



INTERNATIONAL  
UNIVERSITY OF SARAJEVO

**FENS**  
Faculty of Engineering  
and Natural Sciences  
International University of Sarajevo



Bachelor of Science (B.Sc.) in

# MECHANICAL ENGINEERING

Info Catalogue

Academic Year 2025-2026

# ABOUT THE MECHANICAL ENGINEERING STUDY PROGRAM

The **Mechanical Engineering (ME)** program at the International University of Sarajevo (IUS) is designed to prepare graduates for a dynamic engineering landscape shaped by technological innovation, interdisciplinary collaboration, and global mobility. The program combines a solid foundation in mathematics, physics, and materials science with advanced topics in mechanics, thermodynamics, manufacturing, and energy systems.

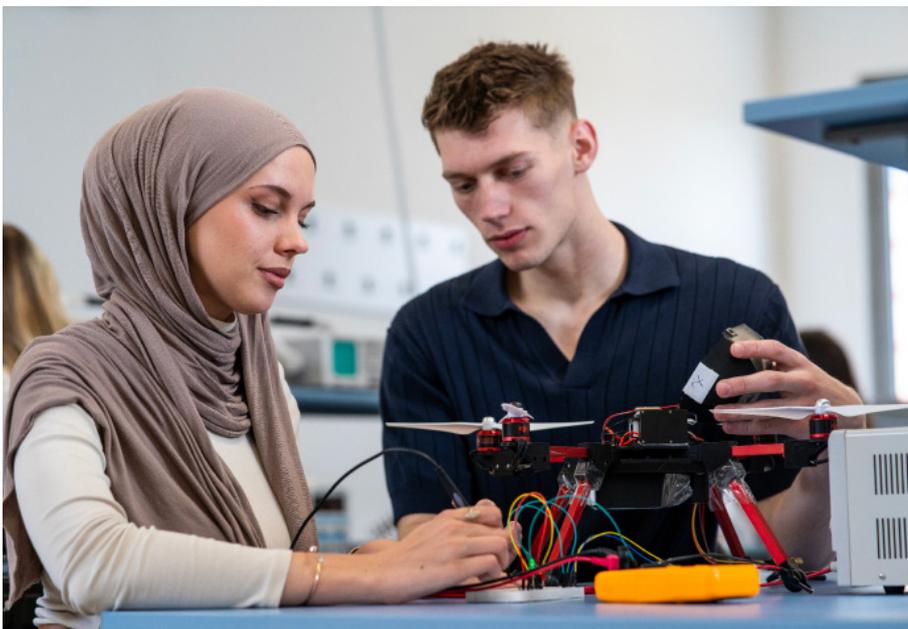
A distinctive feature of the program is its integration of modern engineering simulation technologies (CAD, CFD, FEA), where students explore both the capabilities and limitations of digital design and analysis tools. The curriculum also incorporates elements of electrical engineering, computer science, and management, enabling graduates to work effectively in multidisciplinary teams.



4 years, 8 semesters



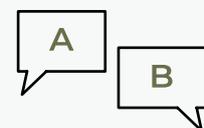
Full-time, in person



240 ECTS



Bachelor of Science (B.Sc.) in  
Mechanical Engineering



Language: English

Practical experience is at the heart of the program. Students engage in laboratory work, project-based learning, and compulsory industry internships to bridge theory with real-world applications.

**The Research and Development Center (RDC)** provides access to CNC machines, 3D printers, thermomechanical measurement equipment, and advanced computational tools for engineering analysis.



Conducted entirely in English and embedded in a multicultural campus community, the program fosters an international outlook. Students have the opportunity to participate in **Erasmus+**, and bilateral mobility programs, as well as the **ME-ITU double diploma program** in cooperation with Istanbul Technical University (ITU).



Graduates from IUS are not only skilled engineers but also adaptable problem-solvers, ethical professionals, and life-long learners prepared to contribute to sustainable technological and societal development.

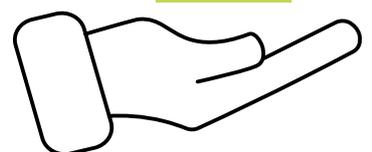
# VISION AND PEDAGOGICAL APPROACH

The program aims to educate engineers who can:

- Apply engineering principles to diverse contexts such as energy systems, robotics, manufacturing, and environmental technologies.
- Adapt quickly to new and emerging technologies.
- Lead and contribute to multidisciplinary teams.
- Engage with the ethical, social, and environmental dimensions of engineering practice.



**Teaching is student-centred**, emphasizing active learning, critical thinking, and problem-solving. Methods include lectures, tutorials, laboratory work, case studies, simulations, and industry-based projects. Continuous feedback from students, alumni, and industry ensures that the curriculum remains relevant and forward-looking.



# Study program

## EDUCATIONAL OBJECTIVES (EO)

Objectives of the Mechanical Engineering Study Program – 1st cycle are:

<b>EO1</b>	Application of knowledge from the field of mechanical engineering in various industrial sectors, academic institutions, as well as in governmental and non-governmental organizations.
<b>EO2</b>	Encouraging further education and research in the field of science, engineering and technology, with the aim of developing a professional career in creative and innovative disciplines.
<b>EO3</b>	Developing an interdisciplinary approach in identifying and solving technical problems.
<b>EO4</b>	Enabling students for independent and responsible work, with application of acquired knowledge and skills in practice.
<b>EO5</b>	Development of leadership and organizational skills, including the ability to lead teams and efficiently manage projects.
<b>EO6</b>	Improvement of communication competencies, with special emphasis on written and oral communication in English in a professional context.
<b>EO7</b>	Encouraging lifelong learning, with active monitoring of contemporary trends, tools, technologies and software solutions in engineering practice.
<b>EO8</b>	Developing professional ethics and social responsibility, with respect for legal and ethical norms in technical practice.

# Study program

## LEARNING OUTCOMES (LO)

<b>Knowledge</b>	<b>LO1</b>	Demonstrate knowledge of mathematics, science and engineering as a foundation which will make it possible to understand matters in the field of mechanical engineering.
	<b>LO2</b>	Have sound knowledge specific to the mechanical engineering discipline, namely Mechanics of Solids and Fluids, Engineering Materials, Thermodynamics, Heat and Mass Transfer, Manufacturing Methods and Machine Elements.
<b>Skills</b>	<b>LO3</b>	Apply the acquired knowledge to mechanical engineering situations.
	<b>LO4</b>	Use the techniques, skills and modern engineering tools necessary for mechanical engineering practice and interpret the results with critical thinking.
	<b>LO5</b>	Be able to identify and formulate mechanical engineering problems by converting real life situation into reasonably approximate models created by necessary assumptions and then employ analytical and/or computational methods to solve the problem with the required degree of precision.



<b>Personal and Professional</b>	<b>LO6</b>	Design a mechanical system, component or processes to meet desired needs with realistic constraints; namely risk assessment, economical, environmental, legal, social, political, ethical, sustainability, health and safety rules, quality considerations and manufacturability.
	<b>LO7</b>	Analyze existing mechanical systems, components or processes in order to evaluate them from mechanical as well as financial points of view and conduct experiments, when needed, to obtain data related to the situation in question.
	<b>LO8</b>	Find and use relevant technical literature and information sources.
	<b>LO9</b>	Demonstrate a broad knowledge of contemporary issues with a special focus on sustainability, professionalism, social responsibility, ethics, conflict resolution, multicultural society, and emotional intelligence.
<b>Double degree specific</b>	<b>LO10</b>	Work effectively in a team at every level and, when needed, become the team-leader.
	<b>LO11</b>	Recognize the importance of life-long learning and participate in extra-curricular activities towards the aim of professional and personal development.
	<b>L12</b>	Communicate and document effectively in written and oral English language, along with their mother tongue, and deliver their professional work using modern technical and visual means.

# PROGRAM STRUCTURE

The structure of the regular Mechanical Engineering Study Program in the first cycle is organized as follows:

- 1. University-Level Courses (11 courses / 51 ECTS)**  
Introductory courses designed to familiarize students with the academic environment and the fundamentals of engineering.
- 2. Math-Based Courses (10 courses / 45 ECTS)**  
Provide fundamental knowledge in key mathematical areas, serving as the basis for analytical thinking and engineering problem-solving.
- 3. Department-Level Courses (11 courses / 45 ECTS)**  
Provide fundamental engineering knowledge.
- 4. Program-Level Courses (11 courses / 54 ECTS)**  
Focused on specific competencies in the field of mechanical engineering.

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## Program and Free Elective Courses (9 courses / 54 ECTS)

Introductory courses designed to familiarize students with the academic environment and the fundamentals of engineering.



A detailed overview of the **curricula for the ME Study Program**, including the **ME-ITU Double Diploma Program**, are available at [me.ius.edu.ba](http://me.ius.edu.ba)

# CURRICULUM HIGHLIGHTS

The program provides a strong foundation in fundamental engineering disciplines, including **mathematics, physics, materials science, mechanics, thermodynamics, heat and mass transfer, and manufacturing systems**. Students develop solid skills in programming and electrical engineering, enabling them to integrate knowledge across multiple engineering domains.

A large selection of elective courses in the third and fourth year allows students to specialize in areas such as computational fluid dynamics, renewable energy systems, unmanned aerial vehicles, robotics, and industrial engineering.

Practical learning is emphasized through **laboratory courses, project-based assignments, and a mandatory internship** (minimum 30 working days), ensuring graduates are ready for the demands of industry and research.



## Special Opportunities:



### Double Diploma with Istanbul Technical University

Two years at IUS + two years at Istanbul Technical University = two diplomas.



### Exchange Abroad

One semester worldwide through Erasmus+ mobility with funded costs.



### Industry Links

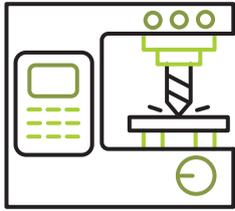
Internships, real-life projects, and collaboration with partner companies.



### Research Opportunities

Participation in faculty research projects and access to modern laboratories.

# LABORATORY & RESEARCH FACILITIES



- State of the Art Workstations
- CNC machining lab
- 3D printing and rapid prototyping facilities
- Computational labs equipped with CAD, CFD, and FEA software
- Thermotechnical and energy systems measurement lab
- Material testing lab
- RDC project spaces for collaborative student–faculty research



## INDUSTRY & CAREER LINKS

Our alumni are employed in diverse sectors, including energy, manufacturing, automotive, aerospace, and research institutions. Partner companies and organizations provide internship placements, guest lectures, and collaborative projects.

### Selected employers of IUS ME graduates:

- Limak Holding (Turkey, Albania)
- Groupe Renault (Turkey)
- YETER Savunma ve Havacilik (Turkey)
- ENOVA doo Sarajevo

## ADMISSION REQUIREMENTS:

- **Completion of secondary education** satisfactory GPA, and entrance evaluation as per IUS regulations.
- **ME-ITU Double Degree: Additional requirements as per ITU agreement.**
- **Language:** Proof of English proficiency (IUS English Proficiency Exam or recognized international certificate).

## TEACHING AND ASSESSMENT:

- Lectures, tutorials, and laboratory sessions
- Project-based assignments and design challenges
- Continuous assessment (quizzes, projects, presentations)
- Written examinations
- Assessment criteria are transparent and available via e-Campus. Students may appeal grades according to IUS regulations.





# STUDENT SUPPORT

Each student is **assigned an advisor/mentor** who provides academic guidance and support throughout the entire study program. Additional tutoring, remedial courses, and regular office hours with faculty members are offered to help students achieve the intended learning outcomes.



## STUDENTS WITH DISABILITIES

IUS supports students with disabilities through its **Support Office**, whose aim is to foster an inclusive environment. The office provides guidance and assistance to students with disabilities and works closely with staff to ensure their full participation in university life. To further support inclusion, the university has adopted guidelines for inclusion and improved campus facilities, including Braille markings for visually impaired.

# STUDENT VOICE MATTERS

## QUALITY ASSURANCE

At IUS, we are committed to continuously improving student academic experience. That's why we've built a strong **Internal Quality Assurance System**—and students play a key role in it! Our quality assurance system ensures that everything we do—from teaching and research to administration and community engagement—is constantly evolving for the better.

Every semester, we invite students to participate in the **Student Survey**. This is students' chance to share honest feedback about:

- Learning and Teaching effectiveness
- Course content
- Learning resources
- Overall satisfaction



**Students' input is carefully analyzed and used to:**

- Improve course design and delivery
- Support and develop our academic staff
- Shape strategic decisions for the future

By participating, students help us build a more **student-centered learning environment**—where their needs, ideas, and experiences truly shape the University's growth.

## CAREER OPPORTUNITIES AND FURTHER STUDIES

Graduates are well-prepared for positions such as:

- Design Engineer
- Manufacturing Engineer
- Energy Systems Engineer
- R&D Engineer
- Project Manager

They are also qualified to pursue Master's programs in Mechanical Engineering, Energy Technology, Process Engineering, and related fields.

# APPLY TODAY!

International University of Sarajevo  
Faculty of Engineering and Natural Sciences

Visit [apply.ius.edu.ba](http://apply.ius.edu.ba) or  
call 00 387 957 110

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