



INTERNATIONAL  
UNIVERSITY OF SARAJEVO

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



Bachelor of Science (B.Sc.) in

# **ELECTRICAL AND ELECTRONICS ENGINEERING**

**Info Catalogue**

Academic Year 2025-2026

# ABOUT THE ELECTRICAL AND ELECTRONICS ENGINEERING STUDY PROGRAM

The Electrical and Electronics Engineering (EEE) program at the International University of Sarajevo (IUS) deals with the study and application of electricity, electronics, and electromagnetism. It covers a wide range of subfields including electronics, power engineering, telecommunications, control systems, and signal processing. Electrical engineers give the world modern virtual reality and spanned power distribution networks across vast rural areas in developing countries.

Bachelor of Electrical and Electronics Engineering exposes students to the theory and applications of electricity, electronics, telecommunication and signal processing. The program is designed around a set of core courses that provide a classical electrical engineering foundation, and a number of elective courses that allow students to specialize in areas of interest and emphasis is placed on the application of the engineering knowledge.



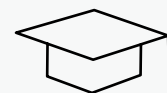
4 years, 8 semesters



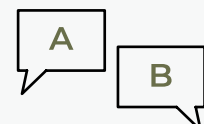
Full-time, in person



240 ETCS



Bachelor of Science (B.Sc.)  
in Electrical and Electronics  
Engineering



Language: English

The EEE program is distinguished by its deep integration of **advanced electrical design and analysis software** (E.g., Siemens DIGSI 5, MATLAB, LTSpice). This ensures students thoroughly understand the practical strengths and inherent limitations of using digital methods for electrical system design. Furthermore, the curriculum includes courses in computer science, mechanical engineering, and management, preparing graduates for effective collaboration in diverse,

multidisciplinary engineering environments. **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 Centre (RDC)** provides access to data acquisition devices, microcontrollers, Dspace control boards, CNC machines, 3D printers, 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 **IUS-ITU double diploma program in Electronics and Communication Engineering** 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.

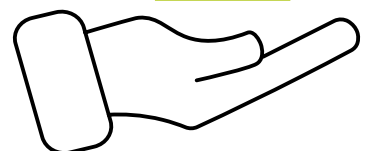
# VISION AND PEDAGOGICAL APPROACH

The program aims to educate engineers who can:

- Establish themselves as practicing professionals in Electrical and Electronics Engineering or related fields.
- Engage in lifelong pursuit of knowledge and interdisciplinary learning appropriate for industrial and academic careers.
- Contribute to sustainable development and the well-being of society
- Lead and contribute to multidisciplinary teams.



The program adapts a student-centered teaching philosophy that prioritizes active learning, critical thinking, and advanced problem-solving. Instruction is delivered through a varied mix of methods, such as lectures, labs, case studies, and real-world industry projects and simulations. To maintain relevance and currency, the curriculum is continuously shaped by feedback from students, alumni, and industry professionals.



# Study program

## EDUCATIONAL OBJECTIVES (EO)

<b>EO1</b>	To apply the basic principles and methods of electrical and electronics engineering in the broad field of applications.
<b>EO2</b>	To apply mathematical and scientific reasoning in a variety of electrical and electronics engineering problems.
<b>EO3</b>	To design, implement and properly document solutions to complex problems in the field of electrical engineering.
<b>EO4</b>	To analyze and compare alternative solutions to problems in the field of electrical and electronics engineering.
<b>EO5</b>	To use various specific software and hardware for the analysis and design of electrical and electronic systems.
<b>EO6</b>	To participate in teamwork on the design and implementation of solutions to problems in the field of electrical and electronics engineering.
<b>EO7</b>	To communicate clearly and concisely, orally and in writing.
<b>EO8</b>	To think critically and creatively, independently and in a team.
<b>EO9</b>	To recognize the social and ethical responsibilities of professional work.
<b>EO10</b>	To monitor the development and apply new achievements in the field of electrical and electronics engineering.

# Study program

## LEARNING OUTCOMES (LO)

<b>Knowledge</b>	<b>LO1</b>	Explain the broader multi-disciplinary context of Engineering Sciences.
	<b>LO2</b>	Use sound knowledge in mathematics, natural sciences and engineering to explain the complex phenomena peculiar to electrical engineering technology, in particular electrical circuits, analogue and digital electronics, electromagnetism, signal processing and control theory.
	<b>LO3</b>	Identify, classify and describe the performance and general quality attributes and possible trade-offs within the given problem of electrical engineering systems.
<b>Skills</b>	<b>LO4</b>	Identify, model and solve engineering problems in electrical and electronics engineering.
	<b>LO5</b>	Use software and hardware tools, as well as laboratory equipment to design, test and evaluate analogue and digital electric and electronic circuits, devices and products.
	<b>LO6</b>	Use relevant technical literature and other sources of information relating to problems given.



<b>Professional competencies</b>	<b>LO7</b>	Use up-to-date techniques and tools for electrical and electronics engineering applications.
	<b>LO8</b>	Apply the processes and methods of scientific inquiry, including the search and retrieval of scientific information, the formulation of scientific hypotheses, the design and conduct of experiments, and the analysis and interpretation of data.
	<b>LO9</b>	Independently collect and interpret relevant data pertaining to the topics of interest in the field of electrical and electronics engineering.
	<b>LO10</b>	Use data-base systems, information on norms, guidelines (codes of good practice) and safety regulations in their field of electrical and electronics engineering.
<b>Personal competencies</b>	<b>LO11</b>	Work effectively in a team at every level and, when needed, become the team-leader.
	<b>LO12</b>	Recognize the importance of life-long learning and participate in extra-curricular activities towards the aim of professional and personal development.
	<b>L13</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 Electrical and Electronics Engineering Study Program in the first cycle is organized as follows:

- **1** Free Elective course (6 ECTS)
- **2** University Elective courses which are the Foreign Language Elective courses (6 ECTS)
- **2** Faculty Elective courses (12 ECTS)
- **7** Program Elective courses (42 ECTS)
- **29** mandatory courses (174 ECTS)

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



# CURRICULUM HIGHLIGHTS

The program provides a strong foundation in fundamental engineering disciplines, including **mathematics, physics, electrical circuits, analog electronics, electromagnetism, digital design, electrical machines, embedded systems, control and automation and power systems.** Students develop solid skills in programming and mechanical 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 **power system analysis and design, control and automation, telecommunication and signal processing.**

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.



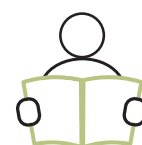
### Industry Links

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



### Research Opportunities

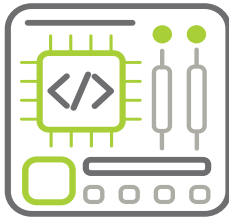
Participation in faculty research projects and access to modern laboratories.



### Minor Degree Diploma

Students can gain knowledge in a field that does not belong to the student's major study field. To complete a study minor, the student must complete a specified amount of ECTS.

# LABORATORY & RESEARCH FACILITIES



- Siemens lab for power system protection
- Embedded systems lab
- Control and automation lab
- Electrical and electronics circuits lab
- State of the Art Workstations
- 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:

- Siemens (Germany)
- BITConEx (Germany)
- Ylmec (Belgium)
- GUNT (United Arab Emirates)
- Energoinvest (Bosnia and Herzegovina)
- IBEJ d.o.o (Bosnia and Herzegovina)
- KV Team (Bosnia and Herzegovina)

## ADMISSION REQUIREMENTS:

Applicants must hold a recognized high school diploma, and admission is subject to entrance evaluation as per IUS regulations. For more information, please visit <https://www.ius.edu.ba/en/admission>

## 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 programme. 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:

- Power Systems Engineer
- Control and Automation Engineer
- Telecommunication Engineer
- R&D Engineer
- Project Manager

They are also qualified to pursue Master's programs in Electrical and Electronics Engineering.

# 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

Hrasnička cesta 15, 71210 Sarajevo,  
Bosnia and Herzegovina  
Tel: +387 33 957 101  
Email: [info@ius.edu.ba](mailto:info@ius.edu.ba)  
Website: [ee.ius.edu.ba](http://ee.ius.edu.ba)

