UNIVERSITY OF ŽILINA
Faculty of Electrical Engineering and Information Technology

FACULTY OF ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY

MASTER'S DEGREE STUDY

CONTACT

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All the questions concerning your studies will be attended at the Department of Studies:
Tel.: 041/513 20 63, 20 64

Coordinator for work with students with special needs:
prodekan pre vzdelávanie
Tel.: 041/513 20 57

ACCREDITED STUDY PROGRAMMES OFFERED FOR THE ACADEMIC YEAR 2021/2022

MASTER'S DEGREE STUDY PROGRAMMES	
FULL-TIME STUDY LENGTH OF STUDY 2 YEARS	**PART-TIME STUDY** LENGTH OF STUDY 3 YEARS
Applied Telematics	-
Biomedical Engineering	-
Electrical Power Engineering	-
Electric Drives	-
Photonics	-
Process Control	-
Telecommunications and Radio-communications Engineering	-
Multimedia Engineering	-
Power Electronic Systems	-

Note:
- by selecting optional subjects for the study programme Power Electronics Systems, the students specialise in the following areas: Power and Control Systems and Mechatronic and Automotive Systems

Detailed information about particular study programmes
- syllabus,
- course information sheets

can be found at http://vzdelavanie.uniza.sk/vzdelavanie/plany.php.

EXPECTED NUMBER OF ACCEPTED APPLICANTS TO THE FIRST YEAR

MASTER'S DEGREE STUDY		
STUDY PROGRAMME / FIELD OF STUDY	**PLANNED CAPACITY**	
	FULL-TIME	**PART-TIME**
Applied Telematics / Cybernetics	20	-
Biomedical Engineering / Electrical Engineering	30	-
Electrical Power Engineering / Electrical Engineering	40	-
Electric Drives / Electrical Engineering	20	-
Photonics / Electrical Engineering	20	-
Process Control / Cybernetics	40	-
Telecommunications and Radio-communications Engineering / Informatics	80	-
Multimedia Engineering / Informatics	30	-
Power Electronic Systems / Electrical Engineering	40	-
TOTAL	320	-

In case of a low number of applicants for full-time study, the faculty retains the right not to open a study programme and to offer applicants another study programme in the same or related field of study.

TERMS AND CONDITIONS OF ADMISSION

Basic condition of admission

The basic condition for admission to master´s (engineering) degree study (study programme of the second degree) at the Faculty of Electrical Engineering and Information Technology is the full completion of the first degree of university study (Higher Education Act, no. 131/2002 Coll.) in the same or related field of study. In case of a foreign applicant or a student who has completed his / her study abroad, he / she shall submit along with the application form (no later than the date of enrolment) a decision on the recognition of the certificate of completion of the first degree of higher education recognized by a relevant institution in the Slovak Republic or he / she shall ask UNIZA for the recognition of the certificate of education.

Other conditions of admission

1. No entrance exams
Applicants will be admitted to study without entrance exams if they meet the legal conditions for master's (engineering) degree study (see Basic condition for admission) and have achieved a weighted study average of not more than 2.50 inclusive, based on the results of the previous university education of the first degree. If the applicant has submitted all the required enclosures to the application form, the admission procedure takes place without the personal participation of applicants.

2. Admission procedure
Applicants who have achieved a weighted study average of more than 2.50 based on the results of the previous university education of the first degree will have to pass an entrance examination consisting of a test from topics forming the knowledge base at the level of bachelor's degree study for the relevant master's (engineering) degree study programme.

Priority will be given to applicants who:
- successfully participated in the ŠVOS (Student Scientific Professional Competition) (rank on the first three places at least in the faculty round),
- successfully completed a study stay abroad through the Erasmus + programme or other scholarship programme,
- actively participated in the activities of student organizations of the Faulty of Electrical Engineering and Information Technology or UNIZA.

In the admission procedure, applicants on the waiting list with the lowest serial numbers determined according to the evaluation of the results of the admission procedure will be prioritized and admitted until the planned capacity of the respective study programme is reached.

3. Language competence
Written and oral command of Slovak or Czech is required for study at the Faculty. Applicants who earned a bachelor's degree abroad (except the Czech Republic) and apply for study in the Slovak language will submit along with the application form or more precisely no later than the date of enrolment a certificate/document of the level of knowledge of the Slovak language.

ADMISSION OF FOREIGN STUDENTS

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 § 92 Subsection 8 (Higher Education Act). The tuition fee is specified by the UNIZA directive and published for the respective academic year on the university website. Foreign students who study in the Slovak language do not have to pay the tuition fee. Applicants from the Czech Republic who want to apply and study at UNIZA can use the application form valid in the Czech Republic. Applicants who do not actively speak Slovak or Czech are required to attend the language training (it is possible to attend the Slovak language courses at UNIZA). For foreign applicants who were accepted on the basis of intergovernmental agreements, bilateral agreements or Slovak government grants, terms and conditions stated in respective documents are applicable.

APPLICATION FORM

Application forms are to be submitted for individual study programmes.
In case the applicant is interested in more study programmes, it is necessary to apply for each one individually, including payment of the respective admission procedure fees.
Applicants have to fill in the form Prihláška na vysokoškolské štúdium - 2. Stupeň or they can also use an electronic application form that can be found on the university website: https://vzdelavanie.uniza.sk/prijimacky/index.php or on the education portal: https:// prihlaskavs.sk/sk/.
Concerning application form, it is necessary to enclose all the required documents and send it electronically or by post to the address of the Faculty of Electrical Engineering and Information Technology UNIZA within the stipulated deadlines.
In case of incomplete application form, applicants will be requested 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 entrance exams at several faculties of UNIZA, the application forms must be submitted separately to each faculty and the respective admission procedure fees paid separately to each faculty.

Enclosures for the master's (engineer) degree study programmes (to be sent with application forms):
- Curriculum Vitae,
- proof of payment of the admission fee,
- information on the results of previous study:
- for applicants who were or still are the students of the bachelor study at the Faculty of Electrical Engineering and Information Technology UNIZA, the Department of Studies of the Faculty of Electrical Engineering and Information Technology UNIZA will complement the information to the application form for the 2nd degree of study,
- other applicants shall enclose with the application form the list of subjects and marks obtained during their previous university study validated by the Faculty or University/Higher Education Institution that issued the list; by the date of the admission procedure they shall submit by post or electronically copies of the documents of completion of the first degree university study (diploma, certificate on state examination and diploma supplement).

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: 10332 – inžinierske štúdium
Payment method:	payment can be paid by bank transfer or postal order to the account above.
Proof of payment:	proof of payment is to be sent to the Faculty with the application form.

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

USEFUL DATES

Open Day	Deadline for submitting the application form	Entrance exams
February, 4, 2021	Until June, 18, 2021	June, 28, 2021

ACCOMMODATION

Accommodation is provided in modern renovated dormitories directly on the campus of the University of Žilina in Žilina in Veľký Diel - no need to travel for classes. More information at www.iklub.sk. **Accommodation fee: € 54 – € 61 / month**.

BOARD

Students can use services of catering facilities of the University of Žilina in Žilina. **Price for food: 1,10 € – 2,40 €**.

SCHOLARSHIPS

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 STUDIES AFTER COMPLETION OF MASTER'S (ENGINEER) DEGREE STUDIES

There is a possibility of extended study within follow-up doctoral degree programmes at the Faculty of Electrical Engineering and Information Technology UNIZA in the academic year 2021/2022 – Electrical Power Engineering, Electro-technologies and Materials, Process Control, Heavy Current Electrical Engineering, Telecommunications, Theory of Electrical Engineering (respective information about particular study programmes can be found on the university website). After completing the master's (engineering) degree, it is necessary to verify the current state of the offer of study programmes in a particular academic year.

GRADUATE PROSPECTS

MASTER´S (ENGINERING) DEGREE STUDY PROGRAMMES

APPLIED TELEMATICS
(Field of study 2647 Cybernetics)
Graduate acquired education in the field of design, modelling, application, implementation, control, operation, service and maintenance of telematics systems and their components, especially intelligent transport systems, control systems of road and railway tunnels, complex transportation systems and telematics systems in health care. He/she acquired detailed theoretical knowledge about the sets of technical instruments applicable in selected application areas (primarily in the area of transport, additionally in other areas – health care, public administration, etc.) that are required for understanding of telematics systems, their components, modern development trends, position of human factor in these systems as well as knowledge needed for design, control and assessment of these systems.
Software skills: Ethernet, PLC, PHP language, MySQL, HTML language, UML, OCL language, MATLAB, PYTHON language, SCADA/HMI systems.

BIOMEDICAL ENGINEERING
(Field of study 2675 Electrical Engineering)
Graduate has an overview of modern technical tools of biomedicine, diagnostic, medical and rehabilitation devices, their safe use and the world trend in their development. He/she acquired knowledge in theoretical and selected clinical medical disciplines in order to understand the purpose of application of technical tools, ability to assess functionality and ability to create conditions

for qualified communication with medical doctors. He/she has wide knowledge of existing information systems and technologies. He/she acquired knowledge in the field of management in health care, bioethics, medical ethics and psychology of management. Graduate can successfully apply in all fields of technical and information provision of health care facilities, in institutes and laboratories of biomedical research and development, in the field of information systems and in technical management, especially of medical facilities. He/she can also work as a manager of medical facilities and also as a pedagogue and a researcher at universities.
Software skills: C language, HTML, PHP, MATLAB, Simulink, CST-studio suite.

ELECTRICAL POWER ENGINEERING
(Field of study 2675 Electrical Engineering)
Graduate has knowledge in the subjects of theoretical basis developed in the field of power and applied electronics, programming and use of computer technology, electric drives, electric traction, electrical power engineering, control of electricity systems and information systems in electrical power engineering, he/she masters the basics of economic methods for operation of systems, has knowledge of law, psychology and quality management. The graduate is qualified for independent projection, constructional and design works, is able to decide on conceptual issues and management of large organisational units. The graduate may successfully operate in projecting, management, construction and operation of industrial companies, railways, urban public transport, in all areas of electrical power engineering, in design and research institutes and other organisations of administrative, production, operation or repair nature.
Software skills: MATLAB, EMTP-ATP, MODES, GE-PSLF, MS OFFICE, PTOLEMY, SICHR, LABVIEW, EAGLE, ASSEMBLER, VISUAL STUDIO, C++, C, RUPLAN.

ELECTRIC DRIVES
(Field of study 2675 Electrical Engineering)
Graduate has knowledge in the subjects of theoretical basis developed in the field of power and applied electronics, programming and use of computer technology, electric drives, electric traction, electrical power engineering, control of electricity systems and information systems in electrical power engineering, he/she masters the basics of economic methods for operation of systems, has knowledge of law, psychology and quality management. The graduate is qualified for independent projection, constructional and design works, is able to decide on conceptual issues and management of large organisational units. The graduate may successfully operate in projecting, management, construction and operation of industrial companies, railways, urban public transport, in all areas of electrical power engineering, in design and research institutes and other organisations of administrative, production, operation or repair nature.
Software skills: FEMM, MATLAB, OPERA-3D, COMSOL Multiphysics, MS Office, Code Warrior, EAGLE, Altium Desinger, Visual Studio, Python, Step 7, Micro win, WinCC.

PHOTONICS
(Field of study 2675 Electrical Engineering)
Employment of graduates of the study programme Photonics has a close connection and thus the application especially in telecommunications, information technologies, medicine, industrial technologies, aviation, military technologies, civil engineering but also in consumer devices and entertainment industry. The graduate of Photonics should be able to creatively, analytically and in detail orientate in the following technical areas: design, modification and testing of laser devices and components for telecommunications, medicine and for other purposes; use and improvement of quality and design of optical fibre technologies; development and testing of optical, photonic or imaging prototypes and equipment; design of electro-optical sensor systems; introduction of new photonic technologies and devices in various fields of technology; design of optical design of standard lighting; determination of commercial, industrial or scientific use of electro-optical applications or components; creation, analysis and testing of optical fibre lines.
Software skills: Code Block (C, C++), LabVieW.

PROCESS CONTROL
(Field of study 2647 Cybernetics)
Graduate acquired education in the field of analysis and synthesis of automated control and information systems, especially in the area of processing and transfer of information in the management of safety critical processes. Graduates of the study programme Process Control specialize in safe control of transportation process with an emphasis on intelligent transport systems and signalling systems. They handle support telematics systems and safe control of industrial processes with an emphasis on complex technologies, safety critical manufacturing applications, intelligent buildings, security systems for personal and property protection, security of information systems and modern computer networks.
Software skills: Ethernet, PLC, PHP language, MySQL, HTML language, UML, OCL language, MATLAB, PYTHON language, SCADA/HMI systems.

TELECOMMUNICATIONS AND RADIO-COMMUNICATIONS ENGINEERING
(Field of study 2508 Informatics)
Teaching is focused on the issues of telecommunications and information networks with an aspect on digital communication networks, i.e. optical and metallic systems and networks, smart grids, terrestrial mobile networks, microwave radio and satellite communications, network management, architecture of signalling systems and communication protocols, applications of multimedia and multimedia services, reliability and diagnostics of systems and networks. Graduate is employable as a creative worker in research, technical development, design and management of telecommunications, as well as in all areas of applications of telecommunications, radio-communications and information and communication technologies and services.
Software skills: ADOBE, HTML, PHP, MySQL, Blender, 3dMax, Cinema 4D, Android, JAVA, Microsoft Direct3D, OpenGL, MATLAB, After Effect, ZScan, Geomagic, MS Office, MATLAB, SIMULINK, from SPICE family – simulation programs focused on analyses and syntheses of electronic circuits, ASEMBLER.

MULTIMEDIA ENGINEERING
(Field of study 2508 Informatics)
Student of the Multimedia Engineering study programme in the field of study Informatics will deepen his/her knowledge to the necessary extent of knowledge from the subjects of the theoretical basis of the field and will acquire detailed knowledge in the field of media communication, networks and services, their convergence and also their security. By selection of optional subjects, he/she may specialise more closely in the processing of image, graphic or audio information. An important component of the knowledge is knowledge of web technologies, especially in terms of design of services on the web, knowledge of 2D and 3D graphics and animation systems and applications and digital processing of multimedia content. Graduate of master´s (engineering) degree study has the ability to specialize and adapt at different levels according to the needs of practice, research and development, as well as the ability to continuously deepen knowledge in the field. The student will acquire the knowledge and skills that will allow him / her to work independently or in teams when solving projects integrating the technical and creative level into one unit or to lead these teams. Software skills: ADOBE, HTML, PHP, MySQL, Blender, 3dMax, Cinema 4D, Android, JAVA, Microsoft Direct3D, OpenGL, After Effect, ZScan, Geomagic, MS Office, MATLAB, SIMULINK, from SPICE family – simulation programs focused on analyses and syntheses of electronic circuits.

POWER ELECTRONIC SYSTEMS
(Field of study 2675 Electrical Engineering)
The universality of this study programme guarantees a very wide employment of graduates on the labour market. The acquired knowledge can be applied in the most lucrative areas of electrical, mechanical and energy industry as well as in transport. In the future, their application in the field of services is expected. These are mainly the areas of development, design, projection and application of power and control electronic systems, mechatronic and automotive systems, their control nodes, superior control systems, industrial automation machines and robots and means of industrial automation. Due to the significant representation of subjects focused on programming and development of control software, graduates can successfully find employment in very interesting job positions. Graduates of this field of study can apply for jobs in companies dealing with design, production and application of power electronic and/or mechatronic systems and industrial automation. They can also work in specialised machinery companies operating in the areas of the automotive industry, chemical and petrochemical industry, gas industry, paper production and transport. Software skills: Freescale ARM, Texas Instruments DSP, ANSI C language, EAGLE, OrCADPSpice, PLECS, LabVieW, Simulink, COMSOL, VHDL ISE Design Suite, dSpace, Texas Instruments Education Modules.

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 a QUALITY MANAGER certificate which allows them to significantly extend their application in practice, especially in production-oriented companies.
The Faculty of Electrical Engineering and Information Technology 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 the LabVIEW environment.
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, thanks to which they can expand their language skills in the field they are studying.
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 receive a comprehensive education during their study at both universities.