NEAR EAST UNIVERSITY

Institute of Graduate Studies

Biostatistics

Doctorate (PhD)

Program Catalogue

1. Institute of Graduate Studies

1.1. Establishment of the Institute of Graduate Studies

A) History and Academic Processes of the Institute of Graduate Studies

Formed through the merger of the Institutes of Health Sciences, Social Sciences, Natural and Applied Sciences, and Educational Sciences, our Institute provides graduate education to nearly 5,000 students across 115 programs, and, under the regulation that entered into force on 22 February 2021, conducts programs leading to master's and doctoral degrees.

Institutes are higher education institutions that offer bachelor's degree graduates the opportunity to pursue master's and doctoral studies. The doctoral diploma, the highest degree awarded by universities, is conferred by the institutes.

Master's and doctoral education are prestigious programs that provide bachelor's degree graduates with the experience of specialization in their respective disciplines.

The doctoral degree not only opens the path to specialization in one's own field but is also a key that unlocks the doors of the academic world. Academics holding this title conduct research and publish in order to attain titles such as assistant professor, associate professor, and professor. This helps foster a culture of research. The doctorate is a program for training scientists. Universities gain prestige not only from the number of their bachelor's degree graduates but also from the number of their master's and doctoral graduates.

At our University, the Institute of Educational Sciences was the first to begin admitting students in 2000, while the other institutes began offering education as of 2007. To date, more than 5,000 master's and doctoral diplomas have been awarded across a total of 115 master's and doctoral programs.

B) Educational Policy and Academic Objectives

The educational philosophy of the Institute of Graduate Studies is structured to encourage research and development on the basis of lifelong learning. In this context, the Institute of Graduate Studies has made it a leading policy to provide services that support and advance society in national and international settings through scientific theses developed within the scope of research and projects. On the basis of quality standards, the Institute follows educational standards that take into account ethical principles and universal values within the framework of research and ethics and of learning standards for education, in training researchers suited to the era. Within the framework of a policy of cooperation, the development of team spirit is taken into consideration. In order for the stated standards to emerge as outputs in the theses produced, conferences, seminars, and projects are carried out in cooperation with various centers at the university and with the scientific research project unit.

C) Accreditation and Quality Policy

C.1) Quality Policy

The quality policy of the Near East University Institute of Graduate Studies aims at the continuous improvement of the graduate education and research activities carried out in line with the principles of excellence, scientific rigor, ethical values, innovation, and internationalization.

The Institute adopts a management approach based on the principles of transparency, participation, and accountability; it conducts its quality assurance processes in accordance with the standards of the

Higher Education Quality Council (YOKAK) and the framework of the European Higher Education Area (EHEA).

The quality policy is built upon the principles of service to society and the country in teaching and research processes, commitment to ethical principles, and the effective use of smart learning environments.

By regularly evaluating the views of all stakeholders (students, alumni, faculty members, administrative staff, external institutions, and community representatives), the Institute aims to institutionalize a culture of continuous improvement in its education and teaching processes.

C.2) Accreditation Process of the Institute

The Near East University Institute of Graduate Studies carries out an accreditation process compatible with national and international quality assurance systems.

The Institute's programs undergo regular self-assessment, external evaluation, and monitoring processes in accordance with the quality framework established by YOKAK.

In addition, in order to align with the European Higher Education Area, the Institute is committed to the principles of the Bologna Process; accordingly, it takes as its basis the standards of the EQF (European Qualifications Framework) and the TYYC (Turkish Higher Education Qualifications Framework).

During the accreditation process, indicators such as program qualifications, learning outcomes, the quality of the academic staff, research capacity, and student satisfaction are continuously monitored; these are presented to the University Senate through the Quality Assurance Report, which is updated annually.

This process contributes to the Institute's vision of internationalization and multiculturalism, supporting the strengthening of international collaborations and exchange programs.

C.3) Quality of Education

In order to enhance quality in graduate education, the Institute adopts a learner-centered and technology-supported teaching approach.

Teaching Staff: The faculty members serving at the Institute are academics who are experts in their fields, highly productive in scientific terms, and who take part in national and international projects. Faculty members regularly participate in continuing professional development training in line with academic development and ethical principles.

Course Contents and Learning Outcomes: Program curricula are updated taking into account contemporary scientific developments and societal needs. Courses are supported by smart learning environments, online learning systems, and artificial-intelligence-supported educational technologies.

Assessment and Feedback: Students' academic achievement is evaluated through project-, seminar-, research-article-, thesis-, and performance-based assessment instruments. Student satisfaction surveys, course evaluation forms, and graduate tracking reports are used as a fundamental source of data in the continuous improvement of educational quality.

Educational Resources: Students' opportunities to access information are continuously expanded through a rich digital library collection, research databases, e-journal access, and open-access resources.

In this context, the Institute integrates its understanding of excellence and quality not only with academic achievement but also with an ethical, innovative, and productive research culture.

C.4) Research and Development (R&D) Activities

The Near East University Institute of Graduate Studies stands out with its R&D activities carried out in line with a vision of scientific research, innovation, and smart-society transformation.

Projects: Numerous projects supported by TUBITAK, BAP, the European Union (Horizon Europe, Erasmus+), Development Agencies, and international research funds are carried out.

Student Participation: Master's and doctoral students are actively involved in the projects conducted; by taking part in research processes, they contribute directly to scientific production.

Publications and Patents: Scientific studies carried out by faculty members and students are published in journals indexed in national and international indexes; some projects result in patents, models, and product outputs.

Research Environment: The Institute supports research-based learning through its Educational Technologies, Digital Learning, Data Science, Artificial Intelligence, and Educational Management Laboratories.

Collaborations: Joint research conducted with national and international institutions contributes to the knowledge-based transformation of society; research outputs are integrated into course contents and community-service projects.

Accordingly, the Institute's R&D policy is in full alignment with the values of scientific rigor, ethics, entrepreneurship, and social contribution.

C.5) Continuous Improvement Process

In order to make quality sustainable, the Institute operates a continuous improvement mechanism based on the Plan-Do-Check-Act (PDCA) cycle.

Data Collection: It is planned that feedback from students, alumni, faculty members, administrative staff, and external stakeholders will be collected through satisfaction surveys, the graduate tracking system, and quality indicators.

Analysis and Evaluation: The data obtained are analyzed by the Quality Commission and the Institute Executive Board; it is planned that the results will be evaluated in the annually prepared "Report on Educational Quality and Research Performance." An activity report is submitted to the University Rectorate every year.

Decision-Making and Implementation: In line with the feedback, program contents are updated, research support is increased, and student services are improved.

Concrete Improvement Practices:

- Launching the online thesis monitoring system,
- Strengthening the infrastructure of the digital learning platforms,
- Restructuring the student advising system,
- Diversifying research funds and achieving an increase in the number of projects.

This process makes the Institute's vision of smart learning environments and research-based teaching sustainable while preserving its culture of excellence and quality.

1.2. Mission, Vision, and Core Values of the Institute of Graduate Studies

A) Mission

The mission of the Near East University Institute of Graduate Studies is, within the framework of the university's institute activities, to ensure cooperation between the academic world and society, to conduct research services, to contribute to developments in contemporary science and technologies, to contribute to social life and governance by following a scientific and ethical path with respect to informatics and project production in the development of a smart society, and to take an active role in national and international education and research projects.

B) Vision

At Near East University, graduate education and research activities play a major role in innovation, achieving quality, and gaining competitive advantage. Particularly in the rapidly developing information age, achieving change and development in education and teaching in parallel with scientific and technological advances is possible through the functionality of an Institute of Graduate Studies that provides graduate education and possesses a vision of scientific research. Accordingly, the vision of the Near East University Institute of Graduate Studies is to provide a universal, high-quality educational opportunity suited to the needs of society through graduate education opportunities and scientific research activities, and, by supporting the conduct of scientific research in the light of original topics, to realize its mission of a smart society and transformation.

C) Core Values

Transparency, Participation, and Accountability: Our managerial activities at every level are open, transparent, and accountable. The views and opinions of all our stakeholders and their participation are valued in the management process.

Fair, Principled, and Honest Governance: All individuals serving at our University are treated fairly and in a principled manner, without any discrimination. There is no compromise on truthfulness and honesty.

Competence and Merit: It is essential that the academic and administrative staff to serve in management positions at our University be competent and meritorious in their fields.

Scientific Rigor and Ethics: The work carried out at our University is conducted on the basis of scientific rigor, and the knowledge obtained is used in accordance with scientific ethics.

Respect for the Environment and Aesthetics: While instilling awareness of respect for the environment in its education and teaching activities, our University develops its physical spaces with aesthetic sensitivity and in an environmentally appropriate manner.

Service to Society and the Country: The University carries out its education and research activities with the priority of serving society and the country, and works to transform the knowledge produced into value.

Freedom and Respect for Values: Members of the University exercise their free will during academic work and education and teaching activities. The limits of this freedom are determined by humane, social, and academic ethical values as well as by laws and regulations.

Entrepreneurship and Innovation: It is essential that our graduating students and our working researchers keep entrepreneurship and innovation at the forefront in education, teaching, and research activities.

Excellence and Quality: In the delivery of education and teaching, research, and community service, the University acts with the aim of achieving excellence and with the mindset of continuous development and improvement in order to provide the highest-quality and best service.

Internationalization and Multiculturalism: Through a multicultural understanding of education, the standardization of international learning services and cooperation on this fundamental basis are pursued.

Research and Reflective Thinking: Through the publications and theses produced, service areas are provided on the basis of the reflective thinking skills of the students trained in their fields.

Technological Development and Smart Learning Environments: In the research-based transformation of society, it is essential to support the production of knowledge through an online infrastructure within an understanding of equal instruction, making use of smart learning environments.

1.3. Aims and Objectives of the Institute of Graduate Studies

- To develop projects and research in fields of need related to the issues of our country.
- To form working groups and collaborate in various fields and on various topics related to educational sciences, social sciences, natural sciences, and health sciences.
- To conduct research that serves to understand, explain, and develop the social and cultural structure.
- To address educational sciences, social sciences, natural sciences, and health sciences as a whole and to work to strengthen their ties with society.
- To conduct smart social research for the benefit of society and institutions (with for-profit and non-profit organizations) and to be in solidarity and cooperation in the field of education.

1.4. Examples of Academic Programs within the Institute of Graduate Studies

More than 115 master's and doctoral programs are conducted within the Institute of Graduate Studies, including the Biostatistics Master's and Doctoral programs. Some programs in the field of Health Sciences and their program heads are presented below as examples:

Program Name	**Head**
Physiology	Prof. Dr. Emine Koç
Histology and Embryology	Prof. Dr. Aysel Kükner
Medical Biology and Genetics	Prof. Dr. Mehmet ÖZTÜRK
Medical Microbiology and Clinical Microbiology	Prof. Dr. Emrah Ruh
Medical Biochemistry	Prof. Dr. Özlem Dalmızrak
Biostatistics	Prof. Dr. İlker Etikan
Neurosciences	Prof. Dr. Murat Özgören
Molecular Medicine	Prof. Dr. Selma Yılmaz
Anatomy	Prof. Dr. Sezgin İlgi

1.5. Administration of the Institute of Graduate Studies

Director: Prof. Dr. K. Hüsnü Can Başer

Deputy Directors: Prof. Dr. Fahriye Altınay, Prof. Dr. İlker Etikan

Executive Board Members: Prof. Dr. İhsan Çalış, Prof. Dr. Sezgin İlgi, Prof. Dr. Bülent Bilgehan, Prof. Dr. Evren Hınçal, Prof. Dr. Zehra Altınay, Prof. Dr. Mukaddes Sakallı Demirok, Prof. Dr. Erdoğan Ergün, Assoc. Prof. Dr. Sait Akşit

Quality Commission Officers of the Institute of Graduate Studies

Prof. Dr. Mukaddes Sakallı Demirok

Prof. Dr. Erdoğan Ergün

Assoc. Prof. Dr. Sait Akşit

1.6. Graduation Requirements and Degree Awarded

It is possible to graduate from the thesis-based master's, non-thesis master's, and doctoral programs within the Institute of Graduate Studies. Graduates of the non-thesis master's and thesis-based master's programs may receive the title of specialist, while doctoral graduates may receive the title of doctor. To graduate from the thesis-based master's program, students must take seven courses, one seminar, and a thesis. To graduate from the doctoral program, after completing seven courses and one seminar, the student must pass the doctoral qualifying examination and then complete the thesis. At the doctoral thesis-completion stage, there is also a requirement that students produce scientific publications from their thesis in journals indexed in SSCI, AHCI, or SCI Expanded.

It is also an important requirement that, during the preparation of their scientific publications, students apply for and obtain approval of ethics permission. At the same time, in doctoral programs, passing examinations such as YOKDIL/YDS is also a criterion. All administrative processes related to thesis submission, advisor approval, the documents to be submitted to the Institute, and graduation procedures must be completed.

All details are available at the following link:

https://neu.edu.tr/wp-content/uploads/2025/07/14/Lisansustu-Egitim-Ogretim-Yonetmeligi14.07.2025.pdf

2. General Information about the Program

2.1. Brief History and Development of the Program

The Biostatistics Doctoral Program was accepted as a candidate for accreditation by the "Preliminary Permission to Open" granted by the Ministry of National Education of the Turkish Republic of Northern Cyprus in accordance with the Higher Education Law No. 65/2005, and by Decision No. 33/2006-17/788 dated 25 August 2017 of the Council for Higher Education Planning, Evaluation, Accreditation, and Coordination (YODAK) (Decision No: 15/7), and its language of instruction was decided to be Turkish. Student admission to the program began in the fall semester of 2016-2017. In line with internationalization objectives, in order to support the admission of foreign national students and to increase the international visibility of the program, it was decided that the language of instruction would be conducted in both Turkish and English.

To date, 4 students have graduated from the program (1 of TRNC nationality, 3 foreign nationals); there are 7 students at the thesis stage and 3 students preparing for the doctoral qualifying examination.

The Department of Biostatistics provides education at the undergraduate level to students of the Faculty of Medicine, the Faculty of Health Sciences, the Faculty of Dentistry, and the Faculty of Pharmacy, and at the master's and doctoral levels to students enrolled at the Institute of Graduate Studies. The main aim of the Doctoral Program is to train biostatisticians who possess advanced knowledge and experience at all stages—from the design to the analysis—of data produced in the field of health sciences, who are able to conduct independent research, and who can make original contributions to science. The program aims to provide theoretical and applied competence in advanced topics such as probability theory, sampling, multivariate statistical methods, categorical data analysis, survival analysis, time series, and clinical trial methodology. Doctoral students are equipped with the skills to use statistical software (SPSS, STATA, SAS, R, etc.) effectively, to develop original research questions, to conduct the data collection and analysis process independently, and to publish results in accordance with international scientific standards. The program aims to support its graduates in pursuing academic careers, in serving as faculty members/researchers at universities and research institutions, and in being employed as specialist biostatisticians in public and private health institutions and organizations.

2.2. Type of Education of the Program

The type of education of the program is thesis-based and is planned as formal (on-campus) education ("Biostatistics Doctoral Program (Thesis-Based)").

2.3. Level of Study of the Program

The doctoral program consists of at least seven courses, one seminar course, and thesis work, with a total number of credits to be taken during the course periods of at least 24 credits (the doctoral qualifying examination is taken following the completion of at least 21 credits). The seminar course and thesis work are non-credit and are evaluated as pass or fail. The program consists of a total of at least 240 ECTS credits, comprising at least eight courses including the seminar and the thesis work. For the thesis to be accepted, it must have been published or accepted for publication in English-language journals indexed within SCI.

Program Qualifications

PQ1. Possesses advanced theoretical and applied knowledge in the field of biostatistics; develops a holistic perspective by relating this knowledge to medicine, health sciences, and related disciplines.

PQ2. Critically evaluates the most current scientific literature, databases, and research results in the field; produces new knowledge and approaches, and possesses advanced communication skills in English.

PQ3. Originally defines scientific problems in the field of health sciences, formulates an appropriate hypothesis, and independently plans and conducts advanced research and clinical trial designs.

PQ4. Develops existing methods and statistical software used in the field of biostatistics or designs new methods and models.

PQ5. Analyzes the data obtained using advanced statistical, multivariate, and bioinformatics methods; produces original research results of a quality publishable in scientific journals.

PQ6. Independently manages a comprehensive and original research process; provides leadership in project and multi-center study teams.

PQ7. Maintains a culture of lifelong learning while preserving scientific curiosity; continuously incorporates new statistical methods and software in the field into the knowledge-production process.

PQ8. Effectively presents scientific data and results in writing and orally at national and international levels; communicates effectively in multidisciplinary and multicultural environments.

PQ9. Fully complies with the principles of scientific ethics, data security, and academic integrity in research processes; acts with a sense of scientific and social responsibility.

PQ10. Transforms the scientific knowledge, skills, and leadership competencies acquired into innovative applications in health, education, and research institutions; contributes to scientific advancement in the field of biostatistics.

2.4. Language of Instruction of the Program

The language of instruction of the Biostatistics Doctoral Program is Turkish and English.

2.5. Duration of Study of the Program

The biostatistics doctoral program is eight semesters, with a maximum completion period of twelve semesters.

2.6. Organizational Chart of the Program

2.7. Program Coordinator

Prof. Dr. İlker Etikan

Near East University, Faculty of Medicine, Department of Biostatistics

Nicosia / TRNC

Tel: +90 (0392) 675 1000

2.8. Management and Academic Staff of the Program

The Biostatistics Doctoral Program is conducted under the responsibility of Prof. Dr. İlker Etikan and with the contributions of the faculty members working full-time in the Department of Biostatistics.

Prof. Dr. İlker Etikan (Head of Department — Faculty of Medicine, Department of Biostatistics)

Prof. Dr. Evren Hınçal (Faculty Member — Faculty of Arts and Sciences, Department of Mathematics)

Assoc. Prof. Dr. Özgür Tosun (Faculty Member — Faculty of Medicine, Department of Biostatistics)

Assoc. Prof. Dr. Farzaneh Alizadeh (Faculty Member — Faculty of Arts and Sciences, Department of Mathematics)

Asst. Prof. Dr. Meliz Yuvalı (Faculty Member — Faculty of Medicine, Department of Biostatistics)

Asst. Prof. Dr. David Amilo (Faculty Member — Faculty of Arts and Sciences, Department of Mathematics)

3. Mission and Vision of the Program

3.1. Mission

The mission of the Biostatistics Doctoral Program is to train qualified biostatisticians who can manage the processes of design, collection, analysis, and interpretation of data produced in the health sciences at an advanced level, who can conduct original and innovative scientific research, who use statistical methods effectively, and who can transfer the knowledge they produce into diagnostic, treatment, and public health policies. The program aims to train researchers who embrace the principles of scientific ethics, academic integrity, and social responsibility, who possess critical and analytical thinking skills, and who can take an active role in interdisciplinary and multi-center studies.

3.2. Vision

The vision of the Biostatistics Doctoral Program is to be a doctoral program that leads evidence-based decision processes in the health sciences, that encourages innovative approaches in developing statistical methods and software, that has high recognition at the national and international levels, and that produces scientific solutions to current and future problems in the field of health. The program aims to offer an education and research environment that prioritizes continuous development and quality and that supports its graduates in assuming leading and guiding roles in academia, research centers, health institutions, and the pharmaceutical/biotechnology sector.

4. Core Values of the Program

The Biostatistics Doctoral Program adopts as a core value its commitment to the principles of scientific ethics and academic integrity in all its educational, research, and academic activities. With an understanding of scientific excellence and quality in accordance with national and international standards, the program encourages the production of original and innovative statistical knowledge. The development of critical and analytical thinking skills and the evidence-based, multidimensional evaluation of data are among the program's priorities. Supporting interdisciplinary collaboration and multi-center research, the program aims to strengthen interaction with different fields, primarily the health sciences. It attaches importance to ensuring that the knowledge produced contributes to public health and is used with a sense of social responsibility. While encouraging internationalization and academic mobility, the program takes as its basis the principles of justice, transparency, equality, and merit in its education and evaluation processes.

5. Areas of Activity of the Program

Education and Teaching Activities Area: The Biostatistics Doctoral Program offers a comprehensive education and teaching process aimed at enabling students to acquire knowledge, skills, and competence in the use of advanced statistical theory, methods, and software. Doctoral thesis studies are supported through an advising process within the framework of scientific research methods and ethical principles.

Research and Development Activities Area: The program's research activities encompass the conduct of original studies on topics such as clinical trials, survival analysis, multivariate statistical methods, categorical data analysis, and health-specific statistical modeling. The preparation and conduct of national and international scientific research projects are encouraged.

Professional Development and Continuing Education Activities Area: Students' participation in national and international congresses, symposia, workshops, and courses is encouraged; they are supported in acquiring competence in scientific publishing, research ethics, project development, and academic career planning.

Social Contribution and Service Activities Area: In cooperation with health institutions and public institutions, the program regards advisory and service activities that contribute to the use of biostatistical knowledge for the benefit of public health as an important area of responsibility.

6. Aims and Objectives of the Program

6.1. Aim

The main aim of the Biostatistics Doctoral Program is to ensure that students are trained as individuals possessing advanced theoretical knowledge in the field of biostatistics, a high level of analytical thinking skills, and the competence to conduct independent scientific research. The program aims for students to be able to design and analyze health data from a scientific perspective and to be trained as academics and researchers committed to ethical principles who can contribute to knowledge production at the national/international level.

6.2. Objectives

The program aims for students to be able to effectively use advanced statistical analysis methods and software, and to define original research problems and produce solutions to these problems using scientific methods. It aims for students to gain competence in research design, data analysis, and scientific reporting; and to be able to present and publish the results they obtain on national and international scientific platforms. In addition, it aims for students to develop interdisciplinary working skills, to adopt academic and professional ethical principles, and to attain the qualifications to lead in academic, clinical, or research-oriented professional environments.

7. Program Qualifications

7.1. Program Qualifications

PQ1. Possesses advanced theoretical and applied knowledge in the field of biostatistics; develops a holistic perspective by relating this knowledge to medicine, health sciences, and related disciplines.

PQ2. Critically evaluates the most current scientific literature, databases, and research results in the field; produces new knowledge and approaches, and possesses advanced communication skills in English.

PQ3. Originally defines scientific problems in the field of health sciences, formulates an appropriate hypothesis, and independently plans and conducts advanced research and clinical trial designs.

PQ4. Develops existing methods and statistical software used in the field of biostatistics or designs new methods and models.

PQ5. Analyzes the data obtained using advanced statistical, multivariate, and bioinformatics methods; produces original research results of a quality publishable in scientific journals.

PQ6. Independently manages a comprehensive and original research process; provides leadership in project and multi-center study teams.

PQ7. Maintains a culture of lifelong learning while preserving scientific curiosity; continuously incorporates new statistical methods and software in the field into the knowledge-production process.

PQ8. Effectively presents scientific data and results in writing and orally at national and international levels; communicates effectively in multidisciplinary and multicultural environments.

PQ9. Fully complies with the principles of scientific ethics, data security, and academic integrity in research processes; acts with a sense of scientific and social responsibility.

PQ10. Transforms the scientific knowledge, skills, and leadership competencies acquired into innovative applications in health, education, and research institutions; contributes to scientific advancement in the field of biostatistics.

7.2. Relationship of Program Qualifications with the TYYC (Turkish Higher Education Qualifications Framework) Qualifications

The Turkish Higher Education Qualifications Framework (TYYC) is a framework created to ensure the quality assurance of higher education programs in Turkey and to define qualifications at the national level, and is aligned with the European Qualifications Framework (EQF). The doctoral level corresponds to Level 8 of the TYYC and is defined as the highest level at which knowledge and skills based on original research are developed.

Matrix of the Relationship between Program Qualifications and the TYYC (Level 8 — Doctoral Education)

Dimension	Qualification Description	PQ 1	PQ 2	PQ 3	PQ 4	PQ 5	PQ 6	PQ 7	PQ 8	PQ 9	PQ10
KNOWLEDGE	Based on master's-level qualifications, develops and deepens current and advanced knowledge in the field to the level of expertise through original thought and/or research.	5	5	5	5	5	5	5	5	4	4
KNOWLEDGE	Comprehends the interdisciplinary interaction with which the field is related; reaches original conclusions by using knowledge requiring expertise in the analysis, synthesis, and	5	5	5	5	5	5	5	5	4	5

	evaluation of new and complex ideas.										
KNOWLEDGE	Has advanced knowledge of statistical software and information tools at the level required by the field of health.	4	4	5	5	4	5	5	4	3	4
KNOWLEDGE	Knows the importance of ethical principles and ethics committees for the individual and society.	5	5	5	5	5	5	5	5	5	5
SKILLS	Evaluates and uses new knowledge in the field with a systematic approach.	5	5	5	5	5	5	5	5	4	5
SKILLS	Develops a new method, model, and/or application that brings innovation to the field, or applies a known method to a different field; researches, designs, adapts, and implements an original topic.	5	5	5	5	5	5	5	5	4	5
SKILLS	Is able to write the report of the research conducted and publishes it in a nationally/internationally recognized peer-reviewed journal, and presents it at scientific meetings.	4	4	5	5	5	5	5	5	4	4
SKILLS	Performs critical analysis,	5	5	5	5	5	5	5	5	4	5

	synthesis, and evaluation of new and complex ideas.										
SKILLS	Possesses high-level skills in using research methods in studies related to the field.	5	5	5	5	5	5	5	5	4	4
COMPETENCE	Contributes to advancement in the field by independently carrying out an original study that brings innovation to the field.	5	5	5	5	5	5	5	5	4	5
COMPETENCE	Performs statistical analysis at a level capable of evaluating a scientific article.	4	5	5	5	5	5	4	4	4	4
COMPETENCE	Expands the boundaries of knowledge in the field by publishing at least one scientific article related to the field in national and/or international peer-reviewed journals.	4	4	5	5	4	5	4	5	5	5
COMPETENCE	Provides leadership in environments that require the resolution of problems related to the field and of an interdisciplinary nature.	5	5	5	5	4	5	5	4	4	5
COMPETENCE	Develops new ideas and methods related to the field by using higher-order mental processes such as	5	5	5	5	5	5	5	5	4	5

	creative and critical thinking, problem solving, and decision making.										
COMPETENCE	Follows evidence-based practices and conducts research that will generate evidence in his/her own field regarding professional practices.	5	5	5	5	5	5	5	5	4	5
COMPETENCE	Defends his/her original views in discussing topics in the field with experts and establishes effective communication demonstrating expertise in the field.	5	5	5	5	4	5	5	5	5	5
COMPETENCE	Establishes and discusses advanced written, oral, and visual communication by using a foreign language at least at Level C1 of the Common European Framework.	5	5	5	5	4	5	5	5	4	5
COMPETENCE	Contributes to the process of society becoming an information society by introducing scientific and technological advances in the field of health.	5	5	5	5	4	5	5	5	5	5
COMPETENCE	Contributes to the resolution of social, scientific, and ethical	5	5	5	5	4	5	5	5	5	5

	problems encountered in matters related to the field of health and supports the development of these values.										
COMPETENCE	Selects and applies the correct statistical methods in studies related to the field of health, interprets them correctly, and performs analysis and synthesis.	4	5	5	5	5	5	4	4	3	4

NOTE: In the matrix, 1 denotes “NONE,” 2 “WEAK,” 3 “MODERATE,” 4 “GOOD,” and 5 “VERY GOOD” contribution.

7.3. Relationship of Courses with Program Qualifications

The compulsory courses in the program (BIS735, BIS718, GCC603, GCC602, BIS750, BIS745, BIS703 Seminar), the elective courses (BIS730, BIS719, BIS756, BIS736, BIS712, BIS737, BIS757, BIS760), and BIS700 Thesis work are designed to contribute to all of the program qualifications (PQ1-PQ10); in particular, the thesis work makes a high-level contribution to all program qualifications.

8. Course List

8.1. Distribution Tables of the Program’s Semester and Elective Courses

FIRST YEAR / Semester I

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
BIS735	Biostatistics	C	3	7.5
BIS718	Survival Analysis	C	3	7.5
GCC603	Research Methodology and Ethics	C	3	7.5
BIS730	Time Series Analysis	E	3	7.5
BIS719	Categorical Data Analysis I	E	3	7.5
BIS756	Statistical Calculations	E	3	7.5

FIRST YEAR / Semester II

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
GCC602	Education for Learning	C	3	7.5

BIS750	Multivariate Statistical Methods I	C	3	7.5
BIS745	Statistical Methods Related to Validity and Reliability	C	3	7.5
BIS703	Seminar	C	-	7.5
BIS736	Research Methods in Health Sciences	E	3	7.5
BIS712	Clinical Trials	E	3	7.5
BIS737	Special Statistical Methods in Health Sciences	E	3	7.5
BIS757	Multivariate Statistical Methods II	E	3	7.5
BIS760	Categorical Data Analysis II	E	3	7.5

SECOND YEAR

Semester III

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
BIS700	Thesis	C	6	30

Semester IV

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
BIS700	Thesis	C	6	30

THIRD YEAR

Semester V

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
BIS700	Thesis	C	6	30

Semester VI

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
BIS700	Thesis	C	6	30

FOURTH YEAR

Semester VII

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
BIS700	Thesis	C	6	30

Semester VIII

Course Code	Course Name	C/E	Course (Hours/Week)	ECTS
BIS700	Thesis	C	6	30

Note: The student takes the doctoral qualifying examination following the completion of at least 21 credits (four semesters of the course period). The student who passes the qualifying examination presents the thesis proposal; upon acceptance of the proposal, thesis work begins. Total ECTS: 240; Total number of courses (including the seminar): 8.

8.2. Common Compulsory Courses Offered University-Wide

The courses GCC602 Education for Learning and GCC603 Research Methodology and Ethics are doctoral compulsory courses offered university-wide. Common Course Contents Link: https://odk.neu.edu.tr/dersler/

8.3. Course Syllabi

Brief content summaries of the program's core courses are presented below; detailed syllabi are provided separately.

BIS735 Biostatistics

Basic statistical concepts, descriptive measures of distributions, theoretical distributions, sampling distributions, basic research and sampling methods, hypothesis tests, measures of association, regression, risk measures and confidence intervals, evaluation of diagnostic tests.

BIS718 Survival Analysis

Methods used in examining survival times and the factors affecting them; the life-table technique, non-parametric survival analysis, multivariate survival analysis (Cox regression).

BIS750 Multivariate Statistical Methods I

Basic matrix knowledge, multivariate descriptive statistics, the multivariate normal distribution, missing data, multivariate hypothesis tests, multiple linear regression, factor analysis.

BIS757 Multivariate Statistical Methods II

Cluster analysis, correspondence analysis, multidimensional scaling, logistic regression analysis, discriminant analysis, path analysis, canonical correlation analysis, confirmatory factor analysis, reliability analysis.

BIS719 / BIS760 Categorical Data Analysis I-II

Inferences for two-dimensional tables, logistic regression, logit/probit models, log-linear models; dependent samples, marginal homogeneity, generalized mixed models, Poisson regression.

BIS730 Time Series Analysis

Stationary and non-stationary linear models, moving averages, autoregressive moving averages, exponential smoothing technique, seasonal models.

BIS712 Clinical Trials

The development, phases, and trial designs of clinical trials, randomization, sample size determination, Intent-to-Treat and Per-Protocol analysis, statistical methods used in bioavailability and bioequivalence studies.

BIS745 Statistical Methods Related to Validity and Reliability

The concepts of validity and reliability, item analysis, exploratory and confirmatory factor analysis, statistical methods related to scale development.

BIS736 Research Methods in Health Sciences

Research planning, sources of error, the concept and methods of sampling, types of research, data analysis and interpretation, report writing.

BIS737 Special Statistical Methods in Health Sciences

Population estimation methods, the multiple-decrement life table, the clustering of diseases by place and time, disease mapping, and infectious disease modeling.

BIS756 Statistical Calculations

Introduction to statistical computing programs (STATA, SPSS, STATISTICA, SAS, etc.), their features and applications.

BIS703 Seminar / BIS700 Thesis

Determination of the thesis topic, literature review, hypothesis formulation, preparation of the research protocol and ethics committee application, analysis of the data, and reporting of the results.

9. Assessment and Evaluation Principles of the Program

9.1. Examination Rules

The assessment and evaluation processes aim to evaluate the learning outcomes of the courses conducted in the program. The types of examinations used in the program, the principles of examination administration, the diversity of assessment instruments, and the course-based evaluation criteria are carried out in accordance with the principles established by the University's Assessment and Evaluation Coordinatorship. The assessment and evaluation methods of each course may include assessment instruments such as midterm examinations, final examinations, assignments, projects, practical assessments, presentations, and the like. Details regarding how and in which courses these instruments will be used are announced by the relevant instructors.

9.2. Letter Grade Conversion Chart

The table below presents the conversion chart for the letter grades that students receive for each course at the end of the semester, together with brief explanations of the grades. Students' academic achievement is evaluated by the instructor on the basis of their in-semester work and end-of-semester examination results. Letter grades are expressed as coefficient values out of 4.00 and also correspond

to approximate achievement ranges out of 100 points. This system is used as the basis for calculating the student's grade point average (GPA).

Score	Letter	Coefficient
90-100	AA	4
85-89	BA	3.5
80-84	BB	3
75-79	CB	2.5
70-74	CC	2
60-69	DC	1.5
50-59	DD	1
49 and below	FF	0

In addition to the letter grades above, the grades I (Incomplete), S (Satisfactory), P (Progressing), EX (Exempt), W (Withdrawn), and NA (Non-Attendance) are also given. The conditions for the use of these grades are defined in detail in the Graduate Education and Teaching Regulation.

10. Student Admission and Enrollment Requirements

To be admitted to the program, master's degree graduates of Statistics, Mathematics, and Biology from the Faculty of Science and of Economics and Business Administration from the Faculty of Economics and Administrative Sciences who possess qualifications suitable for biostatistics education are admitted. Candidates must have obtained at least 55 points in the score type of the program to which they apply in the Academic Personnel and Graduate Education Entrance Examination (ALES) conducted by the Student Selection and Placement Center (OSYM). Candidates must obtain at least 70 points in the Interuniversity Council Foreign Language Examination (UDS), the Public Personnel Foreign Language Proficiency Examination (KPDS), or the Near East University Language Examination; at least 5.5 in the International English Language Testing System (IELTS) examination; or at least 560 points in the Test of English as a Foreign Language (TOEFL). If the foreign language examination score cannot be presented at the time of application, it must be submitted within 1 year of the student's conditional admission. In the admission of students to the doctoral program, if necessary, undergraduate and master's grade point averages and the interview result may also be evaluated; additional documents such as a reference letter and an essay stating the reason for pursuing a doctorate may also be requested from candidates.

The total number of credits to be taken during the course periods is at least 24 credits. If the department deems it necessary, it may require the student to take courses from other departments as well. For the thesis to be accepted, it must have been published or accepted for publication in English-language journals indexed within SCI.

11. Recognition and Evaluation of Prior Learning

A successful student who has completed at least one semester in another Department/Department of Art within the relevant higher education institution or in the graduate program of another higher education institution may be admitted to graduate programs by way of lateral transfer. The lateral-transfer application is decided by the Academic Board of the relevant Department/Department of Art after examining its conformity with the admission conditions established by the Senate. In lateral transfer, courses taken at the previous educational institution may be accepted at a rate of at most 2/3. For the courses from which the student wishes to be exempted, the student must apply to the Institute of Graduate Studies with a petition within ten business days following the final enrollment date, and must also document the approved transcript, course contents, and hour distributions of the previously taken course. Exemption and adaptation requests are examined by the relevant graduate

program/Program Commission; the recommendation is submitted to the Institute Executive Board and a decision is made. After the decision is notified to the student, a written objection may be submitted to the Institute within five business days. Exemption/adaptation procedures are carried out according to the compatibility of the course contents with the course in the student's new program in terms of credit, ECTS, hour distribution, student attainments, and teaching methods. In lateral transfers to the doctoral program, a qualifying examination taken at another university is not accepted, and candidates must have fulfilled the foreign language examination requirement.

12. Diploma Supplement

When preparing the diploma supplement for graduate programs, the relevant information must be included in a systematic and explanatory manner within the framework of the headings specified below.

- Information on the Identity of the Graduate (surname-name, place/date of birth, student number)
- Information on the Qualification Obtained with the Diploma (name of the program and title awarded, field of graduation, awarding institution, language of instruction and examination)
- Information on the Level of the Qualification (program level, duration, admission requirements)
- Content of the Program and Attainments (type of education, achievement requirements, course plan, ECTS, grading system, diploma grade)
- Use of the Qualification (professional authorization obtained)
- Additional Information (accreditation and quality assurance information, relevant web addresses)
- Document Certification (date of issue, name-title-signature of the certifier, seal)
- Information about the National Higher Education System (general structure of the TRNC education system, levels, transition conditions, accreditation processes)

The Diploma Supplement must be prepared on the basis of the blank template provided at the relevant link. The number of semesters may vary depending on the structure of the graduate program. The language of the document must be English and it must be prepared in accordance with international standards.