AII102 and AII20 and is the third course in line that uses Python as programming language.

Prerequisite: AII102

ENG102 English II (course type: required) (2 Credits, 3 ECTS)

Course objective: ENG 102 for English Departments aims to develop students' awareness of the language used in everyday life situations as well as the vocabulary items used in different topics. The course has been designed to show the students communicatively useful expressions in their immediate environment. Understanding how the language is used to maintain communication or convey meaning in specific situations is prior to how the structures are put together to form the language. The aim is to expose students to some basic functions in some specific situations and topics at A2/B1 level of the CEFR so that the students can easily communicate with the foreign people in their immediate environment and develop their ability to comprehend oral English.

Course Content: 1. Health Matters 2. Health Matters 3. Restaurant Problems-Complaints and responses 4. Talking about Computer Problems 5. Reporting the News and the Weather 6. Reporting the News and the Weather 7. Product Problems-Complaints at the store 8. Talking about the future possibilities 9. Talking about the future possibilities 10. Health Problems and Herbs 11. Health Problems and Herbs 12. Job qualifications and Working Conditions.

Prerequisite: ENG101

CAR100 Career Planning (course type: required) (0 Credits, 2 ECTS)

Course Objective: To introduce students to career methods that will help them adapt to the rapidly changing economic, social, cultural, ethical and legal conditions of the business world and to gain the ability to adapt them to their own lives.

Course Content: Introduction to the Course, Career Concept and Career Stages, Expectations of the Business World from New Graduates, Career Management and Career Management Models in Organizations, Individual Career Planning and Goal Setting, Job Search Techniques, Individual Career Planning and Applications: Cover

Letter and CV Writing, Basic Communication Skills, Individual Career Planning Practices: Preparing for the Interview, Interview Techniques, Orientation and Introduction to Working Life, Lifelong Learning.

GEC351 21 Century Skills (course type: required) (0 Credits, 2 ECTS)

Course Objective: The 21st Century Skills course aims to help students develop essential thinking skills such as critical, creative, and philosophical thinking, problem-solving, lifelong learning, and effective learning strategies. In addition, it equips students with social skills such as effective communication, teamwork, intercultural interaction, and diversity management. By fostering digital literacy, media awareness, information management, and basic statistical knowledge, the course supports students in becoming active and conscious individuals in digital environments. While promoting personal growth through self-awareness, emotional intelligence, flexibility, and time management as self-management skills, it also cultivates a sense of social responsibility through topics such as sustainability, ethical leadership, and global citizenship. Finally, by providing practical life skills such as entrepreneurship, financial literacy, stress management, and creative presentation skills, the course aims to equip students with competencies they can apply in real life.

Course Content: Fundamental thinking and learning skills; concepts of critical and creative thinking; core problem-solving concepts and processes; principles of lifelong learning; logical reasoning; effective learning strategies; components of core thinking skills; methods of philosophical thought; communication and collaboration skills; fundamentals of effective communication and cooperation; basics of intercultural communication; elements shaping communication across cultures; importance of effective communication in collaboration; appropriate techniques for group work; strategies for intercultural interaction; communication problems and solutions in teamwork; innovative communication strategies supporting diversity management; strategies to enhance communication and collaboration in teams; digital literacy and media competencies; information management; basic statistical terms; purposes of digital media tools; interpretation of statistical data; digital tools and platforms; reliability and quality of digital content and sources; creation of original media content; cybersecurity; ethical and philosophical reflections with self-management and cognitive flexibility; time-management strategies; factors of individual and environmental adaptation; components of emotional intelligence; prioritization techniques; resilience in

various situations; coping strategies for stress and change; ethics; personality profiles and the impact of emotional intelligence on success; an individual adaptation strategy for stressful situations; empathy-based communication; time management across academic, social, and personal goals; social responsibility and global citizenship; sustainability and environmental awareness; principles of ethical leadership; links between global issues (e.g., climate change, inequality) and social responsibility; relationship between social responsibility projects and sustainability; raising universal awareness; applied life skills; basic entrepreneurship concepts; financial literacy terms; stages of project management.

SEMESTER 3

AII001 Logic Design (course type: required) (4 Credits, 6 ECTS)

Course objective: The aim of this course is to give the basics of Digital Logic Systems.

Course Content: Digital Systems and Information, Combinational Logic Circuits, Combinational Logic Design, Arithmetic Functions and HDLs, Sequential Circuits, Selected Design Topics, Registers and Register Transfers, Memory Basics, Computer Design Basics, Instruction Set Architecture, RISC and CISC Processors, Input-Output and Communication, Memory Systems.

Prerequisite: AII104

AII201 Data Structures and Algorithms (course type: required) (4 Credits, 6 ECTS)

Course Objective: This course comprises an introductory exploration into the design and implementation of Abstract Data Types (ADTs) along with the study of algorithm design and complexity analysis.

Course Content: Even though the discussions during lectures about ADTs are language independent, this course uses Python, a very high-level general programming language, to implement these ideas using object-oriented programming. This class starts with a brief introduction to object-oriented programming.

Prerequisite: AII102

AIE201 AI Principles and Techniques (course type: required) (3 Credits, 3 ECTS)

Course Objective: Upon completion of this course, students will be able to understand the foundational principles of artificial intelligence and how they are applied to solve complex real-world problems such as web search, speech recognition, and autonomous driving. Students will learn the rigorous mathematical tools required to tackle these challenges and will gain hands-on experience by implementing some of these AI systems.

Course Content: What do web search, speech recognition, face recognition, machine translation, autonomous driving, and automatic scheduling have in common? These are all complex real-world problems, and the goal of artificial intelligence (AI) is to tackle these with rigorous mathematical tools. In this course, students will learn the foundational principles that drive these applications and practice implementing some of these systems.

Prerequisites: AII102, AII104

MTH201 Differential Equations (course type: required) (4 Credits, 6 ECTS)

Course objective: Introducing first, second and higher order differential equations, and the methods of solving these equations. Emphasizing the important of differential equations and its engineering application. Introducing the Laplace transform and its applications in solving differential equations and other engineering applications. Introducing the series method in solving differential equations.

Course Content: Ordinary and partial differential equations. Explicit solutions, Implicit Solution. First-order differential equations, separable, homogenous differential equations, exact differential equations. Ordinary linear differential equations. Bernoulli differential equations. Cauchy differential equations. High-order ordinary differential equations. Introduction to Laplace transforms. Introduction to series method for solving differential equations.

Prerequisite: MTH102

AII007 Multimedia Systems (course type: required) (3 Credits, 5 ECTS)

Course objective: The aim of this course is to introduce students about the Multimedia Systems.

Course Content: Introduction to Computer Science and Media Computation, Introduction to Programming in Python, Modifying Pictures Using Loops, Modifying Pixels in a Range, Advanced Picture Techniques, Modifying Sounds Using Loops, Modifying Samples in a Range, Making Sounds by Combining Pieces, Building Bigger Programs, Creating and Modifying Text, Advanced Text Techniques: Web and Information, Making Text for the Web, Creating and Modifying Movies, Speed, Functional Programming, Object-Oriented Programming will be thought during the semester.

Prerequisite: AII102

AIT103 Atatürk Principles and Reforms I (course type: only for Foreign Students) (2 Credits, 2 ECTS)

Course Objective: This course is focusing on the early dynamics of the Ottoman Empire (including social, economic, political, institutional and cultural) and examines the historical background of the Republic of Turkey. The main aim of the course is to scrutinize the political dynamics and modernization attempts of the Ottoman state analyzed comprehensively. By doing so, basic concepts of History of Revolution, World and Ottoman Empire at the Beginning of the 20th Century, The Last Period of the Ottoman State, The First World War, The Preparatory Period of the National Struggle are the main topics that are focused in the classes.

Course Content: A Concise Political History of Ottoman Empire 1300-1914 Decline and the Ottoman Modernization Ottoman State and Society in Classical Period The organization of National Resistance Movement: The Circular of Amasya The Congresses of Erzurum and Sivas Invasions, Mustafa Kemal and National Resistance Movement Ottoman Empire in the First World War I Armistice of Mudros The Treaty of Sevres and the National Liberation War against the Armenians and Greeks The Armistice of Mudanya and the Peace Treaty of Lausanne.

Prerequisite: --

YIT101 Turkish for Foreigners I (course type: only for Foreign Students) (2 Credits, 2 ECTS)

Course Objective: Designed for students with little to no prior knowledge of Turkish grammar and vocabulary. A compulsory course for learners of Turkish as a foreign language. Students follow online videos via UZEBİM. Topics range from the Turkish alphabet to the present simple and present continuous tenses.

Course Content: Introduction to the course; Turkish alphabet and phonology; forming plurals in Turkish; forming yes–no questions; building sentences with the "var/yok" (there is/there isn't) structure; possessive suffixes; use of personal pronouns; numbers and asking questions about numbers; case endings (noun cases) in Turkish; where and how to use the present continuous and simple present tenses.

SEMESTER 4

AII202 Database Management Systems (course type: required) (4 Credits, 5 ECTS)

Course Objective: This course comprises an introductory exploration into the design and implementation of database systems.

Course Content: Introduction to Databases, Relational Data Model and SQL, Conceptual Modeling and Database Design, Models, Database Programming Techniques, Database Normalization Theory, File Structures-Indexing and Hashing, Query Processing-Optimization and Database Tuning, Transaction Processing-Concurrency Control and Recovery, Security and Distribution, Advanced Database Models-Systems and Applications.

Prerequisite: AII201

AIE206 Reasoning and Agents in AI (course type: required) (4 Credits, 7 ECTS)

Course Objective: The aim of this course is to teach students how to design intelligent agents capable of perceiving their environment and making decisions. It focuses on applying advanced techniques in knowledge representation, reasoning, and planning to solve real-world problems, with a strong emphasis on managing uncertainty.

Course Content: This course focuses on approaches relating to representation, reasoning and planning for solving real world inference. The course illustrates the importance of (i) using a smart representation of knowledge such that it is conducive to

efficient reasoning, and (ii) the need for exploiting task constraints for intelligent search and planning. The notion of representing action, space and time is formalized in the context of agents capable of sensing the environment and taking actions that affect the current state. There is also a strong emphasis on the ability to deal with uncertain data in real world scenarios.

Prerequisite: AIE201

MTH251 Probability and Statistics (course type: required) (3 Credits, 6 ECTS)

Course objective: The aim of this course is to give details of probability to engineering students.

Course Content: Statistics, Data and Statistical Thinking, Methods for Describing Sets of Data, Probability, Random Variables and Probability Distributions, Inferences Based on Samples, Design of Experiments and Analysis of Variance, Categorical Data Analysis, Simple Linear Regression, Multiple Regression and Model Building, Methods for Quality Improvement: Statistical Process Control, Time Series, Nonparametric Statistics.

Prerequisite: MTH113

AIE299 Summer Practice I (Course type: required) (0 Credits, 6 ECTS)

Course objective: This course provides real working life experience for students. Students will be able to apply their theoretical knowledge into practice.

Course content: A minimum of 40 working days for this practice is required in a manufacturing or service organization. This one can involve 20 working days minimum.

Prerequisite: --

CHC100 Cyprus History and Culture (Course type: elective) (0 Credits, 2 ECTS)

Course Objective: Being able to comparatively analyse the variable dynamics of Cyprus across the ages also brings with it an understanding of the dynamics of the Mediterranean basin. Having information about the island of Cyprus and the Mediterranean culture provides us with an opportunity to understand and describe the states established in the Mediterranean, the religious communities operating there, and

the socio-cultural interactions between people. This course offers the opportunity to examine in depth the social, economic and cultural dynamics of Cyprus, which acts as a bridge between East and West.

Course Content: General information about the history and culture of Cyprus; Zoology and Botany; Social and cultural life in the First Age and the Middle Ages; The social and cultural heritage of the island during the Ottoman period; History of Art; Religion and Culture; British Colonial Period; Cyprus Education History; political events from 1950 to1974; The national struggle of Turkish Cypriots for existence and freedom; The establishment of the TRNC and social structure.

YIT102 Turkish for Foreigners II (course type: only for Foreign Students) (2 Credits, 2 ECTS)

Course Objective: Designed for students with little to no prior knowledge of Turkish grammar and vocabulary. A compulsory course for learners of Turkish as a foreign language. Students follow online videos via UZEBİM. Topics range from the Turkish alphabet to the present simple and present continuous tenses.

Course Content: Introduction to the course; Turkish alphabet and phonology; forming plurals in Turkish; forming yes–no questions; building sentences with the "var/yok" (there is/there isn't) structure; possessive suffixes; use of personal pronouns; numbers and asking questions about numbers; case endings (noun cases) in Turkish; where and how to use the present continuous and simple present tenses.

Prerequisite: YIT101

SEMESTER 5

AIE204 Neural Computation (course type: required) (3 Credits, 4 ECTS)

Course Objective: This course aims to examine the computational principles of the nervous system from a bottom-up perspective. Students will apply numerical modeling and non-linear dynamics to analyze neural functions and understand the challenges of modeling complex biological systems.

Course Content: In this course the computations carried out by the nervous system will be studied. Unlike most courses and artificial intelligence, a bottom-up approach will be taken. Apart from learning about the brain, numerical modelling of differential equations, non-linear dynamics, current neurobiological research and pitfalls in modelling real-world systems will be thought during the semester.

Prerequisite: MTH201

AII302 Operating Systems (course type: required) (3 Credits, 6 ECTS)

Course Objective: The aim of this course is to give details of operating systems and how they work to students.

Course Content: Principles of operating systems. Memory management. Multiprocessing. Virtual memory concepts. Memory protection. Scheduling. Process management. Time-slicing and priorities, deadlocks and process synchronization. Peripheral control. Filing system management. Resource control and monitoring. Linux and Windows Operating Systems.

Prerequisite: AII108, AII202

AIE301 Pattern Recognition (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: This course introduces the fundamental principles of statistical pattern recognition. Students will learn to apply algorithms for dimensionality reduction, clustering, and classification to analyze and interpret complex, multi-dimensional data from various real-world applications.

Course Content: A pattern recognition system can be designed based on a number of different approaches: (i) template matching, (ii) geometric (statistical) methods, (iii) structural (syntactic) methods, and (iv) neural (deep) networks. This course will introduce the fundamentals of statistical pattern recognition with examples from several application areas. The course will cover techniques for visualizing and analyzing multi-dimensional data along with algorithms for projection, dimensionality reduction, clustering and classification.

Prerequisite: AIE201

ENG201 Oral Communication Skills (course type: required) (3 Credits, 3 ECTS)

Course Objective: The aim of the course is to provide techniques for dealing with academic prose.

Course Content: Definition of Technical Communication, Profiling Audiences, The Technical Communication Process, Technical Communication Style, Researching, Designing Pages, Using Visual Aids, Summarizing, Defining, Describing, Sets of Instructions, Memorandums and Informal Reports, Developing Websites, Formal Reports, Recommendation and Feasibility Reports, Proposals, User Manuals, Oral Presentations, Letters, Job Application Materials.

Prerequisite: ENG102

AIE303 Natural Language Processing (Course type: elective) (3 Credits, 3 ECTS)

Course Objective: This course provides a comprehensive introduction to the core tasks and algorithms in Natural Language Processing. Students will learn to implement and evaluate statistical and neural network-based models that automatically process, understand, and generate human language by training on large text corpora.

Course Content: The intent of the course is to present a fairly broad graduate-level introduction to Natural Language Processing (NLP, a.k.a. comptuational linguistics), the study of computing systems that can process, understand, or communicate in human language. The primary focus of the course will be on understanding various NLP tasks, algorithms for effectively solving these problems, and methods for evaluating their performance. There will be a focus on statistical and neural-network learning algorithms that train on (annotated) text corpora to automatically acquire the knowledge needed to perform the task.

Prerequisite: -

AII439 Occupational Health and Safety I (course type: required) (2 Credits, 4 ECTS)

Course Objective: The aim of the course is to introduce students about safety applications in real life practices.

Course Content: Occupational Health and Historical Development of Safety, Occupational Health and Purpose and Importance of Safety, Occupational Health and Safety Concepts in the area, Overview of the Occupational Health and Safety, work accidents, occupational diseases, to be taken against the Work Accidents and

Occupational Diseases precautions, accidents at work and Costs arising from occupational diseases.

Prerequisite: --

AII427 Management for Engineers (course type: required) (3 Credits, 5 ECTS)

Course Objective: Discuss principles of management, discuss functions of managers, discuss organization and environment, discuss marketing, production and personnel management, discuss marketing control, discuss accounting and financial reports, discuss budgeting and overall control.

Course Content: Principles of management. Functions of managers. Organization and environment. Marketing management. Production management. Personnel management. Managerial control. Accounting and financial reports. Budgeting and overall control.

Prerequisite: --

SEMESTER 6

AIE302 Introduction to Machine Learning (Course type: elective) (4 Credits, 7 ECTS)

Course Objective: This course provides a broad introduction to the fundamental concepts and algorithms of machine learning. Students will learn to implement and analyze key supervised, unsupervised, and reinforcement learning techniques and apply them to solve real-world problems in areas such as data mining, robotic control, and bioinformatics.

Course Content: This course provides a broad introduction to machine learning and statistical pattern recognition. Topics include: supervised learning (generative/discriminative learning, parametric/non-parametric learning, neural networks, support vector machines); unsupervised learning (clustering, dimensionality reduction, kernel methods); learning theory (bias/variance tradeoffs, practical advice); reinforcement learning and adaptive control. The course will also discuss recent applications of machine learning, such as to robotic control, data mining, autonomous navigation, bioinformatics, speech recognition, and text and web data processing.

Prerequisite: MTH251

AIE303 Data Communication and Networking (course type: required) (4 Credits, 5 ECTS)

Course Objective: The aim of this course is to give details of computer networking and data communications. Students will learn the fundamentals of network architecture, protocols, and security, enabling them to understand the design, implementation, and management of modern communication systems.

Course Content: Introduction to Computer Networks and Data Communications, Fundamentals of Data and Signals, Conducted and Wireless Media, Making Connections, Making Connections Efficient, Errors, Error Detection and Error Control, Local Area Networks, Introduction to Metropolitan Area Networks and Wide Area Networks, The Internet, Voice and Data Delivery Networks, Network Security, Network Design and Management subjects will be covered during the semester.

Prerequisite: AII001

AIE304 Learning in Humans (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: This course aims to: Provide an in-depth understanding of how human learning occurs at neurological, cognitive, and behavioral levels. Explore the interaction between human learning and artificial intelligence, highlighting key AI learning models. Examine brain structures and their roles in learning, including neuroplasticity and memory formation

Course Content: Components of Human Learning, Basic Principles of Neuroscience, Brain Regions and Their Role in Learning, Introduction to Cognitive Psychology, Relationship Between Memory and Learning, Neuroplasticity and Lifelong Learning, Learning in Humans and Artificial Systems, Biological vs. Artificial Neurons: Structure, Function, and Key Differences, Integration of Human Learning Models into AI Applications Comparison of Human and Artificial Intelligence Learning.

Prerequisite: --

AIE306 Deep Learning (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The aim of this course is to equip students with the ability to design, implement, and apply various deep learning architectures, such as convolutional and recurrent networks, to solve complex problems in fields like computer vision and speech recognition.

Course Content: This course is an introduction to deep learning; a branch of machine learning concerned with the development and application of modern neural networks. basic neural networks, convolutional and recurrent network structures, deep unsupervised and reinforcement learning, and applications to problem domains like speech recognition and computer vision subjects will be covered.

Prerequisite: AIE204

AII440 Occupational Health and Safety II (course type: required) (3 Credits, 2 ECTS)

Course Objective: Students will learn to identify workplace hazards, analyze the causes and costs of work-related accidents and diseases, and understand the essential precautions for maintaining a safe work environment.

Course Content: The aim of the course is to introduce students about safety applications in real life practices. Occupational Health and Historical Development of Safety, Occupational Health and Purpose and Importance of Safety, Occupational Health and Safety Concepts in the area, Overview of the Occupational Health and Safety, work accidents, occupational diseases, to be taken against the Work Accidents and Occupational Diseases precautions, accidents at work and Costs arising from occupational diseases.

Prerequisite: AII439

AIE399 Summer Practice II (Course type: required) (0 Credits, 6 ECTS)

Course Objective: This course provides real working life experience for students. Students will be able to apply their theoretical knowledge into practice.

Course Content: A minimum of 40 working days for this practice is required in a manufacturing or service organization. (This one can involve 20 working days minimum.)

SEMESTER 7

AIE401 Introduction to Robotics (Course type: elective) (3 Credits, 7 ECTS)

Course Objective: Students will learn the principles of manipulator kinematics, dynamics, and trajectory planning, and will be introduced to essential components such as actuators, sensors, and vision systems, along with the basics of robot control and programming.

Course Content: The aim of this course is to introduce the student about the basic components of Robotics. The subjects that will be covered during the semester are: Basic components of robot systems; coordinate frames, homogeneous transformations, kinematics for manipulator, inverse kinematics; manipulator dynamics, Jacobians: velocities and static forces, trajectory planning, Actuators, Sensors, Vision, Fuzzy logic control of manipulator and robotic programming.

Prerequisite: --

AIE403 Computer Vision (Course type: elective) (3 Credits, 7 ECTS)

Course Objective: The aim of this course is to teach students the fundamental principles of robotics, including manipulator kinematics, dynamics, and trajectory planning. The course also introduces essential components such as actuators, sensors, and vision systems, along with the basics of robot control and programming.

Course Content: This course provides an introduction to computer vision, including fundamentals of image formation, camera imaging geometry, feature detection and matching, stereo, motion estimation and tracking, image classification, scene understanding, and deep learning with neural networks.

Prerequisite: --

AIE491 Senior Project I (Course type: required) (3 Credits, 6 ECTS)

Course Objective: The aim of the course is to give senior design experience to students.

Course Content: This course is the first part of design project. The senior design project can be a software or a networking project under the supervision of a faculty member. Oral presentations and written reports are required.

Prerequisite: --

SEMESTER 8

AII429 Engineering Ethics (course type: required) (3 Credits, 6 ECTS)

Course Objective: The aim of the course is to provide knowledge about engineering ethics.

Course Content: An Overview of Ethics, Ethics for IT Professionals, Computer and Internet Crime, Privacy, Freedom of Expression, Intellectual Property, Software Development, The Impact of Information Technology on the Quality of Life, Social Networking, Ethics of IT Organizations.

Prerequisite: --

AIE492 Senior Project II (Course type: required) (4 Credits, 7 ECTS)

Course Objective: The aim of the course is to give senior design experience to students.

Course Content: Students continue the project they started in ISE491 course. Oral presentation and written reports are required.

Prerequisite: AIE491

AIE402 Speech Processing (Course type: elective) (3 Credits, 7 ECTS)

Course Objective: This course provides a practical and theoretical understanding of computer-based speech processing. Students will gain hands-on experience by building working speech recognition systems, creating their own synthetic voices, and developing complete telephone spoken dialog systems.

Course Content: Speech Processing offers a practical and theoretical understanding of how human speech can be processed by computers. It covers speech recognition, speech synthesis and spoken dialog systems. The course involves practical where the student will build working speech recognition systems, build their own synthetic voice and build a complete telephone spoken dialog system.

Prerequisite: AIE303

TECHNICAL ELECTIVE COURSES

AIE411 Advanced Data Analysis (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The objective of this course is to equip students with the theoretical knowledge and practical skills to perform advanced multivariate data analysis. Upon completion, students will be able to interpret complex data, critically evaluate scholarly research, and apply sophisticated analytical techniques to draw informed, evidence-based conclusions in their own projects.

Course Content: Introduction to Multivariate Data: Exploring and visualizing multi-dimensional datasets. Dimensionality Reduction Techniques: Principal Component Analysis (PCA) and Factor Analysis. Clustering Methods: Hierarchical and non-hierarchical techniques (e.g., K-Means) for identifying natural groupings in data. Classification and Discrimination: Methods such as Discriminant Analysis for separating groups. Multivariate Analysis of Variance (MANOVA): Analyzing differences between groups across multiple dependent variables. Practical Application: Hands-on analysis of real-world datasets using statistical software (e.g., R, Python), with a strong focus on interpreting and communicating results.

Prerequisite: MTH251

AIE412 Information Retrieval and Web Search (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The primary objective of this course is to provide students with a thorough understanding of the core principles of Information Retrieval (IR) and their application in modern web search engines. Upon completion, students will be proficient in designing, implementing, and evaluating the key components of an IR system.

Course Content: Introduction to Information Retrieval: Core concepts and the architecture of a search engine. Structured vs. unstructured data. Data Collection and Processing: Web Crawling techniques. Text Preprocessing: Tokenization, stop-word removal, and stemming. Indexing: The Inverted Index data structure. Index construction and compression techniques. Information Retrieval Models: The Boolean model. The Vector Space Model and TF-IDF weighting. Probabilistic models, Web Search and Link Analysis: Characteristics of the web (scale, dynamic nature). Link Analysis and the

PageRank algorithm. Performance Evaluation: Metrics for evaluating search quality: Precision, Recall, F-measure, MAP, and nDCG.

Prerequisite: --

AIE413 Human-Robot Interaction (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: This course will focus on the emerging field of Human-Robot Interaction (HRI). This multidisciplinary research area draws primarily from: robotics, AI, human-computer interaction, and cognitive psychology. The primary goal of HRI is to enable robots to successfully interact with humans.

Course Content: This course will cover a variety of topics related to social intelligence: learning, teamwork, planning, dialog, emotion, embodied intelligence, among others. For each topic, readings and lectures will cover (1) what's known about how this ability arises in human intelligence, and (2) state-of-the-art approaches to building computational systems with this type of social intelligence. Assignments will be a combination of readings, discussions, team problem solving sessions, and a team final project involving the implementation of a Human-Robot Interaction system.

Prerequisite: --

AIE414 Deep Reinforcement Learning and Control (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: Students will learn to leverage reinforcement signals, expert demonstrations, and intrinsic curiosity to train agents, with a particular focus on integrating high-dimensional sensory inputs like vision for robotic control.

Course Content: Foundations of Reinforcement Learning, Deep Q-Learning and Value-Based Methods, Policy Gradient and Actor-Critic Methods, Integrating High-Dimensional Sensory Input:

Using Convolutional Neural Networks (CNNs) to process visual data and learn control policies directly from pixels ("pixels to actions"), Advanced Learning Paradigms.

Prerequisite: AIE306

AIE415 Mobile Robot Programming (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: This course is an extensive hands-on introduction to the concepts and basic algorithms needed to make a mobile robot function reliably and effectively. This is a lab course with emphasis on hands-on learning. Students will get experience in this course in addition to some theory. Lectures are focused on the content of the next lab. There is a sequence of labs and they build on each other. The course will culminate with an individually implemented project. Students will also be introduced to the basics of doing research in this course.

Course Content: Introduction to Mobile Robotics: Core concepts, robot architecture, and programming environments (e.g., Robot Operating System - ROS). Robot Locomotion and Control: Implementing control for various drive systems. Sensors and Perception: Interfacing with and processing data from sensors such as wheel encoders, IMUs, and range finders. Fundamental Algorithms: Practical implementation of algorithms for localization, navigation, and obstacle avoidance. State Machines and Behavior-Based Control: Designing and implementing robot behaviors. System Integration: Combining individual components into a cohesive and functional robotic system.

Prerequisite: --

AIE416 Autonomous Agents (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The course aims to provide students with a thorough understanding of the design principles for autonomous systems, encompassing both robotic and software agents. It also gives students the opportunity to apply their knowledge in practice through the construction of a simple autonomous robot.

Course Content: Introduction to Autonomous Agents, Agent Architectures, Sensing and Perception for Autonomy, Fundamentals of robotic sensors, Action and Control, Multi-Agent Systems (MAS),

Prerequisite: AIE206

AIE417 Introduction to Quantum Computing (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The objective of this course is to provide a foundational introduction to the principles of quantum computing. Upon completion, students will understand the paradigm shift from classical to quantum computation, grasp core quantum mechanical

concepts such as superposition and entanglement, and comprehend how these principles are harnessed via qubits.

Course Content: From Classical to Quantum Computation, Fundamentals of Quantum Mechanics, Quantum Circuits, Fundamental Quantum Algorithms, Applications and Implications.

Prerequisite: --

AIE418 Computer Animation & Visualization (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: This course provides a comprehensive introduction to the principles of interactive computer graphics, animation, and visualization. Students will learn to apply fundamental techniques in geometric modeling, rendering, and animation, and will explore advanced topics such as virtual reality and other recent developments in the field.

Course Content: Principles of interactive computer graphics, fundamental techniques in graphics, graphic systems, graphic communication, geometric modeling, rendering, computer animation, visualization and virtual reality and other recent developments in computer graphics subjects will be covered during the semester.

Prerequisite: --

AIE419 Algorithmic Game Theory and its Applications (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: This course introduces the key principles of algorithmic game theory, focusing on the intersection of computer science and economics. Students will learn to design and analyze computationally efficient auctions and mechanisms, evaluate the impact of selfish behavior on systems using concepts like the "price of anarchy," and apply algorithmic techniques to compute equilibria.

Course Content: Auction Theory and Mechanism Design, Efficiency of Equilibria and the Price of Anarchy, Algorithms for Computing Equilibria Matching Markets: Studying algorithms for finding stable and efficient matchings in two-sided markets, Applications and Case Studies: Applying game-theoretic models to understand and solve problems in network security, wireless spectrum allocation, and other modern contexts.

Prerequisite: --

AIE420 Fuzzy Systems (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The objective of this course is to provide a comprehensive introduction to the principles of fuzzy logic and its application in intelligent systems. Students will learn to design and analyze fuzzy inference systems and will explore how to integrate them with other computational intelligence techniques, such as neural networks and genetic algorithms, to solve complex regression and optimization problems.

Course Content: Fuzzy set theory, rules, reasoning and inference systems. Regression and optimization, derivative-based optimization – genetic algorithms, simulated annealing, Neural Networks, adaptive networks.

Prerequisite: AIE204

AII415 Decision Making (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The core objectives of the course are to enhance students' decision-making capabilities by teaching them to characterize risk, uncertainty, and opportunity, and quantify goals. The course aims to equip students with critical thinking, creative problem-solving skills, and specific tools, including decision tree models, for effective multi-goal and staged decision-making. A key goal is to develop insight into both independent and collaborative decision-making processes, ultimately fostering confidence in making choices that yield optimal results in an innovative work environment.

Course Content: The course provides an introduction to the decision-making process and thoroughly covers decision making under uncertainty and risk, examining Utility theory and Risk aversion. Key quantitative and structural topics include Decision Trees, Multiple regression models, Exponential smoothing, Linear regression model and correlation, and Time series analysis. Further content addresses Queuing theory, Decision making under conflict, Group decision making, Forecast accuracy, and Non-linear models for forecasting.

AII419 Image processing (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: The aim of this course is to introduce students to the fundamental techniques, concepts, and methods of image processing and image analysis. Students will learn the entire pipeline, from how an image is acquired to the processes of enhancing it, analyzing it, and extracting meaningful information such as objects and features.

Course Content: Imaging sensors and their principles, how images are digitally represented, stored, and compressed. Techniques for noise reduction and improving image clarity through contrast manipulation, histogram equalization, and edge highlighting. Mathematical techniques for image processing, including two-dimensional Fourier transforms, wavelets, and convolution. Methods for partitioning an image into meaningful regions (e.g., object and background) using techniques like thresholding. Morphological Operations. Feature Extraction. Object Recognition and Tracking.

Prerequisite: --

AII461 Generative Fundamentals of Generative Artificial Intelligence (Course type: elective) (3 Credits, 5 ECTS)

Course Objective: This course introduces the fundamental concepts and modern applications of generative artificial intelligence. Students will gain an understanding of how generative models work, explore their mathematical foundations, and learn to apply them in diverse fields such as image, text, and audio generation. The course aims to develop both theoretical knowledge and practical skills for designing and evaluating generative AI systems.

Course Content:

Overview of generative AI and its historical development. Probabilistic modeling and key mathematical foundations. Generative Adversarial Networks (GANs) and their variants. Variational Autoencoders (VAEs). Diffusion models and recent advancements. Applications in natural language processing, computer vision, and creative industries. Ethical considerations, societal impact, and responsible use of generative AI. Hands-on laboratory sessions with modern frameworks and tools.

AIE457 AI and Cloud Computing (Course type: elective) (3 Credits)

Course Objective:

This course aims to provide students with a solid understanding of cloud computing, including its architecture, core concepts, principles, models, techniques, and current practices. It also raises awareness of security and privacy issues in cloud environments. Through hands-on assignments, students will gain practical experience with cloud technologies such as virtual resources, application platforms, MapReduce, and cloud data stores.

Course Content:

The course will cover topics such as the history and principles of cloud computing, service models (IaaS, PaaS, SaaS, and Everything as a Service), major cloud platforms (Amazon, Google, Microsoft, etc.), virtualization technologies, cloud applications and multi-tenancy, MapReduce and Hadoop, cloud data management (including the CAP Theorem and cloud storage), and cloud security.

AII458 Artificial Intelligence and Internet of Things (Course type: elective) (3 Credits, 5 ECTS)

Course Objective:

By the end of this course, students will have a solid understanding of the fundamental principles and concepts of the Artificial Intelligence of Things (AIoT). They will be able to critically evaluate and compare different smart computing paradigms, particularly within the context of IoT, and analyze existing AIoT applications in terms of performance, scalability, and efficiency. Furthermore, students will be equipped to design and propose innovative AIoT solutions, addressing various topics such as geo-positioning, mobile applications, data management, edge-device deployment, energy efficiency, network modeling and simulations, and fault-tolerance.

Course Content:

This course covers a wide range of topics related to the Artificial Intelligence of Things (AIoT). It begins with an introduction to the role of AI in modern systems and then explores key AIoT design factors, including coverage, connectivity, lifetime, energy consumption, reliability, and delay. Students will examine node and network architectures in AIoT and propose their term-project topics, followed by project milestones and background presentations. The course further addresses AIoT deployments, comparing random and deterministic approaches as well as grid-based

and non-grid-based deployments. Students will learn intelligent data dissemination and management approaches through simulations, and analyze routing strategies, including data-centric versus ID-centric routing and in-network data aggregation. Node and access point failures will be modeled and analyzed, alongside strategies for maintaining sustainable AIoT networks under constraints such as limited energy, mobility, and harsh operational conditions. The course also covers localization techniques, network topologies, and fault-tolerance methods. Throughout the semester, students will engage in project comparisons, analyses, and assignments designed to apply these concepts in practical AIoT scenarios.

8.2. Common Compulsory Courses Offered University-wide

ENG101 English I (course type: required) (2 Credits, 3 ECTS)

Course Objective:

Designed for English-medium departments, ENG101 develops students' ability to understand and respond to everyday dialogues and contexts in English-speaking environments. Meaning and communication are prioritized; grammar supports communication. Content is supported with visual, audio, and written materials and tailored to each topic. ENG101 targets A1 (CEFR).

Course Content: 1. Introducing oneself 2. Giving personal information 3. Giving personal information 4. Talking about objects 5. Talking about family 6. Describing and discussing buildings and furniture 7. Talking about timetables/schedules 8. Talking about daily routines 9. Talking about daily routines 10. Ability 11. Asking for and giving directions 12. Talking about food and quantities.

ENG102 English II (course type: required) (2 Credits, 3 ECTS)

Course objective: ENG 102 for English Departments aims to develop students' awareness of the language used in everyday life situations as well as the vocabulary items used in different topics. The course has been designed to show the students communicatively useful expressions in their immediate environment. Understanding how the language is used to maintain communication or convey meaning in specific

situations is prior to how the structures are put together to form the language. The aim is to expose students to some basic functions in some specific situations and topics at A2/B1 level of the CEFR so that the students can easily communicate with the foreign people in their immediate environment and develop their ability to comprehend oral English.

Course Content: 1. Health Matters 2. Health Matters 3. Restaurant Problems-Complaints and responses 4. Talking about Computer Problems 5. Reporting the News and the Weather 6. Reporting the News and the Weather 7. Product Problems-Complaints at the store 8. Talking about the future possibilities 9. Talking about the future possibilities 10. Health Problems and Herbs 11. Health Problems and Herbs 12. Job qualifications and Working Conditions.

Prerequisite: ENG101

YIT101 Turkish for Foreigners I (course type: only for Foreign Students) (2 Credits, 2 ECTS)

Course Objective: Designed for students with little to no prior knowledge of Turkish grammar and vocabulary. A compulsory course for learners of Turkish as a foreign language. Students follow online videos via UZEBİM. Topics range from the Turkish alphabet to the present simple and present continuous tenses.

Course Content: Introduction to the course; Turkish alphabet and phonology; forming plurals in Turkish; forming yes–no questions; building sentences with the “var/yok” (there is/there isn’t) structure; possessive suffixes; use of personal pronouns; numbers and asking questions about numbers; case endings (noun cases) in Turkish; where and how to use the present continuous and simple present tenses.

YIT102 Turkish for Foreigners II (course type: only for Foreign Students) (2 Credits, 2 ECTS)

Course Objective: Designed for students with little to no prior knowledge of Turkish grammar and vocabulary. A compulsory course for learners of Turkish as a foreign language. Students follow online videos via UZEBİM. Topics range from the Turkish alphabet to the present simple and present continuous tenses.

Course Content: Introduction to the course; Turkish alphabet and phonology; forming plurals in Turkish; forming yes–no questions; building sentences with the "var/yok" (there is/there isn't) structure; possessive suffixes; use of personal pronouns; numbers and asking questions about numbers; case endings (noun cases) in Turkish; where and how to use the present continuous and simple present tenses.

Prerequisite: YIT101

AIT103 Atatürk Principles and Reforms I (course type: only for Foreign Students) (2 Credits, 2 ECTS)

Course Objective: This course is focusing on the early dynamics of the Ottoman Empire (including social, economic, political, institutional and cultural) and examines the historical background of the Republic of Turkey. The main aim of the course is to scrutinize the political dynamics and modernization attempts of the Ottoman state analyzed comprehensively. By doing so, basic concepts of History of Revolution, World and Ottoman Empire at the Beginning of the 20th Century, The Last Period of the Ottoman State, The First World War, The Preparatory Period of the National Struggle are the main topics that are focused in the classes.

Course Content: A Concise Political History of Ottoman Empire 1300-1914 Decline and the Ottoman Modernization Ottoman State and Society in Classical Period The organization of National Resistance Movement: The Circular of Amasya The Congresses of Erzurum and Sivas Invasions, Mustafa Kemal and National Resistance Movement Ottoman Empire in the First World War I Armistice of Mudros The Treaty of Sevres and the National Liberation War against the Armenians and Greeks The Armistice of Mudanya and the Peace Treaty of Lausanne.

Prerequisite: --

AIT104 Ataturk's Principles and Reforms for Foreign Students II (course type: only for Foreign Students) (2 Credits, 2 ECTS)

Course Objective: It aims to let the student who attends the AİT 104 courses to acquire the ability of classification, description, explanation, analysis of the current social and

individual problems in Turkey by taking rationality and science, norms of modernity into account with respect to the Kemalist thought and the Turkish Revolution.

Course Content: Discussion on "revolution", "Evolution" and the great revolutions in history. Transformation in the Political system: From a Sultanate to Republic Transformation in education and cultural life. Unsuccessful attempts for multi-party system and consolidation of the Single Party Regime. Atatürkçülük/Kemalizm and the 6 principles of Ataturk, Nationalism, Secularism-Laicism, Populism • Sheikh Said Rebellion: Kurdish Nationalism or A Reaction to Secular policies of the new regime Turkey During the Second World War. Turkey and the League of Nations Turkey in the Regional Organizations. Turkish Foreign Policy and the Foreign Policy Issues Statism, Republicanism, Revolutionism.

Prerequisite: AIT103

CAM100 Campus Orientation (course type: required) (0 Credits, 2 ECTS)

Course Objective: Organized so that students can get to know university life better, this course consists of various activities aimed at gaining the identity of being a Near Easterner and adapting to university life more easily.

Course Content: Near East University history and general information; information on faculties; counseling and academic processes; digital/distance learning and use of UZEBIM; information access and management; information on common and elective courses taken throughout the campus; creating a work schedule and developing academic study habits; academic ethics and scientific approach; social life and the Dean of Students; health management and Hospital services; Cyprus culture and adaptation to the island; scientific research and activities; quantification and consideration; communication skills and human relations management.

CAR100 Career Planning (course type: required) (0 Credits, 2 ECTS)

Course Objective: To introduce students to career methods that will help them adapt to the rapidly changing economic, social, cultural, ethical and legal conditions of the business world and to gain the ability to adapt them to their own lives.

Course Content: Introduction to the Course, Career Concept and Career Stages, Expectations of the Business World from New Graduates, Career Management and Career Management Models in Organizations, Individual Career Planning and Goal Setting, Job Search Techniques, Individual Career Planning and Applications: Cover Letter and CV Writing, Basic Communication Skills, Individual Career Planning Practices: Preparing for the Interview, Interview Techniques, Orientation and Introduction to Working Life, Lifelong Learning.

CHC100 Cyprus History and Culture (Course type: elective) (0 Credits, 2 ECTS)

Course Objective: Being able to comparatively analyse the variable dynamics of Cyprus across the ages also brings with it an understanding of the dynamics of the Mediterranean basin. Having information about the island of Cyprus and the Mediterranean culture provides us with an opportunity to understand and describe the states established in the Mediterranean, the religious communities operating there, and the socio-cultural interactions between people. This course offers the opportunity to examine in depth the social, economic and cultural dynamics of Cyprus, which acts as a bridge between East and West.

Course Content: General information about the history and culture of Cyprus; Zoology and Botany; Social and cultural life in the First Age and the Middle Ages; The social and cultural heritage of the island during the Ottoman period; History of Art; Religion and Culture; British Colonial Period; Cyprus Education History; political events from 1950 to1974; The national struggle of Turkish Cypriots for existence and freedom; The establishment of the TRNC and social structure.

GEC351 21 Century Skills (course type: required) (0 Credits, 2 ECTS)

Course Objective: The 21st Century Skills course aims to help students develop essential thinking skills such as critical, creative, and philosophical thinking, problem-solving, lifelong learning, and effective learning strategies. In addition, it equips students with social skills such as effective communication, teamwork, intercultural interaction, and diversity management. By fostering digital literacy, media awareness, information management, and basic statistical knowledge, the course supports students in becoming active and conscious individuals in digital environments. While promoting personal

growth through self-awareness, emotional intelligence, flexibility, and time management as self-management skills, it also cultivates a sense of social responsibility through topics such as sustainability, ethical leadership, and global citizenship. Finally, by providing practical life skills such as entrepreneurship, financial literacy, stress management, and creative presentation skills, the course aims to equip students with competencies they can apply in real life.

Course Content: Fundamental thinking and learning skills; concepts of critical and creative thinking; core problem-solving concepts and processes; principles of lifelong learning; logical reasoning; effective learning strategies; components of core thinking skills; methods of philosophical thought; communication and collaboration skills; fundamentals of effective communication and cooperation; basics of intercultural communication; elements shaping communication across cultures; importance of effective communication in collaboration; appropriate techniques for group work; strategies for intercultural interaction; communication problems and solutions in teamwork; innovative communication strategies supporting diversity management; strategies to enhance communication and collaboration in teams; digital literacy and media competencies; information management; basic statistical terms; purposes of digital media tools; interpretation of statistical data; digital tools and platforms; reliability and quality of digital content and sources; creation of original media content; cybersecurity; ethical and philosophical reflections with self-management and cognitive flexibility; time-management strategies; factors of individual and environmental adaptation; components of emotional intelligence; prioritization techniques; resilience in various situations; coping strategies for stress and change; ethics; personality profiles and the impact of emotional intelligence on success; an individual adaptation strategy for stressful situations; empathy-based communication; time management across academic, social, and personal goals; social responsibility and global citizenship; sustainability and environmental awareness; principles of ethical leadership; links between global issues (e.g., climate change, inequality) and social responsibility; relationship between social responsibility projects and sustainability; raising universal awareness; applied life skills; basic entrepreneurship concepts; financial literacy terms; stages of project mana

8.3. Course Syllabus

https://drive.google.com/drive/folders/1JG2GA2SsrbZ4XZwGnNJHD-3qxbpxLUve?usp=drive_link

9. PRINCIPLES OF PROGRAM ASSESSMENT AND EVALUATION

Course performance at Near East University (NEU) is generally based on face-to-face examinations (midterm and final). In addition, to encourage active participation and assess diverse skills, some courses may employ alternative assessment methods such as project assignments, presentations, homework, quizzes, and group work.

The assessment method and criteria for each course may vary depending on the course characteristics and the instructor's preferences. These criteria are announced at the beginning of the semester and are clearly stated in the course syllabus.

Students' final course grades are calculated as the weighted average of examinations, assignments, and any other assessment tools implemented throughout the semester. Accordingly, students are expected to participate actively in all assessment components, not only in exams.

9.1. Exam Rules

- Midterm and final exams are conducted face-to-face.
- Instructors may additionally use projects, presentations, homework, quizzes, and group work as part of the assessment scheme.
- Assessment criteria and weightings are communicated to students at the start of the semester in the course syllabus.
- The final grade reflects the weighted average of all assessment components applied in the course.

9.2. Letter Grade Conversion Table

Score	Letter Grade	Multiplier	ECTS Grade

90-100	AA	4.0	A
85-89	BA	3.5	B*
80-84	BB	3.0	B*
75-79	CB	2.5	C*
70-74	CC	2.0	C*
60-69	DC	1.5	D
50-59	DD	1.0	E
49-00	FF	0.0	F

Passing thresholds by program level.

To be considered successful in a course: minimum DD for level 5 (associate) and level 6 (undergraduate) programs; minimum CC for level 7 (master's) programs; minimum BB for level 8 (doctoral) programs. For courses not included in the GPA, students must receive S (Satisfactory).

Additional transcript notations (non-GPA where applicable).

I (Incomplete): *Granted when course requirements are not completed by the grade due date for a valid reason accepted by the instructor. All outstanding work must be completed within one week after the grade due date. In exceptional cases, this may be extended to two weeks before the next semester begins by decision of the relevant academic unit administrator and the board. Otherwise,* ***I*** *convert to FF or U.*

S (Satisfactory Completion): *Assigned for successful completion in non-credit / non-GPA contexts.*

U (Unsatisfactory): *Assigned for failure in non-credit courses.*

P (Successful Progress): *For multi-semester requirements not included in GPA when expected progress is achieved.*

NP (Not Successful Progress): *For multi-semester requirements not included in GPA when expected progress is not achieved.*

EX (Exempt): *Course exemption granted.*

NI (Not Included): *Grade recorded but not included in GPA (and not counted within the registered program's taken courses).*

W (Withdrawal): *With advisor recommendation and instructor approval, permitted after add/drop and within 10 weeks of semester start. Not allowed in the first two semesters. A student who previously received W in a course that is not included in GPA cannot withdraw from the same course again. Maximum withdrawals: 2 (associate), 4 (undergraduate). Withdrawn courses must be retaken when next offered.*

NA (Never Attended): *Assigned to students who fail attendance requirements and lose the right to end-of-term assessments.* ***Not included in GPA****.*

Note: *Student transcripts display letter grades corresponding to both national and ECTS credits.*

I	Incomplete
S	Satisfactory Completion
U	Unsatisfactory
P	Successful Progress
NP	Not Successful Progress
EX	Exempt
NI	Not included
W	Withdrawal
NA	Never Attended

10. STUDENT ADMISSION AND REGISTRATION REQUIREMENTS

The Artificial Intelligence Engineering Program at Near East University is offered in English. The admission and registration procedures are carried out in accordance with the University's general regulations and the provisions of the Council of Higher Education (YÖK) and the Higher Education Supervision and Accreditation Council (YÖDAK).

Applicants' English proficiency is assessed through a compulsory preparatory program, which may last up to two years. Candidates must make their program preferences based on the results of the Higher Education Institutions Examination (YKS) and be placed by the Student Selection and Placement Center (ÖSYM).

Registration procedures are conducted by the Directorate of Student Affairs, located on the 1st floor of the Faculty of Pharmacy building. This unit operates Monday through Friday, from 08:00 to 17:00. Students may obtain information about faculties, complete their registration, and request official documents such as exam entry slips, student certificates, and transcripts from this office. Submission of all required documents and payment of the relevant fees are mandatory; registration is considered complete only when these requirements are fully met.

At the beginning of each academic semester, students must complete the re-registration process. Those who fail to renew their registration lose the right to attend classes and take examinations for that term. International students may be admitted without an exam or through a special examination, according to procedures determined by the University. This process is carried out in line with relevant legislation and Senate decisions. Individuals with special (non-degree) student status may only take certain courses; they are not considered enrolled in the program and are not eligible for a diploma.

Students who successfully complete the program and fulfill all graduation requirements are awarded a bachelor's degree. Grade records are securely stored in digital form, and certified copies may be issued to students or relevant authorities when required. Fees paid by students who withdraw their registration are non-refundable. Leaves of absence granted for health, military service, financial, or educational reasons are not counted

toward the official duration of study; such cases are reviewed and decided by the relevant boards.

Upon registration, each student is assigned an academic advisor. Students are expected to maintain regular contact with their advisor and obtain approval for course selection, internships, and graduation matters. All academic and administrative procedures—such as compulsory internships, disciplinary processes, scholarship opportunities, and health services—are conducted within the framework of Near East University's current regulations, directives, and Senate decisions.

11. HORIZONTAL AND VERTICAL TRANSFER OPPORTUNITIES

11.1. Horizontal Transfer Opportunities

This section outlines the procedures and principles for applications to the Near East University (NEU) Artificial Intelligence Engineering (English Track) Program through horizontal transfer. All procedures are carried out in accordance with the provisions of the NEU Regulation on Horizontal Transfer and Credit Transfer.

Applicants for horizontal transfer must not have received any disciplinary sanction, must hold a cumulative GPA of at least 2.00/4.00 (or 60/100), and must have successfully completed a sufficient number of courses whose contents are compatible with the curriculum of the target program. For transfers based on central placement scores, the applicant must meet the **base score** of the target program for the year of application.

Applications must be submitted within the dates announced by the University, and all required documents must be fully delivered to the relevant academic unit. Evaluations are made based on available quotas and the applicants' academic performance.

For accepted students, course exemptions and class placement/adaptation are determined by the decision of the Faculty Administrative Board, in line with the opinion of the Department of Artificial Intelligence Engineering. During the evaluation process, particular attention is paid to the compatibility of course contents, especially in computer science fundamentals, software development, and artificial intelligence engineering

courses. Course equivalency is established based on the alignment between the contents of previously completed courses and those in the target program.

Applications arising from special circumstances (such as war, natural disasters, or health issues) are evaluated separately in accordance with the relevant legislation, and additional documentation may be requested.

For citizens of the Republic of Türkiye, further details regarding NEU transfer rules are available in the Council of Higher Education (YÖK) Horizontal Transfer Rules and the Near East University Regulation on Horizontal Transfer and Credit Transfer (dated 29.05.2023).

11.2. Vertical Transfer Opportunities

This section outlines the main principles for vertical transfer applications to the Near East University Artificial Intelligence Engineering (English Track) Program. Graduates of vocational schools are required to take the Vertical Transfer Examination (DGS) administered by ÖSYM. Preferences are made based on the DGS score, and placements are carried out by ÖSYM. For accepted students, course exemptions and class placement are determined by the Faculty Administrative Board in line with the opinion of the Department of Artificial Intelligence Engineering.

12. RECOGNITION AND EVALUATION OF PRIOR LEARNING

Students enrolled in the Near East University Artificial Intelligence Engineering Program may request exemption for courses they previously completed successfully at other higher education institutions no later than the end of the second week of the semester in which they register for the course. Applications must be submitted in writing to the relevant academic unit and must include an official (certified) transcript together with official (certified) course descriptions. If the exemption request concerns courses taken abroad, the equivalency of those courses must have been approved by the Council of Higher Education (YÖK). No course exemption is processed between students concurrently registered in both an associate and a bachelor's program. Exemption requests are evaluated by the departmental committee, taking into account the course content, credits, and the student's academic performance. Courses deemed appropriate

are recorded on the student's transcript with a letter grade and are included in the CGPA; no exemption is granted for courses in which the student was not successful. For common compulsory courses such as Atatürk's Principles and History of the Turkish Revolution, Turkish Language, and Foreign Language, exemption may be granted without requiring credit matching. The exemption exam for these courses may be taken only once. If the total ECTS of the exempted courses exceeds 70% of the total ECTS for the semester in which the student is registered, the student is placed in the next class level. However, students who are placed in an upper class as a result of this process may not take upper-class courses in the first academic year following such placement. Objections to exemption and placement decisions may be lodged within two weeks from the date the results are notified to the student. In cases of horizontal or vertical transfer, course exemption requests are evaluated by the relevant Faculty (or School) Administrative Board in line with the opinion of the departmental committee. For exemption from the foreign language preparatory class, the student must meet a specified language proficiency level demonstrated by exam results accepted by the University.

13. INTERNATIONAL PROGRAMS AND EXCHANGE OPPORTUNITIES

Near East University (NEU) offers its students international exchange and internship opportunities, particularly within the Europe-focused Erasmus+ Programme, which provides study and traineeship options abroad for students and academic staff in European Union member states. Students wishing to participate in Erasmus+ must have completed at least the first year, meet specified academic achievement criteria, and document the foreign-language proficiency required by the relevant programme. In addition, NEU conducts exchange activities through various international student unions in different fields, including IFMSA (Medicine), IADS (Dentistry), IPSF (Pharmacy), and IVSA (Veterinary Medicine), under which research and clinical traineeship exchanges are available. During the summer, in collaboration with these unions, NEU organizes hands-on training activities, joint research projects, and cultural events with students from different countries. Thanks to NEU's active collaborations with 114 universities in 44 countries, students can both study and undertake internships abroad while also studying on the Turkish Republic of Northern Cyprus (TRNC) campus in a culturally diverse

environment. NEU maintains reciprocal cooperation with many higher education institutions across Europe, Asia, the Americas, and Africa. Students may study for a half term or a full term, complete internships, or take part in international research projects at these universities. To provide students with global experience, NEU supports exchange not only through Erasmus+ but also via the Mevlana and Farabi programmes; in particular, the Mevlana Programme offers reciprocal exchange with universities in Türkiye, while the Farabi Programme supports student exchange with domestic institutions. Through these programmes, students have the opportunity to enhance their academic knowledge while experiencing different cultures and broadening their cultural horizons. Throughout the entire process—from application onward—the NEU International Office provides comprehensive support, including advising services, documentation and application procedures, accommodation, and visa matters; students are informed and guided at every stage by specialist staff.

14. PROGRAM ACCREDITATION AND QUALITY ASSURANCE

14.1. Quality Policy

Near East University's Artificial Intelligence Engineering Program adopts a quality policy aligned with its mission and vision to promote educational excellence. The program aims to equip students with up-to-date theoretical knowledge and practical competencies in areas such as artificial intelligence, machine learning, deep learning, data science, and robotics; to graduate qualified and innovative artificial intelligence engineers who are committed to ethical values and societal needs; and to contribute to academic and technological advancement by supporting research, innovation, and knowledge production in the field of artificial intelligence. Continuous professional development of graduates and the strengthening of a lifelong learning culture are among the core priorities of the program.

14.2. Program Accreditation Process

The Artificial Intelligence Engineering Program actively engages in national quality assurance and accreditation processes. In this context, all activities are conducted in accordance with the criteria established by the relevant accreditation authority. These efforts include defining and periodically reviewing the program's educational objectives, implementing student-centered teaching and learning approaches, supporting faculty qualifications and professional development, and ensuring the systematic operation of monitoring and evaluation mechanisms.

14.3. Quality of Education

In response to rapid technological advancements and the evolving needs of the industry, the Artificial Intelligence Engineering curriculum is periodically reviewed to ensure its relevance and effectiveness. Course contents are regularly updated, new topics are integrated into the program, and outdated courses are systematically phased out. This process is carried out in accordance with a defined schedule and established quality assurance mechanisms, with active participation from the departmental academic board as well as internal and external stakeholders, including students, alumni, and industry representatives.

14.4. Research and Development Activities

In line with its quality policy, the program places strong emphasis on contemporary, research-driven, and innovative R&D activities aimed at enhancing the quality of teaching and learning. These efforts include the adoption of effective instructional methods, the integration of educational technologies, the implementation of rigorous assessment and evaluation practices, and the promotion of inclusive, student-centered approaches. Research and development initiatives are designed to foster students'

critical thinking, problem-solving, and lifelong learning skills. In this context, the program actively supports projects that integrate theory with practice and promote collaboration at both national and international levels.

14.5. Continuous Improvement Process

Within the scope of quality assurance, the Artificial Intelligence Engineering program adopts a continuous improvement approach to enhance its teaching and learning processes. Based on feedback from students, alumni, and stakeholders, course contents, instructional methods, and practical components are regularly reviewed. The collected data guide the updating of educational activities and the planning of initiatives that support the professional development of Artificial Intelligence Engineering students.

15. GRADUATION REQUIREMENTS AND DEGREE AWARDED

15.1. Graduation Requirements

To graduate from the Near East University Artificial Intelligence Engineering Bachelor's Program, students must successfully complete all courses in the curriculum, earning a minimum of 240 ECTS credits with at least a DD/S letter grade, and achieve a Cumulative Grade Point Average (CGPA) of no less than 2.00 on a 4.00 scale. In addition, students are required to complete the compulsory internship(s) specified in the program within the prescribed duration and standards. Upon fulfilling all academic and administrative requirements, the student becomes eligible to receive the Bachelor's Degree in Artificial Intelligence Engineering.

15.2. Degree Awarded

Students who successfully complete the Near East University Artificial Intelligence Engineering Bachelor's Program are awarded the Bachelor of Science degree in Artificial Intelligence Engineering and earn the professional title of "Artificial Intelligence Engineer.

16.DIPLOMA SUPPLEMENT

NEAR EAST UNIVERSITY

DIPLOMA SUPPLEMENT

Diploma No: Diploma Date:

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1. Family name(s): **1.2. Given name(s):**	**1.3. Place and date of birth:** **1.4. Student identification number:**

2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1. Name of the qualification and (if applicable) the title conferred **2.2. Main field(s) of study for qualification** **2.3. Name and status of awarding institution**	**2.4. Name and type of institution administering studies** **2.5. Language(s) of instruction/examinations**

3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1. Level of qualification First Cycle (Bachelor's Degree)	**3.2. Official length of program** Normally 5 Years (excluding 1 year English Preparatory School, if necessary), 2 semesters per year, 14 weeks per semester. 8 SEMESTERS, 234 ECTS (European Credit Transfer System) (146 Credits). Each course is credited with a number of ECTS (>=2) according to the student's workload (contact hours, laboratory work, examination, self-study, presentation etc.) and accumulation of credits (ECTS) is accomplished after successful completion of the course.

3.3. Access requirement(s)
High school diploma
Placement through a centralized national university placement examination
NEU Private Examination

4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1. Program requirements The Bachelor of Science degree is awarded to students who have successfully completed all courses in the curriculum, including 40 working days summer practice and have obtained cumulative grade point average (CGPA) value at least 2.00 on a 4.00 scale and have no failing grades. The objectives are to provide the fundamentals of contemporary Artificial Intelligence education and to supply an overall and comprehensive outlook on Artificial Intelligence Engineering profession. It is also aimed to provide the graduates with the abilities to adapt to the technological improvements in the field, with the verbal and written communication skills and also with the knowledge on ethical issues of the profession.	**4.2 Learning Outcome of the program** Upon completion of BSc. In Artificial Intelligence Engineering, students will demonstrate the ability to: development processes. 1) Has sufficient knowledge in mathematics, natural sciences, and artificial intelligence engineering. 2) Identifies, defines, formulates, and solves engineering problems; selects and applies appropriate analytical methods and modeling techniques for this purpose. 3) Analyzes a system, its components, or a process and designs it under realistic constraints to meet desired requirements; applies modern design methods accordingly. 4) Design experiments, conducts them, collects data, analyzes results, and interprets them to investigate field-specific research topics. 5) Ability to work effectively in disciplinary and multidisciplinary teams; ability to work individually. 6) Accesses information and conducts resource research for this purpose; uses databases and other information sources. 7) Is aware of the necessity of lifelong learning; follows developments in science and technology and continuously updates oneself. 8) Selects and uses modern techniques and tools necessary for engineering applications. 9) Is aware of the universal and societal impacts of engineering solutions and applications; recognizes entrepreneurship and innovation issues and has knowledge about contemporary problems. 10) Has awareness of professional and ethical responsibility.
4.3. Program details and the individual grades/marks/ECTS obtained Please see the next page	**4.4 Mode of Study** Full-Time

4.4. Grading scheme, grade translation and grade distribution guidance:

For each course taken, the student is assigned one of the following grades by the course teacher.

For BSc in Artificial Intelligence Engineering, degree, students must obtain at least DD or S from each course and have a CGPA of not less than 2.00 out of 4.00 and have completed all the courses and summer practices in the program. The total credit points for a course are obtained by multiplying the coefficient of the final grade by the credit hours. In order to obtain the GPA for any given semester, the total credit points are divided by the total credit hours. Students who obtain a CGPA of 3.00-3.49 at the end of a semester are considered as "Honor Students" and those who obtain a CGPA of 3.50-4.00 at the end of a semester are considered as "High Honor Students" and this is recorded in their academic report. The letter grades, the quality point equivalents are:

Percentage	Course Coefficient	Grade	Percentage	Course Coefficient	Grade
90-100	4	AA	70-74	2	CC
85-89	3.5	BA	65-69	1.5	DC
80-84	3	BB	60-64	1	DD
75-79	2.5	CB	59 and below	0	FF

I- Incomplete **S-** Satisfactory Completion, **U**-Unsatisfactory, **NA**-Not Attended, **E**-Exempted, **W**– Withdrawn

ECTS grade distribution and grade descriptors:

NEU Grade	ECTS Grade	Percentage of successful students normally achieving the grade	Definition
AA	A	Best 5%	Excellent - outstanding performance with only minor errors
BA	B	Next 5 %	Very Good - above the average standard but with some errors
BB	B	Next 10 %	Very Good - above the average standard but with some errors
CB	C	Next 15 %	Good - generally sound work with a number of erros.
CC	C	Next 25 %	Good - generally sound work with a number of errors.
DC	D	Next 25 %	Satisfactory - fair but with significant shortcomings.
DD	E	Next 15 %	Sufficient - performance meets the minimum criteria.
FD	FX		Fail - some more work required before the credit can be awarded.
FF	F		Fail - considerable work is required.

4.5 Overall Classification of the Qualification: CGPA:…../4.00 **Final Grade of the Degree: …**

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1. Access to further study

May apply to second cycle programs.

5.2. Professional status conferred

This degree enables the holder to exercise the profession.

6. ADDITIONAL INFORMATION

6.1. Additional information

To be eligible for a BSc. (Bachelor of Science) degree at Near East University Faculty of Artificial Intelligence and Informatics, all summer practices should be successfully completed. These practices are:

AIE299 Summer Training I (ECTS = 6)

AIE399 Summer Training II (ECTS = 6)

6.2. Further Information Sources

Department web site:

https://aif.neu.edu.tr/
University web site: **https://neu.edu.tr/**

The Council of Higher Education of Turkey

http://www.yok.gov.tr

Higher Education Planning, Evaluation Accreditation and Coordination of North Cyprus Council Web sitehttp://www.ncyodak.eu/

4.3. Program details and the individual grade/marks obtained:

1 (1st Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
MTH113	LINEAR ALGEBRA	3	5	Compulsory	
AII102	PROGRAMMING AND PROBLEM SOLVING	4	5	Compulsory	
ENG101	ENGLISH I	2	3	Compulsory	
MTH101	CALCULUS I	4	5	Compulsory	
PHY101	GENERAL PHYSICS I	4	5	Compulsory	
CAM100	CAMPUS ORIENTATION	0	2	Compulsory	
CHM101	GENERAL CHEMISTRY I	4	5	Compulsory	
		21	30		

2 (2nd Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
AII104	DISCRETE STRUCTURES	3	5	Compulsory	
ENG102	ENGLISH II	2	3	Compulsory	
MTH102	CALCULUS II	4	6	Compulsory	
PHY102	GENERAL PHYSICS II	4	6	Compulsory	
AII108	OBJECT ORIENTED PROGRAMMING	3	6	Compulsory	
CAR100	CAREER PLANNING	0	2	Compulsory	
GEC351	21ST CENTURY SKILLS	0	2	Elective	
		16	30		

3 (3rd Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
AII001	LOGIC DESIGN	4	6	Compulsory	
AII201	DATA STRUCTURES & ALGORITHMS	4	6	Compulsory	
AIE201	AI PRINCIPLES AND TECHNIQUES	3	3	Compulsory	
MTH201	DIFFERENTIAL EQUATIONS	4	6	Compulsory	
AII007	MULTIMEDIA SYSTEMS	3	5	Compulsory	
AIT103	ATATÜRK PRINCIPLES AND REFORMS I	2	2	Compulsory	
YIT101	TURKISH FOR FOREIGNERS I	2	2	Compulsory	
		22	30		

4 (4th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
AII202	DATABASE MANAGEMENT SYSTEMS	4	5	Compulsory	
AIE206	REASONING AND AGENTS IN AI	4	7	Compulsory	
MTH251	PROBABILITY AND STATISTICS	3	6	Compulsory	
AIT104	ATATÜRK PRINCIPLES AND REFORMS II	2	2	Compulsory	
AIE299	SUMMER TRAINING I	0	6	Compulsory	
CHC100	CYPRUS HISTORY AND CULTURE	0	2	Elective	
YIT102	TURKISH FOR FOREIGNERS II	2	2	Compulsory	
		15	30		

5 (5th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
AII302	OPERATING SYSTEMS	3	6	Compulsory	
AIE301	PATTERN RECOGNITION	3	5	Elective	
ENG201	ORAL COMMUNICATION SKILLS	3	3	Compulsory	
AIE303	NATURAL LANGUAGE PROCESSING	3	3	Elective	
AII439	OCCUPATIONAL HEALTH AND SAFETY I	2	4	Compulsory	
AII427	MANAGEMENT FOR ENGINEERS	3	5	Compulsory	
AIE204	NEURAL COMPUTATION	3	4	Compulsory	
		20	30		

6 (6th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
AIE302	INTRODUCTION TO MACHINE LEARNING	4	7	Elective	
AII303	DATA COMMUNICATIONS AND NETWORKING	4	5	Compulsory	
AIE304	LEARNING IN HUMANS	3	5	Elective	
AIE306	DEEP LEARNING	3	5	Elective	
AII440	OCCUPATIONAL HEALTH AND SAFETY II	3	2	Compulsory	
AIE399	SUMMER TRAINING II	0	6	Compulsory	
		17	30		

7 (7th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
AIE401	INTRODUCTION TO ROBOTICS	3	7	Elective	
AIE403	COMPUTER VISION	3	7	Elective	
AIE491	SENIOR PROJECT I	3	6	Compulsory	
TE	TECHNICAL ELECTIVE	3	5	Elective	
TE	TECHNICAL ELECTIVE	3	5	Elective	
		17	30		

8 (8th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
AII429	ENGINEERING ETHICS	3	6	Compulsory	
AIE492	SENIOR PROJECT II	4	7	Compulsory	
AIE402	SPEECH PROCESSING	3	7	Elective	
TE	TECHNICAL ELECTIVE	3	5	Elective	
TE	TECHNICAL ELECTIVE	3	5	Elective	
		16	30		

7. CERTIFICATION OF THE SUPPLEMENT

7.1. Date :

7.2. Name and Signature :

7.3. Capacity : Registrar

7.4. Official stamp or seal :

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

The basic structure of the North Cyprus Education System consists of four main stages as pre-school education, primary education, secondary education and higher education.

Pre-school education consists of non-compulsory programs whereas primary education is a compulsory 8-year program for all children beginning from the age of 6. The secondary education system includes "General High Schools" and "Vocational and Technical High Schools".

The Higher Education System in North Cyprus is regulated by the Higher Education Planning, Evaluation, Accreditation and Coordination Council (Yüksek öğretim Planlama, Denetleme, Akreditasyon ve Koordinasyon Kurulu – YÖDAK). Established in 1988, the Council regulates the activities of higher education institutions with respect to research, governing, planning and organization. The higher education institutions are established within the framework of the Higher Education Law. All programs of higher education should be accredited by YÖDAK.

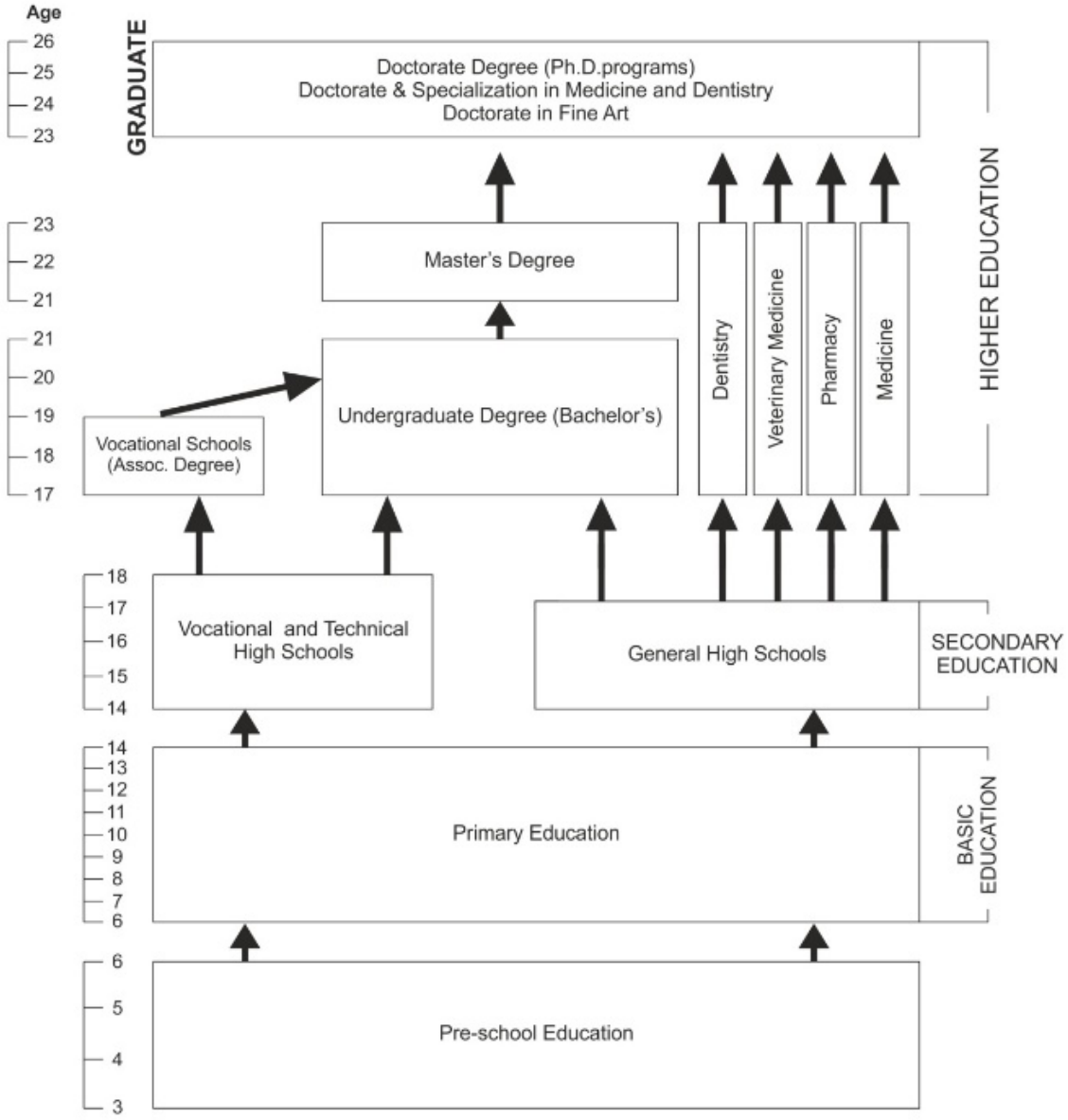
Higher education in North Cyprus comprises all post-secondary higher education programs, consisting of short, first, second, and third cycle degrees in terms of terminology of the Bologna Process. The structure of North Cyprus higher education degrees is based on a two-tier system, except for dentistry, pharmacy, medicine and veterinary medicine programs which have a one-tier system. The duration of these one-tier programs is five years except for medicine which lasts six years. The qualifications in these one-tier programs are equivalent to the first cycle (bachelor degree) plus secondary cycle (master degree) degree. Undergraduate level of study consists of short cycle (associate degree) - (önlisans derecesi) and first cycle (bachelor degree) - (lisans derecesi) degrees which are awarded after the successful completion of full-time two-year and four-year study programs, respectively.

Graduate level of study consists of second cycle (master degree) – (yüksek lisans derecesi) and third cycle (doctorate) – (doktora derecesi) degree programs. Second cycle is divided into two sub-types named as master without thesis and master with thesis. Master programs without thesis consists of courses and semester project. The master programs with a thesis consist of courses, a seminar, and a thesis. Third cycle (doctorate) degree programs consist of completion of courses, passing a qualifying examination and a doctoral thesis. Specializations in dentistry, accepted as equivalent to third cycle programs are carried out within the faculties of dentistry. Specialization in medicine, accepted as equivalent to third cycle programs are carried out within the faculties of medicine, and university hospitals and training hospitals operated by the Ministry of Health.

Universities consist of graduate schools (institutes) offering second cycle (master degree) and third cycle (doctorate) degree programs, faculties offering first cycle (bachelor degree) programs, four-year higher schools offering first cycle (bachelor degree) degree programs with a vocational emphasis and two-year vocational schools offering short cycle (associate degree) degree programs of strictly vocational nature.

Second cycle degree holders may apply to third cycle programs if their performance at the first cycle degree level is exceptionally high and their national central Graduate Education Entrance Examination (ALES) score is also high and their application is approved. The doctoral degree is conferred subject to at least one publication in a cited and refereed journal.

GENERAL STRUCTURE OF THE NORTH CYPRUS EDUCATION SYSTEM



17. EMPLOYMENT OPPORTUNITIES FOR GRADUATES AND ACCESS TO GRADUATE PROGRAMS

17.1. Employment Opportunities for Graduates

Graduates of Near East University's Artificial Intelligence Engineering Program have broad career prospects in both the Turkish Republic of Northern Cyprus (TRNC) and Türkiye, across the public and private sectors. They may serve in the Artificial Intelligence, Data Science, Software Development, and R&D units of banks, universities, hospitals, telecommunication companies, defense industry firms, automation and robotics companies, and other major technology firms. Furthermore, they can be employed in the analysis and model development departments of companies specializing in smart manufacturing, financial technology (FinTech), and health technologies (HealthTech).

Typical professional roles include Artificial Intelligence Engineer, Data Scientist, Machine Learning Engineer, Deep Learning Specialist, Natural Language Processing (NLP) Specialist, Robotics and Automation Engineer, Big Data Analyst, Smart System Designer, and R&D Engineer.

Graduates may also work as specialists or consultants on intelligent decision support systems and autonomous systems in various sectors such as marketing, finance, healthcare, education, and management.

17.2. Access to Graduate Programs

Our graduates who successfully complete their bachelor’s degree are eligible to directly apply to Master’s and Doctoral programs.

Graduates wishing to continue their academic careers may pursue postgraduate programs, primarily in Artificial Intelligence Engineering, as well as in Software Engineering, Computer Engineering, Information Technologies, and related disciplines.

During the application process, detailed information is provided to candidates regarding the programs’ admission requirements and prerequisites. Furthermore, comprehensive guidance is offered concerning inter-university exchange (mobility) and scholarship opportunities.

Postgraduate education allows our graduates to deepen their professional knowledge and competencies, strengthens their academic career aspirations, and supports them in specializing within their field and contributing to scientific studies.

18. ADDITIONAL INFORMATION

The Near East University Artificial Intelligence Engineering Program is designed in line with global developments in artificial intelligence, data science, and intelligent systems. The program adopts a multidisciplinary educational framework that integrates mathematics, computer science, engineering principles, and ethical considerations, aiming to equip students with both strong theoretical foundations and advanced practical competencies in AI technologies.

Distinctive Features of the Program

Unlike conventional engineering programs, this curriculum emphasizes data-driven decision-making, intelligent system design, and algorithmic thinking. Students are trained not only to understand AI theories but also to apply them effectively in real-world contexts such as healthcare, finance, autonomous systems, and smart technologies. The program stands out in Northern Cyprus with its strong focus on applied artificial intelligence and emerging technologies.

Academic and Career Opportunities

Students benefit from close academic supervision by experienced faculty members specializing in artificial intelligence, machine learning, and data analytics. The program supports career planning through industry collaborations, research-oriented projects, and guidance for both academic and professional career paths. Graduates are well-prepared for employment in AI-driven sectors or for pursuing postgraduate studies.

Practice-Based Learning

Throughout their undergraduate education, students actively engage in hands-on learning experiences, including AI model development, data analysis projects, algorithm implementation, and team-based problem-solving activities. Practical applications, case studies, and project-based courses enable students to translate theory into functional AI solutions.

Technologies and Platforms Utilized

The program incorporates widely used AI and data science tools and platforms such as Python, TensorFlow, PyTorch, Scikit-learn, Jupyter, MATLAB, SQL/NoSQL databases, cloud-based AI services, and version control systems. Students gain experience with modern development environments and computational resources relevant to the AI industry.

Graduate Achievements

Graduates of the Artificial Intelligence Engineering Program are employed as AI engineers, machine learning specialists, data scientists, and research assistants in technology companies and research institutions in Northern Cyprus and Turkey. Some alumni have contributed to innovative AI projects, startups, and interdisciplinary research initiatives.

Enrichment and Extracurricular Activities

The program supports students' academic and professional growth through workshops, technical seminars, guest lectures by industry experts, research-oriented events, and AI-focused competitions. These activities encourage innovation, critical thinking, and continuous learning.

Continuous Professional Development Resources

Upon graduation, students are encouraged to continue their professional development through advanced AI certifications, online specialization programs, research publications, open-source contributions, and access to up-to-date scientific and technical resources in artificial intelligence and data science.