

# MASTER PROGRAMS



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# Why choose the University of Debrecen?

The University of Debrecen in Hungary is one of Central Europe's top educational and research institutions. It offers a wide range of internationally recognized academic courses in Medical, Engineering, Business, IT, and Agricultural fields among many degree to its 32,000 students. Debrecen is a charming and fast-developing school town in the heart of Europe.

# WE ARE HIGHLY RANKED BY THE MOST PRESTIGIOUS HIGHER EDUCATION RANKINGS:

**574** in QS WUR 2025

**222** in QS Europe 2025

351-400 in QS WUR by Subject Medicine 2024

201-250 in QS WUR by Subject Agriculture & Forestry 2024

801-1000 in THE Word University Rankings 2025

327 in RUR World University Rankings 2024

**101-200** in THE Impact Rankings Quality Education 2024

85 in THE Impact Rankings Decent Work and Economic Growth 2024



32,000+ students

24% international students



13 Faculties on 8 campuses



19:1 student/academic staff ratio



100+ lecture halls



500+ research labs



7 libraries



15 gyms



7,625+ international students from over 140 countries



1,524 academic staff



189 international academic staff



363 university buildings



530+ practice and seminar rooms



135 laboratories and language labs



6,000,000+ library documents

#### WE OFFER:

- A wide range of academic fields: Medical and Health Sciences, Agriculture, Business, Engineering, Humanities, IT, Law, Music, Natural Sciences
- Sophisticated and student-focused classes
- Research projects: students are encouraged to join ongoing research projects.

#### WE OFFER YOU MEDICAL PROGRAMS WITH WORLDWIDE ACCREDITATION:

- Accredited by HAC according to WFME standards (eligible for taking USMLE exam)
- Fully recognized by EU countries
- World Health Organization (WHO)
- Medical Councils of Israel, Ireland, Iran, UK and Norway.
- Medical and Dental Councils of India
- Medical Boards of N.Y. and California

The latest information about our programs including the most up-to-date curricula can be found online at www.edu.unideb.hu. For more information please contact us at info@edu.unideb.hu.



# **Animal Husbandry Engineering, MSc**

The MSc in Animal Husbandry Engineering program is designed to develop your undergraduate knowledge and improve it through application and research. The field of animal science is broad and the program reflects this diversity, with emphasis on physiology, nutrition, and genetics, gene conservation, functional food and molecular biology, which are the key research areas of the institute.

Lecture, seminar: 62% Practice: 38%

Faculty: Agricultural and Food Sciences and Environmental Management

**Academic discipline:** Agricultural Science **Qualification:** Animal Husbandry Engineer

**Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in biological or animal science

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Applied Genetics, Physiology of Production Traits, Informatics and Computing, Applied Biochemistry, Microbiology, World Animal Husbandry, Aquatic Ecology and Hydrobiology, Livestock Judging, Fodder and Food Chemistry, Reproductive Biology, Biometry, Cytogenetics, Molecular Genetics in Animal Breeding, Animal Nutrition, Feed Preparation, Processing, Mixing and Trading, Ecological Management of Animals, Inland Fisheries Management, Recording and Breeding Programs
- 2. Management, Molecular Genetics in Animal Breeding, Application of Biotechnology in Animal Breeding, Feed Analysis, Food Safety, Quality and Auditing, Scientific Writing, Meat and Milk Processing, Nutrition Therapy, Organisation of Breeding, Sectoral Economics and Planning, Management of Local Genetic Resourses, Thesis

Internship, practice: Students should complete a 4-week summer field practice.

**Career prospects:** Postgraduates may progress to a PhD or find employment in animal science research, lecturing, consultancy or other science-based sectors of the animal science industry.

# Agricultural Environmental Management Engineering, MSc

The MSc in Agricultural Environmental Management Engineering program is designed to develop your undergraduate knowledge and improve it through application and research. The field of Environmental Management is broad and the program reflects this diversity, with emphasis on natural resource management, environmental impact assessment, environmental technologies and environmental informatics.

Lecture, seminar: 52% Practice: 48%

Faculty: Agricultural and Food Sciences and Environmental Management

Academic discipline: Agricultural Science

**Qualification:** Agricultural Environmental Management Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in environmental science

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Natural sciences: Soil science Soil ecology, Water Management: Agrohydrology, Environmental Informatics Environmental Monitoring, Sustainable Agricultural Systems and Technologies: Crop Production, Sectoral Administration and Environmental Law, Environmental Measurement Techniques, Agro-Environmental Management, Natural sciences Nature Conservation Ecology, Environmental Impact Assessment and Environmental Modeling, Food Chain Safety, Water Management excess water management and irrigation techniques, Sustainable Agricultural Systems and Technologies: Animal Breeding, Environmental Technologies: Soil Remediation, Soil Protection, Biotechnology in Agriculture
- 2. Agricultural Engineering, Precision Agricultural Systems and Technologies, Research Methodology, Scientific Communication, Agricultural Forestry, Environmental technologies: Water Quality Proctection, Waste Water Treatment, Waste Management in Agriculture and Food Industry, Farm Business Management and Project Management, Agro-Environmental Management Ecotoxicology, Environmental Risk Assessment, Environmental Planning, Land Consolidation, Landscape Conservation, Agricultural and Environmental Policy, Management Systems (EMS, QMS, FSMS), Agricultural and Environmental Economics, Thesis

Internship, practice: Students should complete a 4-week summer field practice.

**Career prospects:** Postgraduates may progress to a PhD or find employment in environmental management, lecturing, consultancy or other sectors where environmental management is involved.

# Agricultural Water Management Engineering, MSc

The aim of the graduate program is to train agricultural water management engineers who, equipped with knowledge and skills acquired over the course of the program, are able to use creative engineering in the field of sustainable integrated water management within the field of agricultural water management. With their qualifications, graduates are able to cooperate with other experts in solving domestic and international problems related to their field of expertise.

Lecture, seminar: 48%

Practice: 52%

Faculty: Agricultural and Food Sciences and Environmental Management

**Academic discipline:** Agricultural Science

**Qualification:** Agricultural Water Management Engineer

Starting date: September

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in environmental science, agricultural engineering, horticulture engineering, crop production engineering, agrobusiness and rural development engineering, rural development engineering.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Applied Hydrology and Hydraulics, Climatology, Hydrogeograpy, Hidrobiology, Water Chemistry, Soil Physics, Melioration and Land Consolidation, Pond Culture and Fisheries Management, Irrigated Crop Production, Floodplain Management, Irrigation for Horticultural Production, Wastewater and Slurry Management, Management and Utilization of Aquatic Habitats, Water Resource Protection Environmental Damage Prevention, Remote Sensing and GIS in Hydrology, Farm Irrigation Machines, Irrigation Technology
- 2. Precision Agriculture, Drought Management, Integrated Water Management and Monitoring, Water Economics, Excess Water Management, Agricultural Water Supply Systems, Agricultural Water Management Planning and Implementation, Water Policy, Water Law and Sectoral Public Administration, Thesis

Internship, practice: Students should complete a 4-week summer field practice.

**Career prospects:** Postgraduates are qualified for the design and development of engineering, research and leadership positions. They may continue their studies in doctoral training.

# **Crop Production Engineering, MSc**

In the Crop Production Engineering master course, students learn the basic concepts of natural science, engineering, technology, food chain safety and management that underpin plant production, and become familiar with modern technologies used in crop production and their practical application. The training will focus on plant biotechnology, integrated crop production, integrated pest management, quality assurance in crop production and the sectoral economics of crop production.

Lecture, seminar: 48%

 $\textbf{Practice:}\ 53\%$ 

Faculty: Agricultural and Food Sciences and Environmental Management

Academic discipline: Agricultural Science

**Qualification:** Crop production engineer (with Master of Science degree)

Starting date: September

**Language requirements:** (TOEFL 513 /IELTS 5.5/oral examination)

Academic requirements: Bachelor Degree in Agricultural Science

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Physiology of Cultivated Plants, Organic and Biochemistry, Applied Soil Science, Agricultural Informatics, Agricultural Microbiology, Genetics of Cultivated Plant, Adaptive Tillage, Plant Biotechnology, Diseases of Cropland Plants, Animal Pests of Crops, Weed Control, Quality Control of Field Crops, Nutrient Supply of Field Crops
- 2. Crop Production I., Crop Production II., Crop Production Economics, Introduction to EU Law, Precision Farming, Agrochemistry, Plant Breeding and Transgenic Plants, Land Classification and Regional Development, Quality Assurance in Field Crops, Mechanization of Crop Production, Irrigated Crop Production, Research Methodology and Extension

Internship, practice: Students should complete a 4-week professional practice.

**Career prospects:** Graduates may find employment in agricultural enterprises, in product development, in trade of agricultural goods, in crop production extension companies, in professional administration, or in scientific research.

# Food Safety and Quality Engineering, MSc

The MSc in Food Safety and Quality Engineering is designed to develop your undergraduate knowledge and improve it through application and research. The field of food science is broad and the program reflects this diversity, with emphasis on raw material qualifying, processing technology, quality analysis and quality assurance.

Lecture, seminar: 49% Practice: 51%

Faculty: Agricultural and Food Sciences and Environmental Management

Academic discipline: Agricultural Science

**Qualification:** Food Safety and Quality Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)
Academic requirements: Bachelor's degree in food engineering, chemical engineering, biological science, agronomy.

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Theory of Measurement and Experimental Designs, Expectations of Foodstuffs, Consumer Protection, Separation Technique, Quality and Safety in Food Technologies (HACCP in practice), Food Marketing, Basics of Food Microbiology, Management and Communication, Spectroscopyc Methods, Nutritional Sciences, Essential Molecular Cell Biology, Microbiological Aspects of Food Quality and Safety, Quality Control, Quality Management
- Regulation of Food Production, Quality and Safety, Food Toxicology, Hyphenated Analytical Methods, Quality Management Systems and Audit in the Food Chain, Traceability in the Food Chain, Food Industry Management and Economics, Radiology in the Food Industry, Analytical and Microbiological Rapid Methods, Food Quality and Safety Risk Analysis, Rheology in Food Testing, Thesis

**Internship, practice:** Students should complete a 4-week field practice.

**Career prospects:** Postgraduates may progress to PhD studies or find employment in food and dietetics science research, lecturing, consultancy or other science-based sectors of the food science industry.

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## **Plant Protection, MSc**

The aim of the Plant Protection MSc Program is to train specialists of plant protection who are able to fulfill directional, managing, organizing, consulting, regulating and marketing tasks, based on their wide theoretical and practical knowledge to prevent losses during crop production. Such experts are able to identify the organisms, which are threatening healthy plants (incl. pathogens, pests and weeds) and they get acquainted with their biology and reproduction, and also with the effects and mechanisms of pesticides concerning even the environment and humane hygiene, moreover apply integrated viewpoints of alternatives of chemical protection. They can prevent harms and damages caused by different pests or environmental effects, and they are applying procedures of ecological and integrated plant protection in order to reduce the pesticide-load of the environment. In their work they are always attentive to the safety of food, processors, consumers and the environment. Having a degree in higher education they are permitted to use restricted chemicals which might be special risks for the environment. The further aim is to prepare the interested and inspired students for research work and PhD training in the fields of plant protection.

Lecture, Seminar: 38%

Practice: 62%

Faculty: Agricultural and Food Sciences and Environmental Management

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Applicants intending to join this master programme should hold undergraduate degree (BSc or equivalent) in relevant field of science or related area. Degree qualifications are assessed individually in accordance with the diploma (Degree Certificate) and its attachments, and/or with the Report of Study (Index). Acceptable and preferable courses: natural sciences, technical and social sciences, horticultural production, plant protection, crop production, agricultural economics, according to the comparison determined in the law of higher education and the related ministerial decrees (e.g. 18/2016. /VIII. 5./ EMMI order).

**Duration:** 4 semesters **ECTS credits:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Chemistry of Plant Protection, Environmental Protection and Ecotoxicology, Crop Production, General Plant Pathology and Diagnostics, Plant Protection Zoology and Ecology, Herbology, Molecular Biology, Plant Protectional Mycology, Plant Protection Entomology I., Plant Protectional Application Technology, Horticulture, Alternative Management and Rural Development, Informatics and Agricultural Extension
- 2. Applied Plant Biology, Biotechnology and Resistance, Forecasting and Integrated Pest Management, Plant Protection Law and Administration, Food Safety, Outlines of Plant Pathology I., Weed Biology, Pest Management in Eco-farms, Human Hygiene and First Aids, Weed Management, Integrated Pest Management, IPM

Internship, practice: 160 hours of summer practice at a plant doctor practitioner

Career prospects: Graduates with wide-ranging professional knowledge can choose from a wide range of career possibilities. They may be employed at agricultural integrators or at production companies as a plant protection expert/consultant. It is also common that they conduct research in a specific field of plant protection. In addition, it is possible to fill professionally related positions in specialized education and public administration, as well as in other organizations (eg banks, insurance companies).

## Rural Development Engineering, MSc

The objective of the program is to train professionals who understand sustainable development and the present problems of rural areas based on knowledge relating to agriculture, economic management, as well as regional and rural development, who can cooperate in the determination of possible directions of development, can define special development programs, can manage their realizations and who can carry out the monitoring of processes.

Lecture, seminar: 46%

Practice: 54%

Faculty: Economics and Business

Academic discipline: Agricultural Science Qualification: Rural Development Engineer

**Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in rural development, agricultural economics, business, or management

business, or management. **Duration: 4 semesters** 

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Rural and Environmental Policy, Human Resource Management, Rural Economics, Research Methodology, Accounting for Managers, Economic Law, Rural Security Studies, Commerce and Logistics, Integrated Settlement Development, Economics of Agriculture Sectors, Integrated Regional Development, Project Management, Economics of Agricultural Markets, Agricultural Economics and Agricultural Policy, Rural Sociology
- 2. Business Consulting, Local Economic Development, Alternative Management, Analysis of Agricultural Programs, Regional Planning and Programming, Community Development, Food Chain Safety Knowledge, Production and Operation Management, Thesis

Internship, practice: Students should complete a 4-week field practice.

**Career prospects:** The wide range of management and rural development skills enable graduates to pursue different careers and adapt their knowledge to different conditions in their home countries. Graduates may find employment at agricultural companies or in public administration.

# International Economy and Business, MSc

The aim of the program is to prepare specialists in economics and business using basic skills acquired in the fields of international, micro- and macroeconomics, international politics, European integration, international law, regional studies, civilization/globalization and their chosen specializations that enable them to analyze, plan, make decisions and control the activities of business organizations and institutions in an international context.

Lecture, seminar: 49% Practice: 51%

Faculty: Economics and Business

Academic discipline: Economic Science

Qualification: Economist in International Economy and Business

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in economics, business or management

Duration: 4 semesters ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Advanced Microeconomics, Advanced Development Economics, Advanced International Marketing, Global Corporate Strategy and Multilevel Governance, Advanced Macroeconomics, Statistics and Econometrics, International Trade Theory
- International Economic Policy, International Finance, The Law of International Economic Relations, The Economic History of the Word, International Political Economy, Advanced International Management, International Accounting and Information Systems, Research Methodology, Thesis

#### Internship, practice: N/A

Career prospects: Graduates can choose from a wide range of positions such as analyst or manager at multinational companies, financial institutions, international organizations, governmental and non-governmental institutions, or institutions of the European Union. They may become successful entrepreneurs with deep insights into global management and competition. They may continue their studies in PhD programs in business or economics.





# Chemical Engineering, MSc

The training objective of the Chemical Engineering MSc program is to improve the supply of engineering professionals. Our objective is to train professionals who possess the general knowledge, technical intelligence and the basics of natural, social and engineering sciences, which are essential for the practice of the chosen profession.

 $\textbf{Lecture, Seminar:}\ 58\%$ 

Practice: 42%

Faculty: Science and Technology

Academic discipline: Engineering Science

**Qualification:** Chemical Engineer **Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Chemical Engineer BSc or Biochemical Engineer BSc (catching up is not required); BSc in Materials and Science Engineering, Timber Industry Engineering, Light Industrial Engineering, Mechanical Engineering, Environmental Engineering, and Chemistry (catching up is required); Bachelor's degree in chemical engineer or Bachelor's degree in biochemical engineer (catching up is not required); Bachelor's degree in materials and science engineering, timber industry engineering, light industrial engineering, mechanical engineering, environmental engineering, and chemistry (catching up is required)

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Advanced Microeconomics, Advanced Quality Management, Engineering Communication, Intellectual Property Law, Engineering Informatics, Industrial Instrumentation and Automation for Chemical Industry, Industrial Technologies, Energetics in Chemical Industry, Transport Processes I., Differential Equations, Engineering Physics, Bioprocess Engineering I., Organic Synthetic Methods I., Organic Chemistry Practice, Biochemistry IV., Physical Chemistry and Practical Applications, Separation Techniques III., Separation Techniques VI., Chemical Aspects of Drug Design, Heterocycles, Pharmaceutical-Industry Project I., Instrumental and Material Analysis, Plastic-Industry Project I., Internship
- 2. Management, Safety and Health Prevention in Chemical Industry, Pilot Plant II., Transport Processes II., Environmental Management, Down Stream Processing, Pharmaceutical-Industry Project II., Carbohydrate Based Drug Design, Environment-Friendly and Catalytic Processes, Pharmaceutical and Fine Chemical Technologies, High Efficiency Synthetic Methods I., Plastics Processing Technologies, Plastic-Industry Project II., Materials Science, Modern Petrochemistry, MSc Thesis I-II.

Internship, practice: Students should complete a 4-week practice at a company or research institute.

#### Career prospects:

- Graduates can choose from a wide range of positions in the chemicals industry, pharmaceutical chemistry, oil and gas industry.
- PhD in chemistry

# **Electrical Engineering, MSc**

The aim of the training is to train electrical engineers who, with a high level of scientific and specific technical knowledge of electrical, electronic and computer devices, equipment and systems, are able to design, develop and integrate new electrical, electronic and computer systems, equipment and devices, to carry out and coordinate development tasks in the field, to participate in the development of basic and applied research tasks. They are prepared to pursue their studies at doctoral level.

Lecture, seminar: 40%

Practice: 60%

Faculty: Engineering

Academic discipline: Engineering Science

**Qualification:** Electrical Engineer **Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in Electrical or related field

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Mathematics, Solid State/Semiconductor Physics, System and Control Theory, Engineering Communication, Internet of Things Systems and Technologies, Modern Industrial Process Control, Circuit Design and Simulation, Mathematics, Electromagnetic Fields, Industrial Quality Management, Signal Processing, Measurement Theory, Theory and Practice of Filters, Project
- 2. Integrated Enterprise Resource Planning Systems, Real-Time Operating Systems, Embedded Systems, Electromagnetic Compatibility (EMC) and Interference (EMI), Sensor Networks, Sensor Fusion, Wired and Wireless Data Communications, Thesis, Automated Test Techniques, Thesis

**Internship, practice:** Students should complete a 4-week field practice by working at a company or firm over the course of the internship period (in summer).

Career prospects: An electrical engineer designs, develops and maintains electrical control systems and components according to required specifications. Graduates can occupy a variety of roles in engineering consultancies, manufacturing, automotive and railway engineering, steel manufacturing, or water companies. Most electrical engineers work in multidisciplinary project teams, which are likely to include engineers from other specialist areas as well as architects, marketing and sales staff, manufacturers, technicians and customer service personnel.

# **Engineering Management, MSc**

The aim of the program is to provide professionals who have obtained a technical management or engineering degree, with scientific, engineering, informatics, economics and organizational knowledge; with a good command of a foreign language; and with skills to be able to manage complex engineering-economics tasks, plan and implement technical and economic processes, and to further evaluate the results to implement their developing economic and organizational knowledge in the course of PhD training.

Lecture, seminar: 45%

Practice: 55%

Faculty: Engineering

Academic discipline: Engineering Sciences

**Qualification:** Engineering Manager **Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degrees from the following fields can be taken into account: Engineering, Computer Science, Economics, Agriculture: Mechanical Engineering in Agriculture and Food Industry.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Quantitative Methods, Applied Mathematics in Manufacturing Design, Artifical Intelligence,
  Development of Organization and Human Resources, Advanced Corporate Finance, Introduction
  to Nanotechnology, Econometrics, Digital System Design, Advanced Quality Management
- 2. Negotiation and Conflict Management, International and Management Accounting, Project Leadership, Risk and Reliability, Operation Management, Leadership Competencies Development, Control of Integrated Information Systems, Thesis

Internship, practice: Students should complete a 4-week field practice.

**Career prospects:** Graduates can choose from a wide range of positions in engineering fields from chemical to civil, electrical to mechanical. Because this degree combines management skills with engineering knowledge, you are uniquely suited to oversee teams of other engineers working on highly technical tasks and serve as the bridge between technical roles and management.

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# **Environmental Engineering, MSc**

The objective of the program is to train environmental engineers with up-to-date scientific, ecological, engineering, economic, and management knowledge to be capable of identifying and assessing existing and potential environmental threats, preventing or reducing environmental damage, as well as preparing and controlling damage control projects. They are able to carry out complex engineering and scientific design and analytical procedures on the basis of their up-to-date knowledge of informatics with the help of design, modeling, and simulation software. They are prepared to set out and apply adequate technological solutions to prevent environmental pollution, to provide engineering design, and manage tasks in the field of waste processing and recycling. They are able to optimize environmental technologies and environmental impacts. They are prepared for further studies in a doctoral program.

Lecture, seminar: 41% Practice: 59%

Faculty: Engineering

Academic discipline: Engineering Science

**Qualification:** Environmental Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in environmental engineering,

or other chemical-related field.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Applied Statistics, Environment Biology and Nature Protection, Geosciences, Environmental Law and Economics, Environmental and Quality Management, Environmental Modelling and Environmental Informatics, Environmental Operations, Safety and Environmental Risk, Mathematical Modeling and Optimization, Environmental Chemistry and Environmental Toxicity, Ecology for Engineers, Production Management and Life Cycle Analysis, Environmental Engineering Measurement Techniques, Monitoring, Environmental Health, Environmental Resource Management, Environmental State Assessment, Auditing
- 2. | Environmental Summer Professional Practice, Thesis

**Internship, practice:** Students should complete a 4-week field practice.

**Career prospects:** Graduates can choose from a wide range of positions in environmental, energy, and engineering consultancies, multinational companies (energy), local government, environmental bodies, or research positions.

# Mechatronical Engineering, MSc

The aim of the program is to train mechatronics engineers who are capable of integrating engineering with electronics, electrotechnics, and computer control in a synergetic way at a global standard. They are able to formulate concepts, to model, design, produce and subsequently maintain and control mechatronic machinery, processes, systems and intelligent machines. They are able to develop and apply new technologies, procedures, and materials; to provide managerial and organizational tasks; and to be involved in and manage engineering development, research, design, and innovation in domestic as well as international engineering projects in the field of mechatronics.

Lecture, seminar: 42% Practice: 58%

Faculty: Engineering

Academic discipline: Engineering Sciences

Qualification: Mechatronical Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in mechatronics or related field

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Mathematics, Spatial Mechanisms and Dynamical Systems, Economical, Financial and Investment Decisions for Engineers, Electronics, Control theory, Materials Science, Engineering Leadership and Organizational Methods, Digital and Servo Drives
- **2.** | Embedded Systems, Image Processing, Internship, Thesis

**Internship, practice:** Students should complete a 4-week field practice by working at a company or firm over the course of the internship period (in summer).

**Career prospects:** Graduates can choose from a wide range of positions in the fields of robotics, nanotechnology, automation, aircraft engineering, transport, and computer-aided design.

# Mechanical Engineering, MSc

The aim of the degree program is to train mechanical engineers who are able to work out, model, design, operate, control, and maintain mechanical systems and processes; develop engineering technologies and processes, new materials, and manufacturing technologies and apply them in an energy-efficient and environmentally conscious way; complete leadership, control, and organizational tasks; complete tasks in engineering development, research, design and innovation; as well as participate in and control national and international engineering projects.

Lecture, seminar: 46% Practice: 54%

Faculty: Engineering

Academic discipline: Engineering Science

**Qualification:** Mechanical Engineer

**Specialization:** Production Engineering

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in mechanical engineering or related field

**Duration:** 4 semesters **ECTS credits:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Applied Statistics, Applied Dynamics, Investment and Financial Decisions, Organizational Techniques and Project Management, Engineering Systems and Modeling, Integrated Design Systems, Applied Mathematics, Applied Thermodynamics and Fluid Mechanics, Materials Science, Applied Quality and Environmental Management, Electrical Measurement and Signal Processing, Machine and Product Design, Industrial internship
- 2. Design of Manufacturing Devices, Design of Material Handling and Storage Systems, Production Automation, Diagnostics and Condition Monitoring, Simulation of Manufacturing Systems and Processes, Production Process Optimization, Maintenance and Repairing Technologies, Thesis

Internship, practice: Students should complete a 4-week field practice.

**Career prospects:** Graduates can choose from a wide range of positions in the automotive industry, chemicals industry, construction industry, oil and gas industry, power generation industry, or rail industry

# **Sports Engineering, MSc**

The aim of the training is to train sports engineers who are able to think independently and creatively in an engineering approach, to carry out applied engineering and sports science analysis and research, to design, model, measure, develop and operate sports, rehabilitation and physical education equipment, and to measure sports and physical performance in the European, world and domestic sports life. They are prepared to continue their studies at doctoral level.

Lecture, seminar: 29% Practice: 71%

Faculty: Engineering

Academic discipline: Engineering Science

Qualification: Sports Engineer

Starting date: September

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor diploma (or higher).

Credit points can be fully recognized from: Mechanical Engineering BSc, Mechatronical

Engineering BSc

Bachelor's degrees in engineering, sports science, medicine and health sciences can be taken

into account.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Sport and Biostatistics, Materials Science in Sport, Applied Dynamics, Fundamentals of Sports Science, Data Science in Sport, Sports Economics, Lean and Quality Management, Applied Economics, Startup and Innovation Management
- Anatomy and Physiology, Integrated Design Systems, Biomechanics, Applied Program and Application Design, Measurement, Signal Processing, Electronics, Robotics applied motion techniques, Design of Sports Equipment, Applied Sports Technology, Production and testing of sports equipment, Sportswear, Aerodynamics and Design

Internship, practice: Students should complete a 4-week practice in related field.

Career prospects: A Master's degree in Sports Engineering is a specialized field that combines engineering principles with sports science, biomechanics, and technology to improve athletic performance, safety, and sports equipment. The career prospects for sports engineering graduates are diverse, spanning industries related to sports technology, equipment design, biomechanics, data analytics, and research and development. Some of the career prospects are sports equipment designer, biomechanics engineer, sports technology developer, performance analyst, sports facilities engineer, sports safety engineer.

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# **Urban Systems Engineering, MSc**

The objective of the program is to train urban systems engineers who can effectively contribute to urban planning, settlement architecture, principal architecture, and technical authorities; furthermore, these engineers will be able to assist administrations and communal maintenance services and the protection of the urban built environment of a local government. Urban systems engineers are prepared at a high level to implement the conception and programs of urban development and to form their plans. They are able to harmonize the development of settlements, groups of settlements, and areas to make spatial plans, to manage and control such activities, and to conduct scientific research in the professional field.

Lecture, seminar: 48% Practice: 52%

Faculty: Engineering

Academic discipline: Engineering Sciences

**Qualification:** Urban Systems Engineer **Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Credit points can be fully recognized from: architecture, civil engineering, gardening and landscape engineering bachelor's degrees. Bachelor's degrees in the following fields can be taken into account: computer science engineering from the field of informatics, environmental engineering, earth science and engineering, transportation engineering from the field of engineering, geography, earth science from the field of natural sciences, land surveying and land management engineering, agricultural and rural development engineering, rural development engineering, agricultural engineering from the field of agriculture.

**Duration:** 4 semesters **ECTS credits:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Geographic Information Systems (GIS), Urban Sociology, Public Works: Urbanization, Urban Transportation Planning, Urban Environmental Protection, Regional Planning, Urban Architecture, Real Estate Development and Management, Greenfield Management, Ecological Planning, Urban Planning, City Operations, Municipal Administration
- 2. Bridges and Structures, Public Works, Strategic Environmental Assessment, Urban Waste Management, Urban Planning, Built Heritage Protection, Thesis

Internship, practice: Students should complete a 4-week field practice.

**Career prospects:** Graduates can choose from a wide range of positions at public, private, and non-profit organizations, planning and architectural advisory firms, or research institutes.

# Vehicle Engineering, MSc

The degree program aims to train engineers for the automotive industry who can apply and introduce new materials, manufacturing processes, engineering technologies considering the environmentally conscious and energy-efficient manners. They will also be trained to handle leadership, control, and organizational responsibilities as well as tasks related to engineering development, research, design, and innovation with an emphasis on electric and hybrid vehicles, whilst get theoretical and practical knowledge in the field of automotive engineering. Due to the dual of study type, they will own significant and potentional practical skills at the end of study.

Lecture, seminar: 50% Practice: 50%

Faculty: Engineering

Academic discipline: Engineering Sciences

**Qualification:** Vehicle Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in vehicle engineering or related field

**Duration:** 4 semesters **ECTS credits:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Mathematics I. Application of differential equations, Solid state/semiconductor physics, Mathematics II. Application of stochastic systems, Applied dynamics, Vehicle manufacturing environmental toxicology and life cycle analysis, Production management and production planning, Quality assurance of automotive production processes, Internet of Things systems and technologies, Measurement, signal processing and electronics, Robotics and vehicle manufacturing, Body production technologies, Pneumatic and hydraulic elements of production systems, Non-fossil energy sources, Electric drives
- 2. 6 sigma and Lean knowledge, Assembly and production automation, Automotive safety technology, Material handling and AGV systems, Internship, Project task, Thesis

**Internship, practice:** Students must complete a 4-week field practice by working at a company or firm over the course of the internship period (in summer).

**Career prospects:** Graduates can choose from a wide range of positions in the fields of automotive engineering, transport safety, vehicle maintain and repair, production line optimization.

# Postgraduate Diploma in Lean Engineer

The fundamental objective of the training is to provide the participating professionals with a general professional knowledge of the subject, based on which they can learn about the "Lean Philosophy". By applying the philosophy, losses can be made visible and thus eliminated, and the production process can be adapted to customer needs. The Lean methodology combines recognized practices of international quality development. By applying it, the processes of the organization are improved in the areas of production, administration and strategy development. Lean organizations deliver their products faster and more accurately and are able to keep their costs lower than their competitors, thus their market position is constantly improving. Lean is a system consisting of technical and management fields. Having acquired these skills, graduates will be able to build and operate lean systems.

Lecture, seminar: 53% Practice: 47%

Faculty: Engineering

Academic discipline: Engineering Science

**Qualification:** Lean Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0/oral examination)

Academic requirements: at least bachelor's degree in: Mechanical Engineering, Computer Science Engineering, Mechatronics Engineering, Architecture, Civil Engineering, Electrical Engineering, Chemical Engineering, Bioengineering, Environmental Engineering, or Management Engineering

**Duration:** 2 semesters

ECTS credits: 60

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Management Knowledge, Quality Management, Quality Improvement Tools, Lean Management I, Lean Methods and Tools I, Production and Operations Management, Measurement and Qualification I
- 2. Organizational Theory and Behavior, Lean Management II, Lean Methods and Tools II, Process Management, Performance Measurement and Business Valuation, Measurement and Qualification II, Maintenance Management

**Internship, practice:** The program does not include an internship.

#### **Career prospects:**

Mid-to upper-level positions where the tasks include implementing lean concepts like process mapping, mistake proofing (DMIAC projects), value-stream mapping, waste reduction, optimization:

- Supply Chain Manager / Engineer
- Operations Manager / Engineer
- Plant Manager
- Quality Improvement Engineer
- Business Process Manager
- Process Manager
- Project Manager
- Lean Manufacturing Manager

The list is not exhaustive as many career paths are available because lean principles can be effective in improving business processes in many different fields (e.g. education, public administration, sales, services, finances, etc.).

## Postgraduate Diploma in Lean Manager

The fundamental goal of the course is to train lean professionals who are able to integrate the principles and methods of lean management into the company's strategy and operational practices. Students will acquire the professional skills needed for effective and efficient lean transformation, which will help them to continuously improve the company's operational and business performance increasing competitiveness in a rapidly changing business environment. Graduates will be able to design and operate lean production and service systems, develop lean corporate structures, apply lean methods and techniques, and integrate continuous improvement into corporate culture.

Lecture, seminar: 53%

Practice: 47%

Faculty: Engineering

Academic discipline: Engineering Science

Qualification: Lean Manager

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0/oral examination)

Academic requirements: at least bachelor's degree in a non-engineering field (e.g. Technical Management, Economics, Science or Informatics).

**Duration:** 2 semesters

ECTS credits: 60

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Management Knowledge, Quality Management, Quality Improvement Tools, Lean Management I, Lean Methods and Tools I, Production and Operations Management, Measurement and Qualification I
- Organizational Theory and Behavior, Lean Management II, Lean Methods and Tools II, Process Management, Performance Measurement and Business Valuation, Measurement and Qualification II, Maintenance Management

Internship, practice: The program does not include an internship.

#### **Career prospects:**

Mid-to upper-level positions where the tasks include implementing lean concepts like process mapping, mistake proofing (DMIAC projects), value-stream mapping, waste reduction, optimization:

- Supply Chain Manager
- Operations Manager / Specialist
- Plant Manager
- Quality Improvement Specialist
- Business Process Manager
- Process Analyst
- Project Manager
- Lean Manufacturing Manager

The list is not exhaustive as many career paths are available because lean principles can be effective in improving business processes in many different fields (e.g. education, public administration, sales, services, finances, etc.).

# Postgraduate Diploma in Strategic Engineering and Sustainability Leadership

The fundamental aim of the training is to provide the participants with general professional knowledge of strategic management, to build on this knowledge in order to understand and apply a wide range of factors that influence organizational management, and to use the resources available to them in order to run the company effectively. With these skills, graduates will be able to build and operate integrated systems. Moreover, the training aims to prepare participants for leadership roles in an international working environment at a technical company operating in Hungary or abroad and to make them competitive in the international labour market.

 $\textbf{Lecture, seminar:}\ 35\%$ 

Practice: 65%

Faculty: Engineering

Academic discipline: Engineering Science

Qualification: Strategic Engineering and Sustainability Manager

**Starting date:** September

**Language requirements:** English language proficiency (TOEFL 547 /IELTS 6.0/oral examination)

Academic requirements: at least a bachelor's degree with the following requirements:

a) professional engineering qualification, or

b) in the case of no professional engineering qualification: qualification in the fields of technical studies, Economics, Science, or Informatics; or qualification as an English teacher - in the case of other qualifications, 3 years of relevant leadership experience is required

**Duration:** 2 semesters **ECTS credits:** 60

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Personal Development for the Strategic Engineering Leader, Strategic Corporate Social Responsibility, Analysis of the strategy, plans and performance of technical organizations, Strategic Information Management, Strategic Planning of Financing Technical Projects, Strategic and Project Management, Financial Management of Technical Organizations
- 2. Strategic Performance Management, Data Analysis, Risk Management Strategies, Crisis and Change Management, Lean Process Improvement

Internship, practice: The program does not include an internship.

#### **Career prospects:**

Mid-to upper-level positions where the tasks include implementing lean concepts like process mapping, mistake proofing (DMIAC projects), value-stream mapping, waste reduction, optimization:

- Financial Analyst
- Business Analyst
- Product Strategist
- Project Analyst
- Project Management Coordinator
- Process Coordinator
- Marketing Consultant
- Business Development Coordinator
- Strategic Initiatives Associate
- Chief operating officer (COO)

A multitude of career paths is available due to the fact that strategic management and sustainability principles can be effective in improving business processes in many different fields. In addition, the efficient use of resources is essential in private, public and non-profit organizations as well.



# Pharmaceutical Research and Development Manager, MSc

The Faculty of Pharmacy, University of Debrecen is launching a four-semester Master's degree program in Pharmaceutical research and development management in 2025. The aim of the program is to educate Pharmaceutical research and development managers who are familiar with the international regulatory background of drug development process, able to support research teams in preclinical, clinical, drug registration and marketing activities, able to manage the whole process in the view of the increasingly important international regulations.

Lecture, seminar: 55%

**Practice:** 45%

Faculty: Pharmacy

Academic discipline: Medical and Health Sciences

Qualification: Certified Pharmaceutical Research and Development Manager

**Starting date:** September

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral interview)

Academic requirements: - relevant degree in: Pharmacy, Medicine, Physics BSc, MSc,

Environmental Science BSc, Chemistry MSc, Medical Physics MSc, Food Engineering BSc, MSc, Food Safety and Quality Engineering MSc, Health Data Science MSc, Health Bioinformatics MSc, Health Quality and Patient Safety Management MSc, Health Management MSc, Biology Teacher, Chemistry Teacher, Physiotherapist, Paramedic

- entrance interview

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Basic principles of industrial pharmaceutical manufacturing, Drug development theory, Quality assurance and quality management skills (GXP), Principles of pharmacology, toxicology, and bio pharmacy, Theory and principles of pharmacovigilance, Pharmaceutical management, sales and marketing, and basic health economics, Database management, biostatistics, and pharmacometrics, General legal education and health law, Bioethics and research ethics, Preclinical studies, Clinical studies, Clinical trial authorization: legal and ethical aspects, Drug registration, Pharmacovigilance, Project management
- Preclinical studies II, Clinical studies II, Drug registration II, Clinical studies and registration of medical devices, Food and cosmetics regulatory knowledge, Pharmacovigilance II, Project management II, Clinical studies III, Data management, closure, and archiving of clinical trials, Project management III, Communication in healthcare, Leadership styles and skills, Presentation and publication skills, Business communication

Internship, practice: 4-week summer internship in an accredited training centre.

Career prospects: Pharmaceutical research and development managers are familiar with the international regulatory framework of the drug development process. They are capable of supporting research teams in preclinical and clinical phases, drug registration, and marketing activities. Additionally, they can manage the entire process while adhering to increasingly important international regulations. Graduates can choose from a wide range of positions in drug research laboratories, hospitals, clinics, and the pharmaceutical industry.

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### **Public Health, MSc**

The aim of the MSc program in public health is to train specialists capable of monitoring public health problems as well as planning, implementing, and evaluating possible solutions. The objective of the MSc course in public health is to equip graduates with knowledge and skills in

- monitoring the health status of population;
- analysing the factors influencing the health status of populations;
- exploring and prioritising health needs and demands;
- drafting local, regional and national health policy aimed at solving public health concerns;
- planning and organising services to promote health and prevent and treat diseases based on the needs of the target population;
- implementing and managing health-promoting and disease-prevention tactics;
- analysing and evaluating the effectiveness of those services and interventions.

Lecture, seminar: 62%

Practice: 38%

Faculty: Health Sciences

Academic discipline: Medical and Health Sciences

Qualifications: Expert in Public Health

Starting date: September

(CEFR level B2, assessed at the compulsory entrance interview)

Academic requirements: high school certificate; relevant BSc degree; entrance interview

**Duration:** 3 semesters

**ECTS:** 90

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Biostatistics, Epidemiology, Health Management, Health Informatics, Health Policy, Public Health in Developing Countries
- 2. Public Health in Developed Countries, Environmental Health, Health Promotion, Nutritional Health

Internship, practice: Students should complete a 4-week field practice.

**Career prospects:** Specialists who have completed their studies will have thorough knowledge in epidemiology, health promotion, health management and health policy.

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# Social Work in Health Care, MSc

The aim of the degree program is to train professionals who, equipped with knowledge and methods gained about the fields of health and social sciences, are able to tackle both health-related and social problems by performing professional, social and intersectoral cooperation. Graduates will become part of preventive activities as well as activities targeting acute problems and follow-up care.

Lecture, seminar: 36% Practice: 64%

Faculty: Health Sciences

Campus location: Nyíregyháza

Academic discipline: Medical and Health Sciences

Qualification: Social Worker in Health Care

Starting date: September

Language requirements: English language proficiency (CEFR level B2, assessed at the

compulsory entrance interview)

Academic requirements: high school certificate; relevant BSc degree; entrance interview

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Basics of Health Sciences, Health Management Studies, Health Psychology and Mental Hygiene, Health Policy, Sociology of Health, Clients and Methods of Social Work, Health and Pension Insurance Systems, Quality Assurance in Social and Health Systems, Applied Research Methodology, Health and Social Law
- 2. Rehabilitation, Deviance and Behaviour Disorders, Social Surroundings and Epidemiology, Fields and Methods of Health Social Work

**Internship, practice:** Students should complete 420 hours of health social work field practice.

Career prospects: Graduates with health social work master's degree will find jobs in institutions and services which provide comprehensive health and social care using inter-professional and broadened competencies for the benefit of clients and patients. These include elderly homes, hospice care, and institutions for addicts, disabled people or psychiatric patients. They can also continue their studies in doctoral school.

# Social Work and Social Economics, MA

The purpose of the program is to train professionals who, with the acquired sociopolitical and managerial skills are able to manage, operate and develop institutions and services in the social economy. The graduates, who are familiar with the international professional and ethical principles of social assistance, are able to carry out tasks in international cooperation. With the appropriate organizational and organizational development skills, they perform tasks in the field of social services, which, by strengthening the local economy, promote the economic and social integration of disadvantaged social groups.

The program is unique because it was created and exists through the cooperation of 7 European partner institutions from Austria, Germany, Czech Republic, Slovakia, Romania, Poland and from Hungary.

Lecture, Seminar: 70%

Practice: 30%

Faculty: Health Sciences

Campus location: Nyíregyháza

Academic discipline: Medical and Health Sciences

Starting date: September

(i) Language requirements: English language proficiency (assessed at the compulsory entrance interview)

**Academic requirements:** high school certificate, relevant BA or BSc degree, entrance interview **Duration:** 4 semesters

**ECTS:**120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

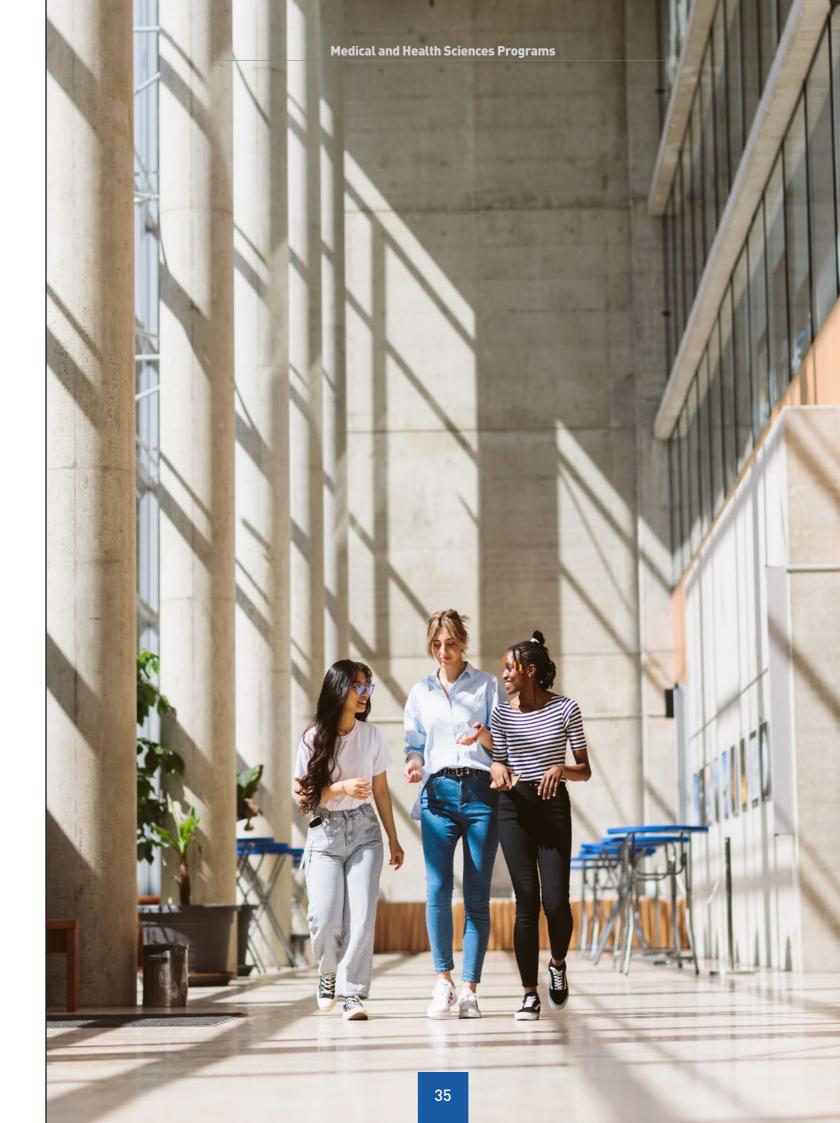
- 1. Business Economics, Competency Development I., European Economy and Social Policy, European Policies, Qualitative Research Methods, Social Work and Social Economy, Terminological Foreign Language I., Competency Development II., Corporate Law, Economy Studies, Marketing Studies, Non-profit Law, Organizational Studies, Terminological Foreign Language II.
- 2. Competency Development III., Intercultural Project Management, Project Management, Project Management and International Cooperation in European Union

Internship, practice: The Master program includes an intensive international professional practice of 10 credits, which is compulsory to be performed at a foreign partner institution. The professional practice should be performed at institutions / organizations working in the field of social economy. Managerial, organizational tasks and tasks related to international cooperation should be fulfilled.

#### Career prospects:

Graduates from Master Degree Program are able to:

- manage and externally represent organizations in the social economy and public services,
- plan and carry out management and managerial tasks
- manage social institutions and services by building structures and processes
- manage departments in areas such as quality assurance, controlling, HR, marketing and publicity, accounting
- conduct social planning and evaluation,





# **American Studies, MA**

The aim of the American Studies MA program is to train experts in the broad field of American studies comprising North American history and political culture, literary history, literary and cultural theory, visual and popular culture, history of arts, and ethnic studies. Students will become highly skilled users of the American English language and will also gain wide ranging knowledge of Canadian, Mexican, and Australian cultures and literatures.

#### Specializations:

- ethnic and multicultural studies
- American literature

Lecture, seminar: 18%

Practice: 82%

Faculty: Humanities

Academic discipline: Humanities

**Qualification:** Philologist in American Studies

Starting date: September

Language requirements: English language proficiency (TOEFL 587 /IELTS 7.0 /oral examination)

Academic requirements:

Credit points can be fully recognized from: English and American Studies

Completing the credit points defined below the following can be taken into account: those bachelor's and master's programmes and other training programmes under Higher Education Act LXXX of 1993 which are accepted by the credit transfer committee.

At least 50 credit points can be recognized from earlier studies in the following fields: English and American studies, from which American English language, American literature and culture is at least 30 credits.

**Entry requirements:** Students are expected to earn at least 38 credit points from earlier BSc studies in the fields listed above. Missing credit points have to be made up for in the master's program as set out in Rules and Regulations of the University.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. American Literary Culture, American History and Political Culture, American Culture Through Language, Literary and Cultural Theory, Introduction to the Profession of American Studies, American Popular Culture, North American History and Political Culture in the 20th century
- **2.** | Specialization courses, Thesis writing seminar

Internship, practice: N/A

Career prospects: Endowed with practical skills, theoretical insight and comprehensive knowledge in diverse fields of American studies, MA graduates may seek employment in areas requiring in-depth and up-to-date familiarity with culture and communication (oral and written): in education management and at various levels of government, in business, media, publishing, diplomacy, international relations, and tourism.

# **English Studies, MA**

The goal of the English Studies program is the training of experts who, besides a full mastery of the English language, possess an extensive and in-depth knowledge of the language, culture, and history of English-speaking countries. Rather than being mere passive receivers of information, students who complete this MA program will be specialists fully capable of undertaking independent and original investigations in a wide range of topics. The English Studies MA program offers two complete (120 credit) curricula: the literary and cultural studies track and the linguistics track. The choice between these two must be made before application.

 $\textbf{Lecture, seminar:}\ 25\%$ 

Practice: 75%

Faculty: Humanities

Academic discipline: Humanities

**Qualification:** Philologist in English Studies

Starting date: September

Language requirements: English language proficiency (TOEFL 587 /IELTS 7.0)

**Academic requirements:** Bachelor's degree, at least 38 completed credits in the field of English studies for admission (50 credits for graduation); entrance examination in English (oral: in person or via electronic communication)

**Duration:** 4 semesters **ECTS credits:** 120

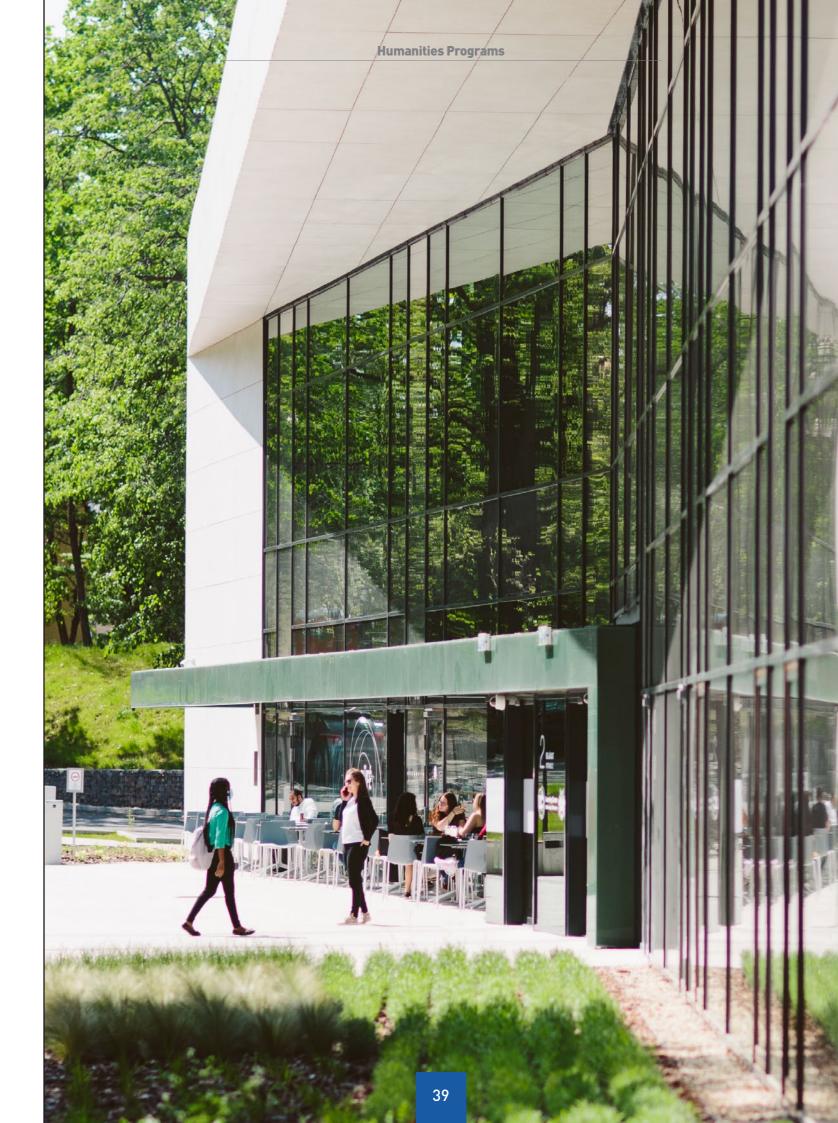
#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Terms and Concepts in Literary and Linguistic Studies, Advanced Academic Writing, Trends in Linguistic, Literary and Cultural Studies, Modern British Society and Language, Advanced Research Methods
- **2.** The subjects of the literary and cultural studies track or the linguistics track. Thesis

#### Internship, practice: N/A

Career prospects: As highly educated experts, our graduates occupy positions where their views reach and influence many people. Graduates are capable of applying and developing the skills acquired here in areas as diverse as international relations, tourism, the press and the media, business, language technology, publishing, municipal and national administration, diplomacy, and cultural life. They are also encouraged to continue their academic work in the PhD programs of the university.



# Instruction of English as a Foreign Language, MA

The study programme prepares students for educational, pedagogic, research, planning and development tasks in adult education, as well as for the continuation of studies in doctoral training. The courses cover various areas of Language Study and Language Pedagogy, providing students with principles and techniques in teaching English as a foreign language.

Lecture, seminar: 25%

 $\textbf{Practice:}\ 75\%$ 

Faculty: Humanities

Academic discipline: Humanities

Qualification: Instructor of English as a Foreign Language

Starting date: September

Language requirements: C1 level language certificate in English (T0EFL 587 /IELTS 7.0)

Academic requirements: a BA degree in the fields of Humanities and Teacher Education OR any BA and MA degree if the applicant has 50 credits in the fields of Humanities and Teacher Education

**Duration:** 2 semesters

ECTS credits: 60

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

- Language Acquisition
- Introduction to Applied Linguistics
- Skills Development: Writing and Composition
- ELT Methodology (1-2)
- Teaching Literature and Culture
- Classroom Practices in Focus
- Language Awareness
- Gamification in TEFL
- Language Test Construction and Evaluation
- Individual Learner Differences

**Career prospects:** Graduates will be entitled to teach English in the non-state sector of language education (in Hungary).

# **Business Informatics, MSc**

The aim of the program is to provide professionals to the labor market who are able to understand complex economical processes, reveal problems, and propose alternatives for solutions. They are able to identify demands raised regarding information systems that support value-creating processes, develop and manage applications, perform and coordinate R&D tasks, and continue their studies in PhD programs.

Lecture, seminar: 40%

Practice: 60%

Faculty: Informatics

Academic discipline: Computer Science and Information Technology

**Qualification:** Business Informatics Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Relevant bachelor's degree in information technology

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

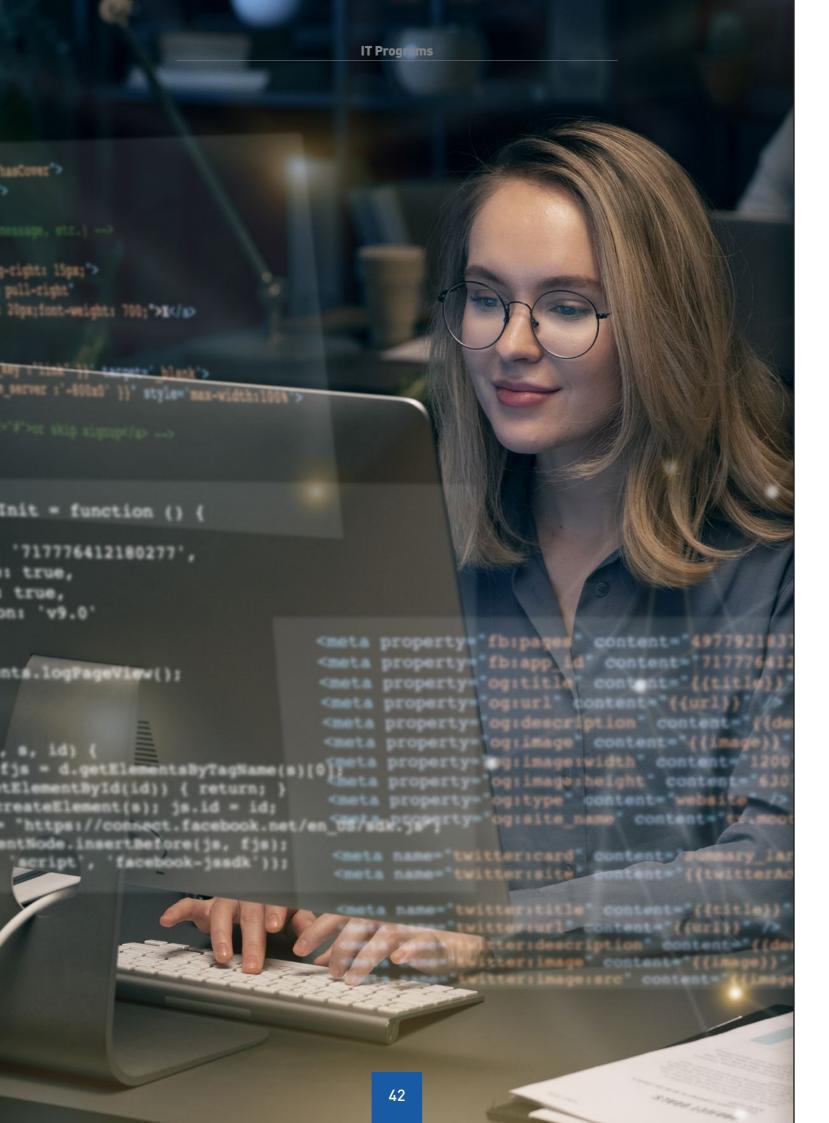
#### YEAR MAIN SUBJECTS

- Management Science, Developing Data Handling Programs, Fundamentals of Software Development and Software Testing, Foundations of Computer Security, Financial Mathematics, Introduction to SAP End user level, Advanced Spreadsheets, Big Data Analytics, Data Visualization, Computer Statistics, Corporate Finance, Strategic Management, Introduction to SAP Developer level, International Business, Decision Support Systems
- Advanced Data Security, Digital Marketing, Foundations of Artificial Intelligence,
  Management of Value Creating Processes, Thesis

During their studies students have the opportunity to receive the certificate 'SAS Business Modeler Badge' from the market leader of business analytics softwares, and various industrial certificates via the Certiport test center of the Faculty of Informatics.

**Internship, practice:** Students should complete a 6-week internship either at the university working on research projects or at a multinational or local company.

**Career prospects:** Business Informatics Engineer, MSc graduates can easily find positions in the labor market as system supporters at large enterprises, business software developers, business analysts, and IT managers.



# **Computer Science, MSc**

Computer Science, MSc students are able to use and develop the theoretical knowledge acquired in BSc courses at a more advanced level. Using this knowledge as a foundation in the long run, they can work individually or in a team. Their responsibilities include the development, creation, implementation, introduction, operation, and service of IT systems. They also possess skills that enable them to cooperate and create models needed for solving IT tasks related to their specialization. Successful students possess appropriate knowledge enabling them to use their skills in an innovative way in order to carry out research and development tasks in fields such as:

- formatting complex IT problems, examining the theoretical and practical background for their solution;
- completing tasks connected with planning, developing, operating and managing related to the operation of complex software systems;
- assessing the business, marketing and innovative values of planned or implemented IT systems, validating software products;
- planning and implementing specific tasks in quality management.

Lecture, seminar: 50%

Practice: 50%

Faculty: Informatics

Academic discipline: Computer Science and Information Technology

**Qualification:** Computer Scientist **Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Relevant bachelor's degree in information technology

**Duration:** 4 semesters **ECTS credits:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Machine Learning Basics, Algorithms, Cryptography, Optimization Algorithms, Information Systems, Data Mining, Computer Graphics, Operation Research, Advanced Inference Methods, Logical Algorithms, Advanced Software Architecture Patterns, Advanced XML Technologies, NoSQL Databases, Sensor Networks and the Internet of Things, Parallel and High Performance Computing
- Geometric Modelling, Coding Theory, Theory of Neural Networks, Models of Computation, Declarative Programming, Visualization and Visual Analytics, Data Science lab, Advanced Machine Learning, Text and Web Mining, Information Systems in Practice, Advanced Software Engineering, Thesis

**Internship, practice:** Students should complete a 6-week internship either at the university working on research projects or at a multinational or local company.

Career prospects: Computer Science, MSc graduates have many more opportunities than computer science BSc graduates in the labor market since they are capable of initiative cooperation with professionals from other fields of science in project or team work. They can also interpret, plan, manage, and control processes in their specialization at a management level. Graduates who are interested in scientific research work can continue their studies in the doctoral school of the faculty, where they can choose a PhD course and acquire academic qualifications.

# **Computer Science Engineering, MSc**

Computer Science Engineering, MSc students have the opportunity to broaden the knowledge that they have acquired over the course of a BSc program, to get acquainted with the modern trends of informatics and to deepen this knowledge. Besides theoretical education, a great emphasis is placed on practical training which is done in IT laboratories. Moreover, students have the opportunity to carry out individual activities which are coordinated and supervised by well-qualified consultants, and they can take part in research projects related to their chosen field which can serve as a basis for their master's thesis.

Lecture, seminar: 50% Practice: 50%

Faculty: Informatics

Academic discipline: Computer Science and Information Technology

**Qualification:** Computer Science Engineer

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Relevant bachelor's degree in information technology

**Duration:** 4 semesters **ECTS credits:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Introduction to New Network Communication Technologies, Mathematics and Information Theory for Engineers, System Security Techniques and Solutions, Computer Science in Engineering Applications, Introduction to Economics and Law, Management and Organizational Knowledge, Performance Evaluation of Info Communication Networks, System Architecture, Logic Design Using Hardware Description Language, Parallel Image Processing and Pattern Recognition, Internet of Things Systems and Technologies
- Advanced Switching and Routing 1 (CCNP1), Intelligent Sensor Networks, Multimedia Networks, Reconfigurable Embedded Systems, Data Mining for Engineers, Cloud Service Architectures and Services, Advanced Switching and Routing 2 (CCNP2), Hardware-Software Co-design, Microcontroller Applications Technology, Thesis

**Internship, practice:** Students should complete a 6-week internship either at the university working on research projects or at a multinational or local company.

Career prospects: Computer Science Engineer, MSc graduates can easily find positions in the labor market as senior system designers and developers, system analysts, project managers, IT project managers, IT managers, or network designers. On the basis of their BSc and MSc studies, our students have the opportunity to pass international certification exams such as Cisco with the help of which they greatly increase the chances of being successful applicants in the national and international labor market. Ones who are interested in the science of informatics can be admitted to the doctoral school of the faculty of informatics and, by fulfilling the requirements, can receive their PhD degree.

# **Data Science, MSc**

The aim of the program is to train professionals who can understand the properties of different types of data and the structure of complex data sets, unfold the relationships inherent in the data, apply the necessary transformations to raw data to prepare it for analysis, analyze data, draw conclusions from the data, and model real-world processes. They will also be able to develop and manage data-oriented applications, perform and coordinate R&D tasks and continue their studies in PhD programs.

Lecture, seminar: 40% Practice: 60%

Faculty: Informatics

Academic discipline: Computer Science and Information Technology

**Qualification:** Data Scientist

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547/IELTS 6.0/oral examination)

Academic requirements: Relevant bachelor's degree in information technology

**Duration:** 4 semesters **ECTS credits:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Machine Learning Fundamentals, Statistical Foundations of Data Science, Optimization in Data Science, Data Visualization Methods, Data-oriented Programming, Cloud Computing, Information Security, Data Ethics
- 2. Modern Deep Learning Frameworks, Advanced Machine Learning, Advanced Reinforcement Learning, Big Data Technologies, Advanced Robotics, Self-driving Cars, Al Security, Financial Models, Genetics and Big Data

**Internship, practice:** Students should complete a 6-week internship either at the university working on research projects or at a multinational or local company.

Career prospects: Data Science, MSc graduates have a comprehensive knowledge of the principles and methods of data science, as well as the technical background required to efficiently handle large and complex data sets. With these skills, graduates have a wide range of opportunities in a variety of industries, including positions such as data scientist, data analyst, data engineer, business analyst, or machine learning software developer.

# Postgraduate Diploma in Artificial Intelligence

The Faculty of Informatics of the University of Debrecen offers a 1-year (2 semesters) advanced training course in Artificial Intelligence (AI Expert) in English in a hybrid format. The aim of the course is to provide high-level, state-of-the-art training in artificial intelligence for those who already have a basic IT knowledge. The training will be useful for the younger generation of newcomers to the profession as well as for those who have not yet had the opportunity to learn about these tools in the last decades during their studies. Our aim is to train professionals who can develop state-of-the-art applications using artificial intelligence, both offline and in the cloud, using the latest technological processes. The preparation and launch of the training has been supported by a number of industrial partners, including Bosch, EPAM, General Electric, Microsoft, NI, NVIDIA. To ensure the global nature and measurability of the training, participants can optionally obtain industry certifications, notably NVIDIA (the current list can be found here: Nvidia Deep Learning Institute - Debreceni Egyetem) and Microsoft (e.g. Azure Fundamentals, Azure AI Fundamentals, Azure AI Solution, Azure AI Engineer Associate). The list of certificates available at the Faculty is constantly expanding, following international trends and technological developments.

Lecture, seminar: 37% Practice: 63%

Faculty: Informatics

Academic discipline: Information Technology

**Qualification:** Al Expert

Starting date: September/February

**Language requirements:** English language proficiency (TOEFL 547 /IELTS 6.0/oral examination)

Academic requirements: at least bachelor's degree in Information Technology

**Duration:** 2 semesters

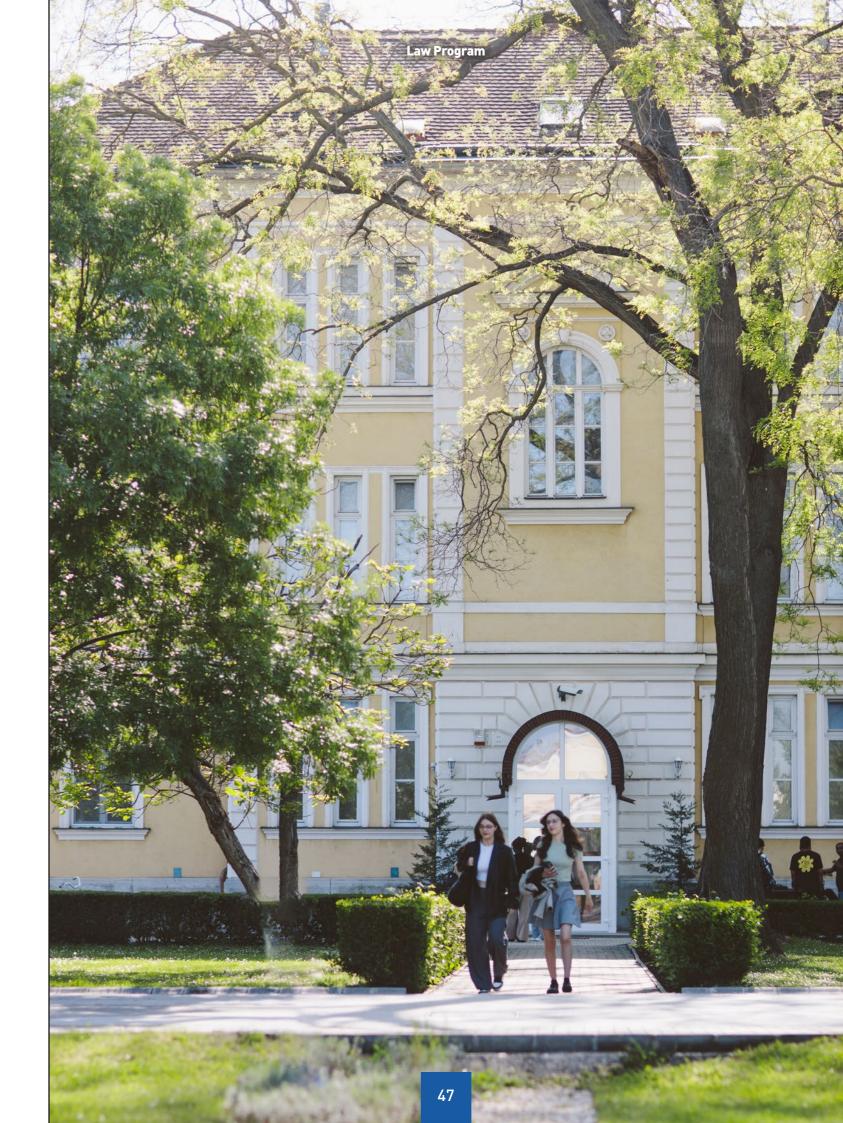
ECTS credits: 60

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Machine Learning, Data Protection and Cryptography, Generative Methods, Parallel Computing, Al Programming, Autonomous Vehicles, Efficient Data Visualization, Cloud Computing, Reinforcement Learning
- 2. Image Processing Based on Neural Networks, Natural Language Processing and Text Mining, Al Frameworks, Big Data Handling Techniques, Thesis Work

Career prospects: The courses and their contents have also been designed to overlap as much as possible with the industry certifications. The preparatory courses integrated into the training will thus enable students to obtain international industry certificates in a supervised examination environment at the international examination center of the Faculty of Informatics, but also optionally at other locations, and will allow graduates to add further certificates to their professional portfolio in addition to the certificate of completion of the specialized training.



# **European and International Business Law - LL.M.**

The program provides a modern, business-focused law degree with a special European character, focusing on the tendencies of the European and international markets. The program gives students the opportunity to boost their legal expertise to a more advanced level, as they learn how European and international law make a remarkable impact on business life, and explore both legislative and judicial elements of European business law, trade law, and corporate law. The LLM is practice-oriented and develops skills needed to succeed in an international career path and at all workplaces requiring cross-cultural understanding, flexibility, and contemporary practical legal knowledge.

Lecture, seminar: 40% Practice: 60%

Faculty: Law

Academic discipline: Legal Science

Qualification: European and International Business Lawyer - LL.M.

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in law

**Duration:** 2 semesters

ECTS credits: 60

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Institutions of the European Union, Harmonization of laws in the European Union, Introduction to International Business Law, EU Internal Market Law 1., EU Internal Market Law 2., EU Competition Law, Principles of Public International Law, European Consumer Protection Law, European Criminal Law, Elective course 1-2.
- International Sale of Goods, International and European Intellectual Property Law, International Commercial Arbitration, European and International Contract Law, Public Management, European Company Law, European Labor and Social Law, Case-law of the European Court of Justice, Private International Law, Elective course 3.

#### Internship, practice: N/A

**Career prospects:** Graduates can choose from a wide range of positions at organizations such as international departments of law firms, international businesses, international bureaus of government services, or other international organizations.

## Classical Musical Performance, MA

Classical Musical Instrumental Performance, MA Opera singing /Oratorio and Art Song Singing, MA Choir Conducting, MA

To educate musicians who - with their performing skills, theoretical knowledge, and highly developed musical abilities - enrich and spread Hungarian and European music culture. They can enrich the repertoire of musical knowledge with their sophisticated musical taste and are able to work in professional performing ensembles or as a soloist.

Faculty: Music

**Qualification:** Pianist/Organist/Guitarist/Flautist/Oboist/Clarinetist/Horn Player/Trumpeter/Prcussionist/Opera Singer/Oratorio and Song Performer/Choir Conductor

**Language requirements:** English language proficiency

Academic requirements: BA degree in suitable instrumental/vocal area; entrance examination (more information: www.music.unideb.hu)

Starting date: September/February

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS

Instrumental / Vocal / Conducting Technique and Performance, History of Music, Analysis, Repertoire Studies, Orchestra/Choir, Piano, Chamber Music, Stage practice (for singers)

**Career prospects:** Graduated students are able to work as a soloist or in a professional performing ensembles. With their high standard of knowledge they can continue their studies in DLA doctoral program.

# **Applied Mathematics, MSc**

The main aim of the program is to provide the students with effective knowledge that they can successfully apply both in mathematical modeling and in the solution of problems arising in practice. Emphasis is put on the capability of working cooperatively in groups with experts in other fields (computer science, engineering, economics, etc.).

Lecture, seminar: 51% Practice: 49%

Faculty: Science and Technology

Academic discipline: Natural Sciences

**Qualification:** Applied Mathematician

**Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in mathematics or information technology

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Introduction to Modern Algebra, Operation Research, Selected Topics in Geometry, Probability Theory, Basic Information, Graph Theory and Applications, Algorithms in Mathematics, Convex Optimization, Discrete Optimization, Stochastic Processes, Financial Mathematics, Introduction to Finance, Microeconomics
- 2. Applications of Ordinary Differential Equations, Partial Differential Equations, Multivariate Analysis, Econometrics, Financial Accounting, Game Theory, Thesis

#### Internship, practice: N/A

**Career prospects:** Graduates can choose from a wide range of positions at organizations such as international departments of law firms, international businesses, international bureaus of government services, or other international organizations.

# Biology, MSc

The Biology, MSc course trains the researchers of the future in the fields of genetics, plant biology, ecology, evolutionary biology, and zoology. Students will learn specialised knowledge in biology, ecology; how to plan and carry out research projects, collect and analyse data, write up and publish results; and conduct their own small-scale research projects under the supervision of world-renowned experts in biology and ecology.

Lecture, seminar: 51%

Practice: 49%

Faculty: Science and Technology

Academic discipline: Natural Sciences

**Qualification:** Biologist

**Starting date:** September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: BSc diploma in biological/life sciences or in a related discipline of

natural sciences

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Biomathematics, Bioinformatics, Genetics, Biophysics, Structural Biology and Measurement, Biological Chemistry, Plant Biology, Zoology, Etology, Ecology, Environmental Protection, Scientific Communication
- 2. Cell Biology, Molecular and Synthetic Biology, Regulatory Biology, Physiology and Immunology, Evolutionary Biology, Microbial Biotecnology, Thesis

Internship, practice: Students can complete practice at a company or research institute.

**Career prospects:** Graduates can choose from a wide range of positions in research laboratories, educational institutions, hospitals, clinics, environmental agencies, and pharmaceutical, food, agricultural, and chemical companies.

# **Chemistry, MSc**

The aim of this study program is the advanced training of chemists possessing theoretical and practical knowledge in chemistry as well as satisfactory basic knowledge in related fields of science (e. g. mathematics, physics, informatics, biology, and environmental protection). Degree holders will have the ability and practical skills

- to solve chemical problems arising either in industrial or laboratory applications;
- to actively join research and development projects in different fields of chemistry;
- to undertake further studies in advanced chemistry and chemical research with a sufficient degree of autonomy.

Specializations: Synthetic Chemistry, Analytical Chemistry, Radiochemistry

Lecture, seminar: 44%

**Practice:** 56%

Faculty: Science and Technology

Academic discipline: Natural Sciences

**Qualification:** Chemist

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Bachelor's degree in chemistry or chemical engineering

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Physical Chemistry, Inorganic Chemistry, Organic Syntetic Methods, Heterocycles, Biochemistry, Instrumental Analysis, Introduction to Chemical Engineering
- 2. Spectroscopic Methods for Structure Investigation, Instrumental Analysis, Spectroscopic Methods for Structure Investigation, Advanced Chemical Technology, Thesis

Internship, practice: Students should complete a 6-week field practice.

**Career prospects:** Graduates with a master's degree in chemistry will find themselves qualified for entry-level positions as clinical laboratory technologists, chemists, or materials scientists.



**Science Programs** 

#### **Science Programs**

# **Environmental Sciences, MSc**

The MSc in Environmental Sciences, with specialization in ecology, environmental and nature conservation provides knowledge about the main topics regarding environmental sciences, focusing on terrestrial and aquatic environmental protection and ecological and nature conservational aspects.

**Specialization:** Ecology, Environmental and nature conservation

Lecture, seminar: 51%

Practice: 49%

Faculty: Science and Technology

Academic discipline: Natural Sciences Qualification: Environmental Scientist Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: A strong knowledge of biology and environmental sciences, and a BSc diploma in biology, environmental sciences, or in a related discipline in natural sciences.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Biodiversity and its Measuring, Landscape Protection, Applied Ecology, Computers in Environmental Science, Environmental Physics, Soil Ecology, Air Quality protection practice, Soil Conservation, Field Study
- 2. Environmental Communication and Management, Aquatic Environment Protection, Waste Management, Biotechnology for Environment Protection, Thesis

Internship, practice: The students should attend a 6-week field practice.

**Career prospects:** Graduated students can choose from a wide range of positions in industries and organizations, including environmental, energy and engineering consultancies, multinational companies (energy), local government, environmental bodies, research positions and teaching.

## Geography, MSc

The program provides specialized geography knowledge in the fields of environmental science, renewable energy, and geoinformatics.

#### Students will learn:

- the most up-to-date software and hardware for spatial data collection, analysis, and visualization including both the statistical and cartography aspects;
- how to exploit the benefits of renewable energy (solar, geothermic and wind); knowledge of measuring devices, energy calculation methods;
- processes of the landscapes; environmental evaluation techniques; nature protection and policy; environmental quality assurance/control.

Lecture, seminar: 45%

 $\textbf{Practice:}\ 55\%$ 

Faculty: Science and Technology

Academic discipline: Natural Sciences

**Qualification:** Geographer

**Starting date:** September 2024

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: BSc diploma in earth sciences or in a related discipline in natural, human or information sciences.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Novelties in the Methodology of Geosciences, Project Management and R+D Policy, Environmental Informatics, Environmental Application of GIS, Political Geography and Globalisation, Seminar on Political Geography and Globalisation, Landscape Analysis, Regional and Spatial Development in Practice, Environmental Systems Environmental Geography, Regional and Spatial Development, Space and Society, Applied Geomorphology
- 2. Natural and Anthropogenic Hazards, Field Trip, Projectwork, Professional Practice, Thesis

Internship, practice: Students should complete a 6-week field practice.

**Career prospects:** Graduates can choose from a wide range of positions in organizations such as government ministries, regional and local authorities, urban and rural planning consultancies, and private research institutes.

# **Geoinformatics, MSc**

Geoinformatics MSc course develops knowledge and understanding in the following fields: database management, surveying, LiDAR systems, photogrammetry, drones, web mapping and applications in different fields of life from environment protection to regional development.

Lecture, seminar: 40% Practice: 60%

Faculty: Science and Technology

Academic discipline: Natural Sciences

**Qualification:** Geoinformatics MSc

Starting date: September/February

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

**Academic requirements:** Relevant bachelor's degree.

**Duration:** 4 semesters

ECTS credits: 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. New Research Methods in Geosciences, Geostatistics, Management Basics, Data Protection, Project Management
- Geoscientific Data Mining, Spatial Data Analysis, Photogrammetry, Point Cloud Analysis, CAD, Open Source Software, Programming, Multispectral Remote Sensing, Hyperspectral Remote Sensing, Web Mapping, Raster Analysis, Geovisualization

Internship, practice: Students should complete a 6-week field practice.

**Career prospects:** Graduates can choose from a wide range of possibilities on the labour market such as consultancy firms, surveying and GIS related companies, governmental organizations, research institutes, non-governmental organizations.

# Hydrobiology - Water Quality Management, MSc

The Water Management, MSc course develops knowledge and understanding in physical, chemical, and ecological aspects of water science in temperate, tropical, and semi-arid zones. It provides a foundation in basic processes in each key subject area, as well as in interactions throughout the hydrological cycle, the various hydrological processes and functions, and the impact these have on health.

Lecture, seminar: 58% Practice: 42%

Faculty: Science and Technology

Academic discipline: Natural Sciences

**Qualification:** Hydrobiologist

Starting date: September

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: Relevant bachelor's degree

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. General Hydrobiology, Mathematical Methods in Hydrobiology, Hydrology and Geography, Applied Hydrobiology, Water Chemistry, Running Water Ecology, Standing Water Ecology, Wetland Ecology, Water Management, Aquatic Toxicology, Paleo Hydrobiology
- 2. Water Quality Monitoring, European Water, Nature Conservation, Field practice, Thesis

Internship, practice: Students should complete a 6-week field practice.

**Career prospects:** Graduates can choose from a wide range of positions in organizations such as consultancy firms, governmental organizations, water research institutes, non-governmental organizations, or international development organizations.

# Molecular Biology, MSc

The MSc in molecular biology program aims to provide students with an in-depth knowledge of and practical skills in the field of molecular biology. This includes application of molecular biology techniques; a general knowledge of the molecular biology methods; ability to alter and modulate genes; a practical approach to scientific problems in multidisciplinary teams with an emphasis on medicine-related projects; understanding of the genomic data; planning and performing genetical modifications; setting up and testing recombinant expression systems for medicinal or industrial purposes; translation of laboratory results to clinical practice; obtaining, preserving, and evaluating genetic material; and the ability to test and establish personalized medicine-based approaches. The students can specialize in the fields of biochemistry and genomics.

**Specialization:** Biochemistry - Genomics

Lecture, seminar: 40%

**Practice:** 60%

Faculty: Medicine

Academic discipline: Natural Sciences
Qualification: Molecular Biologist
Starting date: September

**Language requirements:** English language proficiency (CEFR level B2, assessed at the entrance interview)

Academic requirements: Students with relevant degrees (BSc or higher degrees from the following fields: biology, chemistry, environmental studies, bioengineering, agricultural or medical and health sciences) may apply to our Molecular Biology MSc programme if as part of their bachelor studies they completed minimum 70 credits from required criteria subjects (6 credits from mathematics, 6 credits from informatics, 4 credits from physics, 20 credits from chemistry, 60 credits from biology). Detailed transcript (containing name of subject, number of contact hours, grade/mark received, credit) is compulsory to submit with the application documents.

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- 1. Biochemistry of Metabolism, Biophysics, Human Physiology, Molecular Genetics, Molecular Immunology, Medical Genome Biology, Radioisotope Techniques in Biomedicine, Methods of Molecular Biology, Cell and Organ Biochemistry, Cell Biology, Bioinformatics, Biostatistics, Plant Molecular Biology, Problem-solving Exercises in Molecular Biology, Physiology of Prokaryotes and Molecular Virology
- 2. Genomic Bioinformatics, Molecular Mechanism of Diseases Affecting Large Population, Signalling Pathways in the Cells, Enzymology, Post-translational Modification of Proteins

Internship, practice: Students should carry out field practice at a research institute.

**Career prospects:** Graduates may go on to a variety of subject-specific careers in research laboratories, educational institutions, hospitals, clinics, environmental agencies, and at pharmaceutical, food, agricultural, and chemical companies.

# Physics, MSc

The objective of the programme is to train physicist, who is able to realize physical principles in natural phenomena, to perform their experimental investigation according to scientific standards, and to obtain the theoretical understanding. The training enables her/him to develop and operate industrial, IT, and measuring systems related to physical laws and high technology processes. The student is able to continuously broaden her/his knowledge and has the aptitude for continuing her/his studies in the framework of doctoral studies.

Lecture, Seminar: 60%

**Practice:** 40% (practice and laboratory)

Faculty: Science and Technology

Academic discipline: Natural Sciences

**Qualification:** Physicist **Starting date:** September

Language requirements: English language proficiency (TOEFL 547 /IELTS 6.0 /oral examination)

Academic requirements: BSc diploma in Physics

**Duration:** 4 semesters

**ECTS:** 120

#### MAIN SUBJECTS TYPICALLY INCLUDE (this list is indicative and may change):

#### YEAR MAIN SUBJECTS

- Quantum Mechanics, Statistical Physics, Particle Physics, Environmental Physics, Atomic and Molecular Physics, Condensed Matter Physics
- 2. Fundamental Interactions, Atomic and Molecular Physics and Quantum Informatics, Complex Systems, Nuclear Physics, Quantum Mechanical Many-body Systems

Internship, practice: No internship or practice

**Career prospects:** Academic research, Modelling, Research and development field, Data analysis in different fields, etc.

# Application and Admission

THE UNIVERSITY OF DEBRECEN HAS AN ONLINE APPLICATION SYSTEM, WHERE YOU CAN SUBMIT YOUR APPLICATION.

The following documents need to be uploaded during the application procedure:

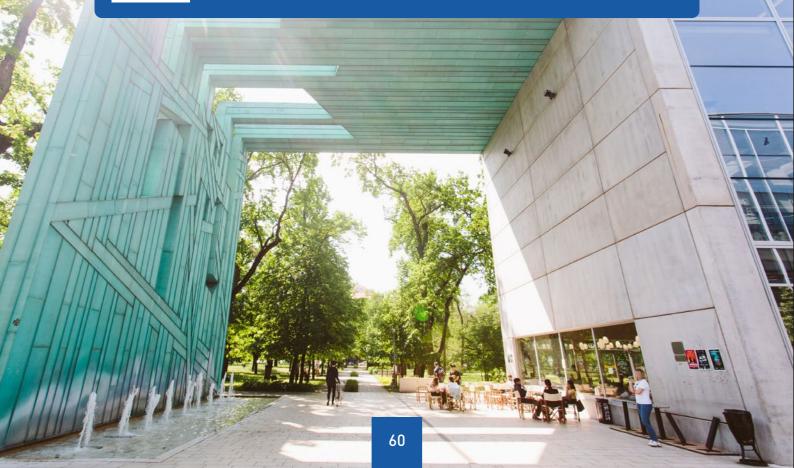
- Valid, completely filled out application form
- Certificate and transcript of former education
- Passport or National ID
- Short Resume/CV
- Medical Certificate
- Bank receipt certifying the transfer of the application fee of 150 USD (non-refundable) to the university bank account.



Please visit our website for more information about the application and admission procedure, special requirements and additional documents for transfer students: **edu.unideb.hu/p/application-and-admission** 



You may also contact our local representatives, who can help you in the application process: **edu.unideb.hu/p/representatives** 





# Fees

Application fee: 150 USDEntrance exam fee: 350 USD



#### **Tuition fees:**

For current tuition fees, please visit the program's website or scan the QR code. https://www.edu.unideb.hu/p/tuition-fee-application-entrance-fee
The costs of health insurance, medical check-up and student card are included in the tuition fee.

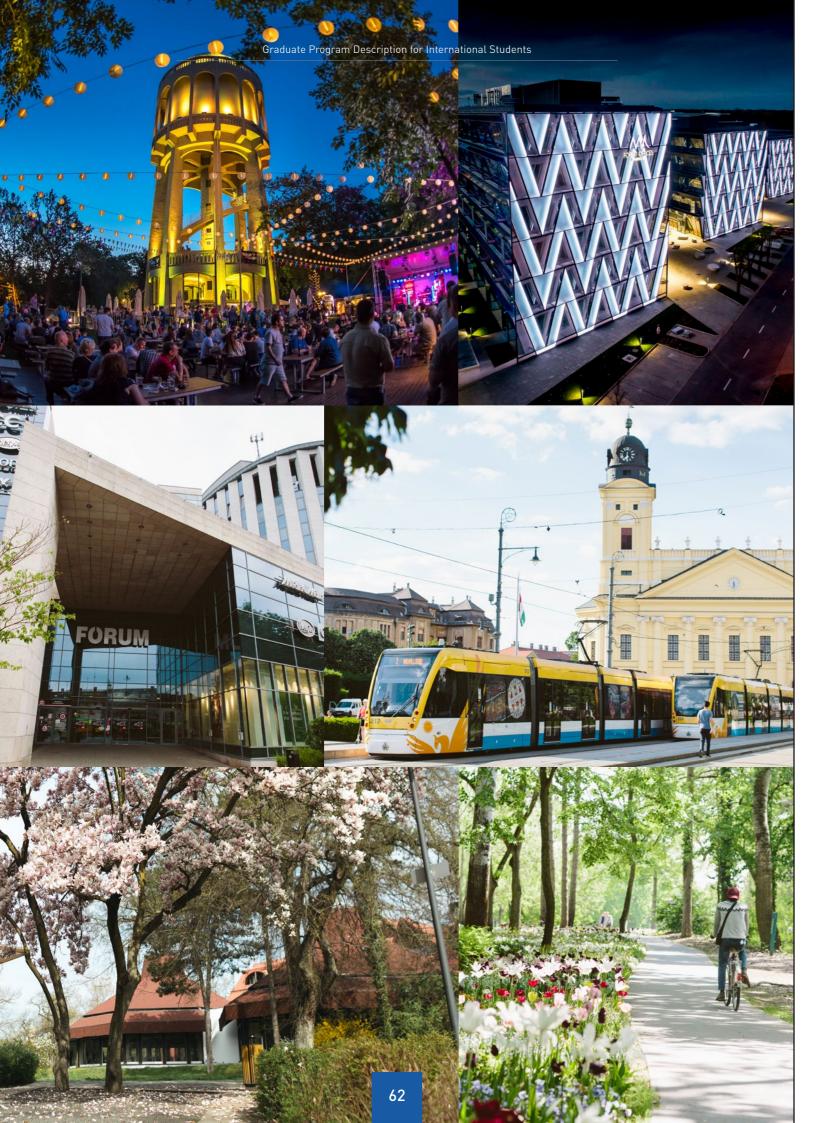
# Cost of living

#### A LIST OF LIVING EXPENSES IN DEBRECEN (APPROXIMATE VALUES):

- Books & supplies from 100 USD
- Dormitory from 440 USD/month
- Private accommodation with utilities from 500 USD/month
- Food from 320 USD/month



For additional living costs you may check our website: https://www.edu.unideb.hu/p/cost-of-living



# Dates and deadlines to remember

#### **APPLICATION DEADLINES**

#### FOR SEPTEMBER ADMISSION

PhD programs	15 May
All other programs	15 June

#### FOR JANUARY/FEBRUARY ADMISSION

Non-medical programs and PhD programs

15 November

# Hungary and the city of Debrecen

#### **COUNTRY INFO:**

Hungary is a European Union member country located in Central Europe. The country shares borders with Austria, Slovakia, Ukraine, Romania, Serbia, Croatia and Slovenia. Its population is ca. 10 million.

#### CITY INFO:

With 204,000 inhabitants, Debrecen is the second-largest city in Hungary. Debrecen has a small-town feel, with all a big city has to offer. A variety of cozy restaurants with local and international cuisine, cafés, wine bars, and ruin pubs add to the "taste" of life in Debrecen.

#### **CITY LIFE:**

Debrecen offers year-round high-quality programs including festivals, concerts, and all sorts of sports events.

#### MAIN ATTRACTIONS AND PLACES TO VISIT:

- Great Forest of Debrecen and Lake Békás
- Aquaticum Spa and Wellness Centre w/ Mediterranean Aqua Park
- Kölcsey Convention Center the largest conference center of Eastern Hungary (capacity: 1,150 people)
- MODEM (Modern and Contemporary Arts Centre)
- Debrecen Zoo
- Debrecen Ice Rink
- Debrecen Swimming Pool complex
- Déri Museum



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2025