







# PROGRAMMES OF THE FACULTY OF MECHANICAL ENGINEERING AND INFORMATICS



UNIVERSITY OF MISKOLC



#### **HISTORY OF THE FACULTY**

The predecessor of the University of Miskolc was the school of mining and metallurgy (Bergschule) established by Charles III in Selmecbánya in 1735, which was the world's first higher education institution giving instruction in these fields. In 1762, Maria Theresia gave the school academy status (Bergakademie). In 1794, Paris Technical University organised its laboratory trainings on the basis of the Selmec system. From 1846, foresters were also trained in the institution. Later, the Selmec school served as a model for the establishment of European technical colleges.

The world's first international technical society, in which 14 countries were represented, was founded with the contribution of Selmec professors in Szklenó, not far from Selmecbánya.

Between 1848 and 1850, instruction was suspended because during the Hungarian war of independence, the students enlisted in Kossuth's army.

More than 70 years ago, in 1949, the Hungarian Parliament decided to establish a university and, at the same time, establishing the Mechanical Engineering Faculty, in the city of Miskolc, with the aim of "advancing higher technical education.

Nearly 9.000 students study at the University of Miskolc, more and more of them come from abroad. More than 2.800 of them are students of the Faculty of Mechanical Engineering and Informatics the larger faculty of the university.

In recent years, the university has been placed on the map of the best universities, we are listed among the top 1000 universities in the QS ranking, and the field of mechanical engineering has won 450-500 places.

#### **AVAILABLE PROGRAMMES**

#### **BScprogrammes:**

- BSc in Energy Engineering (HU)
- BSc in Business Informatics (HU)
- BSc in Mechanical Engineering (HU)
- BSc in Industrial Design Engineering (HU)
- BSc in Vehicle Engineering (HU)
- BSc in Logistics Engineering (HU)
- BSc in Mechatronical Engineering (HU)
- BSc in Computer Science Engineering (HU)
- BSc in Engineering Management (HU)
- BSc in Computer Science (HU)
- BSc in Electrical Engineering (HU)
- BSc in Computer Science Operational Engineering (Bprof) (HU)

#### **MSc programmes:**

- MSc in Energy Engineering (HU)
- MSc in Mechanical Engineering (HU, EN)
- MSc in Logistics Engineering (HU)
- MSc in Mechatronical Engineering (HU)
- MSc in Computer Science and Engineering (HU, EN)
- MSc in Electrical Engineering (HU)

## Doctoral programmes (HU, EN) are provided in two doctoral schools:

- István Sályi Doctoral School of Mechanical Engineering Sciences
- József Hatvany Doctoral School of Information Science

#### **MSc IN COMPUTER SCIENCE ENGINEERING (IN ENGLISH)**

The programme provides students with the high-level knowledge in IT from the natural sciences and from specialised engineering fields that is essential for the designing, development and integration of new information technology systems.

The programme provides a comprehensive knowledge with sound theoretical foundations in the following areas: Software engineering methodologies, SE technologies, Optimization of algorithms, Integration of system components, Parallel algorithms, Programming on mobile platform, Programming on distributed web platform Data security, Data Analysis and DW systems, Text mining technologies. The course includes one semester final research and thesis writing.

**Career opportunities after completing the programme:** Software engineer on almost any field of Information Technology (software development, programming, OS and databases).

Graduates are able to carry out and coordinate research and development tasks in computer science.

Name of the degree: Computer Science Engineering

Language of the program: English

Duration of the Study Program: 4 semesters





#### MSc IN MECHANICAL ENGINEERING (IN ENGLISH)

The programme is designed for individuals who are in possession of firm base knowledge on the field of CAD/CAM theory and practice and would like to deepen their knowledge and gain additional theoretical and practical experience on the subject and, furthermore, including the opportunity for applying their CAD/CAM knowledge on the field of machine design. The objectives of the programme are to train engineers who can conceive the processes and structures of machines and machinery, and modelling, planning, operating and maintaining them. They are prepared to take part in the development of machine indus-try technologies, new materials and production technologies, considering also environmen-tal aspects.

Completing the Program, you will be able to apply an integrated (CAD, CAM, FEA, etc) engineering CAD software and to design a complete manufacturing device

**Career opportunities:** design engineer on almost any field of industry (vehicle manufacturing, machine manufacturing, production engineering, etc)

Graduates are able to carry out innovative tasks and participate in engineering projects on international level.

Name of the degree: Mechanical Engineering MSc (CAD/CAM specialization)

Language of the program: English

Duration of the Study Program: 4 semesters (2 years)

## ISTVÁN SÁLYI DOCTORAL SCHOOL OF MECHANICAL ENGINEERING SCIENCES

The doctoral school offers the opportunity to pursue a doctoral degree to those with a master's degree who are interested in research and development in applied and theoretical mechanical engineering. For this purpose, the most relevant master programmes in the faculty are Mechanical Engineering, Energetics Engineering and Mechatronical Engineering. The doctoral school deals with three main topic areas: basic studies in mechanical engineering, design of machines and structures, and issues relating to material science and production processes and systems. The doctoral programme can be undertaken through a course-based structure or independently.





### JÓZSEF HATVANY DOCTORAL SCHOOL OF INFORMATION SCIENCE

The doctoral school offers the opportunity to pursue a doctoral degree to those with a master's degree who are interested in research and development in applied and theoretical computer science. For this purpose, the most relevant master programmes in the faculty are Computer Science Engineering, Electrical Engineering and Logistics Engineering. The doctoral school deals with three main topic areas: applied computer science, information technology for production engineering (including measuring and control engineering information systems), and material flow systems (information technology for logistics). The doctoral programme can be undertaken through a course-based structure or independently.

#### STUDENTS' FEEDBACKS

"The University of Miskolc wasn't my first choice, but that doesn't mean it wasn't the best choice I could have made. It brought me the great people I could have wished for and the best memories and perfect and peaceful countryside vibe that I could have had. It was the best experience I could have hoped for as an International student. There was so much help and assistance available, and although there was the flexibility to make the best use of it. Studying at UOM has played an enormous role in my personal and professional growth. The CSE program was truly multidisciplinary and allowed me to develop digital and research skills. It's obvious to mention that 2020 has been a challenging year both personally and in terms of my studies. However, I have been able to remain optimistic, fully indulge in online research, and keep in touch with loved ones. I graduated during the pandemic situation in June 2020 and I feel incredibly proud by overcoming the challenges of COVID-19 and getting rewarded with Distinctions and Medallions of Merit. Thanks to my experience at the University of Miskolc."

Hina Ghous – Pakistan

"I have graduated from University of Miskolc with MSc in Mechanical Engineering. If you said to me. If you go back two years, will you do the same? My answer will definitely be yes! It was a big step toward success and fulfilling my dreams. What is special in Miskolc? The university community was positive and encouraging. Miskolc is where you can find the warmth of a cold winter. Special university with unique opportunities. So why mechanical engineering? Mechanical engineering is one of the core branches of engineering and has a wide range of areas for significant work like automobile, aerospace, defence production and development, biomedical fields for nanotechnology and related manufacturing, mining etc. For me, the opportunity to express to what extent I like to deal with materials was unique. I was lucky enough to work on Laser welding and see how things can be joined. Our department has a lot of interesting opportunities and connections with the companies around Europe. Just work hard, hard enough to grow."

Adle Mosleh - Palestine

"I am studying MSc Computer science engineering, my final year. What makes me choose the Miskolc university is that I found it perfect computer science department and lecturers, I saw the CV of each one of them before i applied, that's gave me the desire to apply and gain the knowledge of my specialist. At the same time the city, I read about it and It's was the right choice because it has an amazing nature in all seasons specifically the university location, the campus, the park, and sport facilities, etc. I really recommend every national student to apply for it. Besides that the Hungarian people here very nicely and helpful. Message for the new students : Don't hesitate to apply because it's your best choice."

Marwah Muneer Al-bayati - Iraq





#### THE FACULTY'S MAIN INDUSTRIAL PARTNERS

