



# **UNIVERSITY OF ŽILINA**

# Faculty of Electrical Engineering and Information Technology

### CONTACT

#### The University of Žilina

#### **Faculty of Electrical Engineering and Information Technology**

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#### All the questions concerning your study you can direct to the Department of Studies:

Tel. No.: 041/513 20 63, 20 64

#### Coordinator for work with students with special needs:

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## **ACCREDITED STUDY PROGRAMMES OFFERED** FOR THE ACADEMIC YEAR 2022/2023

BACHELOR'S DEGREE STUDY PROGRAMI	ACHELOR'S DEGREE STUDY PROGRAMMES			
FULL-TIME STUDY	PART-TIME STUDY			
LENGTH OF STUDY 3 YEARS	LENGTH OF STUDY 4 YEARS			
Automation	-			
Autotronics	-			
Biomedical Engineering	-			
Electro-optics	-			
Electrical Engineering	-			
Communication and Information Technologies	-			
Multimedia Technologies	-			

#### Note:

In the study programme Electrical Engineering, by the selection of optional courses, the students may specialise in one of the following areas: Car Electrical Engineering, Electric Drives, Power Engineering, Power Electronic Systems and Mechatronic Systems.

#### Detailed information about particular study programmes:

- course information sheets





BACHELOR'S DEGREE STUDY					
OTHER PROOF AND FUEL DOE OTHER	PLANNED CAPACITY				
STUDY PROGRAMME / FIELD OF STUDY	FULL-TIME	PART-TIME			
Automation / Cybernetics	80	-			
Autotronics / Electrical Engineering	50	-			
Biomedical Engineering / Electrical Engineering	50	-			
Electrical Engineering / Electrical Engineering	160	-			
Electro-optics / Electrical Engineering	30	-			
Multimedia Technologies / Informatics	120	-			
Communication and Information Technologies / Informatics	120	-			
TOTAL	610	-			

In case the applicants for bachelor's degree study have shown an increased interest in a specific study programme (above the planned number), it is in the competence of the Dean of the Faculty of Electrical Engineering and Information Technology UNIZA to decide on admission of more students to study this study programme beyond the planned number. Such a change must be consulted with the head of the department who ensures the relevant study programme.

In case of a low number of applicants for a specific full-time study programme, the Faculty retains the right not to open this study programme and to offer applicants another study programme.



### **TERMS AND CONDITIONS OF ADMISSION**

#### **Basic condition of admission**

The basic condition for admission to the bachelor's degree study (the first degree study programme) at the Faculty of Electrical Engineering and Information Technology UNIZA is the full completion of secondary education or full secondary vocational education (Higher Education Act, No. 131/2002 Coll. as amended). In the case of a foreign applicant or a student who completed secondary education abroad, the education is comparable with an education completed by a school leaving examination in the Slovak Republic. An applicant who completed secondary education abroad will submit along with the application form or more precisely no later than on the date of enrolment the decision on the recognition of the certificate of completion of secondary education recognized by a relevant institution in the Slovak Republic.

The Faculty of Electrical Engineering and Information Technology UNIZA will not accept applicants who have already unsuccessfully studied two or more times at the FEIT Faculty UNIZA in any bachelor's degree study programme.

#### Other conditions of admission

#### 1. Entrance exams for the study programme Multimedia Technologies

Applicants for the study programme Multimedia Technologies will undergo the entrance exams consisting of three parts:

- Presentation of the applicant's motivation to study the study programme;
- Evaluation of the achieved study results of the applicant and the general overview of the applicant;
- Presentation of the applicant's multimedia activities and knowledge in the scope of secondary school curriculum, including clarification of the procedures and techniques used.

# 2. Admission procedure for other study programmes (except for applicants for the study programme Multimedia Technologies)

The conditions of the admission procedure are listed in more detail on the Faculty website:

https://feit.uniza.sk/podmienky-prijatia-bakalarske-studium/.

#### Language competence

Written and oral command of Slovak language or Czech language is required for study at the Faculty. An applicant who has obtained a secondary education abroad (except for the Czech Republic) and is applying to study in the Slovak language will submit along with his/her application form for university studies or at the latest on the date of the enrolment for the study a certificate / proof of the level of knowledge of the Slovak language.

The basic and other terms and conditions of admission are applicable as for the applicants from abroad as for the applicants from Slovakia. Foreign students who study in a foreign language (i.e. not Slovak), pay the tuition fee as stated in Section 92, para 8 of the Higher Education Act. The tuition fee is specified by the UNIZA directive and for the respective academic year and it can be found on the university website. Foreign students who study in the Slovak language do not pay the tuition fee. Applicants from the Czech Republic who want to apply and study in Žilina can use the application form valid in the Czech Republic. Applicants who do not actively speak Slovak or Czech are required to successfully complete their language training (it is possible to attend the Slovak language courses at UNIZA). For foreign applicants who were admitted on the basis of intergovernmental agreements, bilateral agreements or scholarships offered by the Slovak government, the terms and conditions stated in respective documents are applicable.



Application forms shall be submitted for the individual study programmes. If the applicant wants to apply for more than one study programme, it is necessary to submit individual application forms for each study programme separately whereas the payment of the respective admission fee is required.

Applicants fill in the electronic application form via the FEIT Faculty website (http://feit. uniza.sk/ in section Applicants for study) or the UNIZA university website https://vzdelavanie.uniza.sk/prijimacky/index.php or on the Portal VŠ (University Portal): https://prihlaskavs.sk/sk/.

The required attachments must be included in the application form and sent electronically or by post to the FEIT Faculty UNIZA address by the **stipulated deadlines**.

If the application form is incomplete, the applicant will be asked to complete it.

In case of non-participation in the admission procedure or a failure in the admission procedure, the Faculty does not refund the admission procedure fee.

If the applicant wants to take part in the admission procedure at several faculties of UNIZA, the application forms must be submitted separately to each Faculty with the payment of the relevant fee.

#### Enclosures for the bachelor's degree application form:

- 1. Curriculum Vitae;
- 2. Proof of payment of the admission fee;
- 3. Copies of the year-end reports from secondary school.

Upon completion of the school-leaving examination, applicants shall provide a certified copy of the school-leaving examination certificate and the year-end report from the final year of secondary school study by a deadline, which will be announced to each applicant in writing.

Admission fee:

Send € 20 to: Žilinská univerzita v Žiline, Univerzitná 1, 010 26 Žilina

Bank: Štátna pokladnica

IBAN: SK74 8180 0000 0070 0026 9917

const. symbol: 0308

variable symbol: 10331-bakalárske štúdium

Payment method: The payment can be paid by bank transfer or postal order to the account above.

Proof of payment: The proof of payment is to be sent to the Faculty along with the application form.

**Tuition fees** - in accordance with the Higher Education Act, the information on the amount of the tuition fee for the relevant academic year will be published on the website of the University of Žilina within the stipulated deadlines.

With payment of the admission fee from the EU member states, the EES countries, territories that are considered a part of the EU (Treaty of Rome, Section 299) and SEPA countries, it is necessary to use **BIC: SPSRSKBAXXX**, **IBAN: SK74 8180 0000 0070 0026 9917**.



Virtual Open Day	Open Day	Deadline for submitting the application form	Entrance exams
November, 25, 2021	February, 3, 2022	Until March, 31, 2022	June, 20–21, 202



The accommodation facilities of the University of Žilina provide accommodation according to the accommodation capacity, taking into account the distance between the student's permanent residence and the seat of the University. Accommodation is provided in modern renovated dormitories directly on the campus of the University of Žilina in Veľký Diel-no need to travel for classes. More information at www.iklub.sk. **Accommodation fee:**  $\mathbf{41} - \mathbf{61} / \mathbf{month}$ .



Students can use the services of the catering facility of the University of Žilina. Price for food: € 1.10 – € 3.20.



Students of all study programmes can obtain motivational scholarships (for excellent results or exceptional achievements) in accordance with the stated criteria up to the amount of € 1,200. **Students of all study programmes can obtain motivational departmental scholarships in accordance with the stated criteria**. In case of an unfavourable social situation, the student can apply for a social scholarship during the study.



## FOLLOW-UP STUDY AFTER COMPLETION OF BACHELOR'S DEGREE STUDY

There is a possibility for continuing the bachelor's degree study within the follow-up master's degree study programmes at the Faculty of Electrical Engineering and Information Technology UNIZA in the academic year 2022/2023 – Process Control, Power Electronic Systems, Electric Drives, Electrical Power Engineering, Biomedical Engineering, Photonics, Telecommunications and Radio-Communications Engineering, Multimedia Engineering (respective information on particular study programmes can be found at https://feit.uniza.sk/ponukane-studijne-programy-inzinierske-studium/). After completing the bachelor's degree, it is necessary to verify the current state of the offer of study programmes in a particular academic year.



#### **BACHELOR'S DEGREE STUDY PROGRAMMES**

#### **AUTOMATION**

#### (Field of study 2647 Cybernetics)

Graduate acquired education in the field of automation and process control with the support of information and communication technologies. He/she has knowledge and practical experience in application of safety-critical control and communication systems, implemented mainly on the basis of PLCs and industrial networks. He/she will be able to work in the operation of control and information systems at the process and operative level. Theoretical knowledge acquired during the bachelor study will create good prerequisites for further education, either within the further forms of university study or within lifelong education. Software skills: C language, C++, MATLAB, PLC, ATMEL, MS ACCESS, HTML, CSS, Tia Portal.

#### **AUTOTRONICS**

#### (Field of study 2675 Electrical Engineering)

Graduate acquired basic and general knowledge required in a wide range of electrical engineering specializations, especially in the field of automobile electronics, hybrid vehicles and electric vehicles. The gained knowledge is necessary for the second degree study programmes carried out directly in this field of study or in related fields of study. If the graduate does not continue in the second degree of the university study, he/she will acquire the required wide professional profile and he/she is able to adapt in various technical or other operations. Graduates of Autotronics study programme should be professionals able to identify any electronic faults in vehicles. They can work mainly in car services and repair shops, in modern car selling shops and in education institutions.

Software skills: Clanguage, C++, MATLAB, Simulink, CodeWarrior, CodeComposer, Assembler, AVR Studio, Vissim, PLECS.

#### **BIOMEDICAL ENGINEERING**

#### (Field of study 2675 Electrical Engineering)

Graduate acquired knowledge from the subjects of theoretical and technical basis as well as from the theoretical basis of medical disciplines with emphasis on the structure and functioning of biological objects, biochemical, physiological and pathophysiological processes. He/she gained basic knowledge of medical technology and its applications, modern tools of biomedicine, the principles of their operation, conditions of operation and their safe use for diagnostic and treatment purposes. He/she is able to assess the functionality of technical and computer aided equipment in the conditions of health care facilities or other facilities and laboratories and at the same time is able to lead qualified communication with healthcare staff. He/she can work as an expert in medical and biological laboratories, in the operation of biomedical technology, in business and service organisations. Software skills: C language, MATLAB, EAGLE.

#### **ELECTRO-OPTICS**

#### (Field of study 2675 Electrical Engineering)

Electro-optics is a field at the interface of physical and several technical sciences, which is mainly connected to optics and electronics. It is a young field that has already found a firm place in the study programmes at many universities around the world. Graduates of the bachelor's degree study programme Electro-optics are able to continue their study in the engineering study programme Photonics that has a close connection and thus the application especially in telecommunications, information technology, medicine, industrial technologies, aviation, military technology, construction industry, but it is also used in consumer devices and entertainment industry. Graduates of Electro-optics should be able to orientate themselves in the following areas: geometric optics; optical radiation properties; principles of fibre optics; electronics and microprocessors; principles of nanotechnologies; principles of photonics; analysis and testing of fibre optic lines; testing of laser devices and components for telecommunications, medicine and other purposes; testing of optical, photonic or imaging prototypes and devices; determination of commercial, industrial or scientific use of electro-optical applications or elements.

#### **ELECTRICAL ENGINEERING**

#### (Field of study 2675 Electrical Engineering)

Graduate acquired knowledge from the subjects of theoretical basis applied in the fields of power electronics, the use of applied microprocessor technology and programming, electric drives, electrical traction, power engineering and mechatronics. He/she gained knowledge in the field of quality and reliability management in a production company, marketing and trade, electrical standards, law and legal regulations related to the field of study. Graduates may further specialise in the field of automobile electrical engineering, electrical traction, electric drives, power engineering, power electronic systems and mechatronics systems. Graduates obtained theoretical knowledge and practical skills in order to master the principles, installations, operations, functions, service and repairs of electrical products, devices and equipment in accordance with international standards. The graduate can work in all fields of power engineering, in the field of mechatronics, robotics, applied microprocessor technology, electronics, optoelectronics, power electronics, computer design and construction in organisations of administrative, production, operational or repair nature.

Software skills: MS Office, MATLAB, SIMULINK, FEMM, MOTORSOLVE, SICHR, DIALUX, DSPACE, CODE WARIOR, LABWIEV, EMPT-ATP, MODES, GE-PSLF, RUPLAN, RS Logix, RS Link, RS View, Assembler, AVR Studio, EAGLE, OrCAD-PSPICE, PLECS.

#### **COMMUNICATION AND INFORMATION TECHNOLOGIES**

#### (Field of study 2508 Informatics)

Graduates of the bachelor's degree study programme Communication and Information Technologies in the field of study Informatics will acquire the ability to specialize and adapt to the latest and future needs and requirements of practice in manufacturing companies of network operators and in service companies in the field of electronic communications. They will be prepared for a continuous deepening of knowledge from the field. They can work as qualified workers for the operation and design of technology of communication networks and services and will be able to solve the tasks of practice in team. They can

work at the positions of executives, operators of electronic communications, network specialists in enterprises and institutions and developers of communication services and in companies developing technologies of Industry 4.0. The graduate can work as a designer, constructor, system designer, or as a specialist in various areas of ICT.

#### **MULTIMEDIA TECHNOLOGIES**

#### (Field of study 2508 Informatics)

Graduate acquired knowledge of acquisition, processing and presentation of digital signal at the appropriate technical, aesthetical, ethical and artistic levels. The synergy of technical and artistic education will make the graduate a specialist in creating multimedia presentations. Graduate gained knowledge and practical experience in working with the visual and the audio element of multimedia that predetermines him/her for work in organisations focused on information technologies, advertising and counselling activities, in public administration institutions, in studios producing multimedia products.

Software skills: C language, C++, MATLAB, Java, JSP, Blender, Cinema 4D, Adobe Premiere, Adobe Audition, Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Protools, HW, SQL, PSpice, Microsim, Corel Draw, QuarkxPress, LaTex.



## **ADDITIONAL EDUCATIONAL ACTIVITIES**

In addition to education in a selected study programme, the Faculty of Electrical Engineering and Information Technology enables its students to obtain the **QUALITY MANAGER** certificate which allows them to significantly extend their application in practice, especially in production-oriented companies. During the study, students complete professional experience, thereby directly obtain practical experience in quality management.

The Faculty offers its students the opportunity to obtain the CLAD – Certified LabVIEW Associate Developer certificate from National Instruments company through the **LabVIEW Academy** which operates at our Faculty. This certificate represents an excellent entry point for job seekers in companies dealing with automation, measurement, testing, industrial production or computer vision in LabVIEW.

The Faculty also has the **Cisco Academy** where students can take advantage of free preparation to obtain Cisco Certified Network Associate industry certificates.

Our Faculty, together with its industrial partners, offers students **free study of professional English and German**, enabling them to expand their language skills in the field they study.

The Faculty of Electrical Engineering and Information Technology offers students **paid internships** with their industrial partners during their study. During their study, students are involved in solving real problems from the environment of partner companies.

The result of interdisciplinary education by means of top teachers is **up to 96** % employability of graduates in the field they studied, with an average **starting salary of € 1,526**.

Upon successful completion of the bachelor's degree study, the Faculty of Electrical Engineering and Information Technology offers students engineering study in the "Double degree" programme with the University of Catania (UNICA) in Sicily, Italy, in the field of study "Electrical Engineering". The joint study programme is designed and compiled on the basis of the experience of professors from both universities, as well as professionals from practice, so that students complete part of their studies at one university and part of their studies at the other and receive a comprehensive education during their studies.



