



Courses in English for Erasmus+ exchange students

2025 / 2026



UNIVERSITY OF ŽILINA
Faculty of Electrical Engineering
and Information Technology

Erasmus ID Code

SK ZILINA01

PIC CODE

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Faculty website

<https://bit.ly/3YARYQE>

Bc. Degree

Winter Semester

Code	Course Title	Study programme	ECTS	Department	Language
3B00104	Algorithmisation and programming	Automation	5	DCIS	English
3B00102	Electrical Circuits 1	All study programmes	4	DEBE	English
3B0A302	Communication Networks	Automation	5	DCIS	English
3B00305	Theory of automatic control	Automation	6	DCIS	English
3B0B302	Acquisition and Analysis of Biosignals	Biomedical Engineering	3	DEBE	English
3B0B303	Algorithmization of tasks in biomedical engineering	Biomedical Engineering	3	DEBE	English
3B00304	Electronics 1	Electrical engineering	5	DME	English
3B00306	Autotronics	Electrical engineering	5	DME	English
3B00310	Programming in Java	Communication and Information Technologies Multimedia Technologies	5	DMICT	English
3B00309	Introduction to signals and systems	Communication and Information Technologies Multimedia Technologies	6	DMICT	English
3B0E301	Communication Technologies	Communication and Information Technologies/Multimedia Technologies	6	DMICT	English
3B0H301	Modeling and simulation of physical processes	All study programmes	5	DPh	English
3B0D304	Basics of power lines' operation	Electrical Engineering	5	DPSED	English
3B0A501	Control Systems Programming	Automation	5	DCIS	English
3B0A503	Information systems	Automation	6	DCIS	English
3B0A502	Theory of signal processing in process control	Automation	6	DCIS	English
3B0B503	Microcontrollers in biomedical engineering	Biomedical engineering	7	DEBE	English
3B0D502	Power semiconductor converters 1	Electrical engineering	5	DME	English
3B0D509	Logic circuits	Electrical engineering	5	DME	English
3B0D510	Design of electrical devices	Electrical engineering	5	DME	English
3B00506	Computer networks 2	Communication and Information Technologies/Multimedia Technologies	7	DMICT	English
3B00507	Electroacoustic	Communication and Information Technologies/Multimedia Technologies	5	DMICT	English
3B00509	Wireless Systems	Communication and Information Technology	4	DMICT	English
3B0H507	Introduction to fibre optics	All study programmes	5	DPh	English
3B0H502	Physics of materials and structures	All study programmes	6	DPh	English
3B0D506	Electrical apparatus	Electrical Engineering	5	DPSED	English
3B0D508	Introduction to electric traction	Electrical Engineering	5	DPSED	English
3B0D503	Electric drives 1	Electrical Engineering	5	DPSED	English
3B0D504	Renewable energy sources	Electrical Engineering	5	DPSED	English
3B0D505	Electric machines 2	Electrical Engineering	5	DPSED	English

Summer Semester

Code	Course Title	Study programme	ECTS	Department	Language
3B0A201	Object-oriented Programming	Automation	4	DCIS	English
3B0A202	Hardware and software equipment of computers	Automation	5	DCIS	English
3B00202	Electrical Circuits 2	All study programmes	6	DEBE	English
3B00208	Scripting languages in ICT	Communication and Information Technologies	5	DMICT	English
3B0E206	Transmission media	Communication and Information Technologies	5	DMICT	English
3B00203	Mechanics	All study programmes	7	DPh	English
3B00403	Sensor Technology	Automation	5	DCIS	English
3B0A404	Theory of information and signals	Automation	7	DCIS	English
3B0B404	Basics of signal processing in BME	Biomedical Engineering	5	DEBE	English

3B0B401	Design and Construction of Medical Devices	Biomedical Engineering	6	DEBE	English
3B0B407	Basics of 3D printing in biomedicine	Biomedical Engineering	3	DEBE	English
3B0B402	Sensors in Biomedical Engineering	Biomedical Engineering	6	DEBE	English
3B0D406	Microprocessor systems 1	Electrical engineering	5	DME	English
3B0D413	Electronics 2	Electrical engineering	5	DME	English
3B0E405	Multimedia Signal Processing	Communication and Information Technologies	5	DMICT	English
3B00407	Computer networks 1	Communication and Information Technologies/Multimedia technologies	5	DMICT	English
3B0G408	Studio technology	Multimedia Technologies	6	DMICT	English
3B0D408	Basic of Electric machines	Electrical Engineering	5	DPSED	English
3B0D403	Conventional power plants	Electrical Engineering	5	DPSED	English
3B0D405	Electric machines 1	Electrical Engineering	5	DPSED	English
3B0A401	Control systems	Automation	6	DCIS	English
3B0A601	Automatic identification	Process Control	5	DCIS	English
3B0D605	Power semiconductor systems	Electrical engineering	5	DME	English
3B00605	Internet of Things	Communication and Information Technologies	5	DMICT	English
3B0H607	Introduction to photonics	All study programmes	4	DPh	English
3B0D606	Electric drives 2	Electrical Engineering	4	DPSED	English

MSc. Degree

Winter Semester

Code	Course Title	Study programme	ECTS	Department	Language
3I0A101	Advanced Methods of Automatic Control	Process Control	7	DCIS	English
3I00104	Artificial intelligence	Process Control	6	DCIS	English
3I0D101	Bioelectromagnetism	Biomedical Engineering	5	DEBE	English
3I0D105	Modelling and Simulations in Biomedicine	Biomedical Engineering	6	DEBE	English
3I0D102	Signal Processing in Medicine	Biomedical Engineering	7	DEBE	English
3I0D104	Wave Processes in biomedicine	Biomedical Engineering	6	DEBE	English
3I0D103	Medical Electronics 1	Biomedical Engineering	6	DEBE	English
3I00105	Virtual instrumentation 1	Electrical engineering	5	DME	English
3I0G101	Electromobility	Electrical engineering	5	DME	English
3I0G108	Traction batteries and charging infrastructure	Electrical engineering	5	DME	English
3I0G111	Power semiconductor converters 2	Electrical engineering	5	DME	English
3I0G107	Python for scientific computations	Electrical engineering	5	DME	English
3I0H106	Room acoustics	Multimedia Engineering	5	DMICT	English
3I0H105	3D Applications Design	Multimedia Engineering	5	DMICT	English
3I0J106	Higher programming languages	Telecommunication and Radiocommunication Engineering	5	DMICT	English
3I00102	Digital signal processing	Telecommunication and Radiocommunication Engineering Multimedia Engineering	5	DMICT	English
3I0C101	Semiconductor and semiconductor structures	All study programmes	6	DPh	English
3I0C104	Photonics	All study programmes	6	DPh	English
3I0G103	Classical control strategies for electronic systems	Electrical Engineering	5	DPSED	English
3I0G105	Principles of power system modelling	Electrical Engineering	5	DPSED	English
3I0G107	Python for scientific computations	Electrical Engineering	5	DPSED	English
3I0A304	Information Systems Security	Process Control	5	DCIS	English
3I0D302	Information Systems in Medicine	Biomedical Engineering	6	DEBE	English
3I0D301	Applied Optoelectronics in Medicine	Biomedical Engineering	7	DEBE	English

3I0G306	Application of power electronics	Electrical engineering	5	DME	English
3I0G308	Discrete control of power electronic systems	Electrical engineering	5	DME	English
3I0G311	Image processing and computer vision	Electrical engineering	5	DME	English
3I0G312	Communication buses in automotive	Electrical engineering	5	DME	English
3I0G302	Design and construction of power semiconductor systems	Electrical engineering	5	DME	English
3I0J302	Radiocommunication systems and networks 2	Telecommunication and Radiocommunication Engineering	5	DMICT	English
3I0J311	Digital image processing	Telecommunication and Radiocommunication Engineering Multimedia Engineering	6	DMICT	English
3I00303	Laser and laser systems	All study programmes	6	DPh	English
3I0G307	Sensorless control of electric drives	Electrical Engineering	5	DPSED	English
3I0G305	Power system control	Electrical Engineering	5	DPSED	English
3I0G310	Electric traction	Electrical Engineering	5	DPSED	English
3I0G304	Power systems protection	Electrical Engineering	5	DPSED	English
3I0G308	Discrete control of power electronics system / electric drives	Electrical engineering	5	DME, DPSED	English

Summer Semester

Code	Course Title	Study programme	ECTS	Department	Language
3I0A201	Control systems with safety PLC	Process Control	6	DCIS	English
3I0A207	Robotic systems	Process Control	6	DCIS	English
3I0D205	Compatibility of Biological and Technical Systems	Biomedical Engineering	6	DEBE	English
3I0D202	Biomedical Image Processing	Biomedical Engineering	6	DEBE	English
3I0D204	Artificial Intelligence in Biomedicine	Biomedical Engineering	6	DEBE	English
3I0D203	Medical Electronics 2	Biomedical Engineering	6	DEBE	English
3I00207	Virtual instrumentation 2	Electrical engineering	5	DME	English
3I0G211	Analysis and synthesis of power semiconductor systems	Electrical engineering	5	DME	English
3I0H206	Game design	Multimedia Engineering	6	DMICT	English
3I00203	Digital television and New Services	Multimedia Engineering	6	DMICT	English
3I0H201	Distribution of Multimedia Signals	Multimedia Engineering	6	DMICT	English
3I0J203	Radiocommunication systems and networks 1	Telecommunication and Radiocommunication Engineering	5	DMICT	English
3I0J202	High frequency technique	Telecommunication and Radiocommunication Engineering	5	DMICT	English
3I00204	Digital audio processing	Telecommunication and Radiocommunication Engineering Multimedia Engineering	6	DMICT	English
3I0C202	Applied optics and lighting technique	All study programmes	6	DPh	English
3I00205	Optical sensors	All study programmes	5	DPh	English
3I0C201	Waveguide optics	All study programmes	5	DPh	English
3I00206	Integrated optics and optoelectronics	All study programmes	5	DPh	English
3I0G208	Modern electrical machines	Electrical Engineering	5	DPSED	English
3I0G207	Modern control methods of electrical power systems	Electrical Engineering	5	DPSED	English

DEPARTMENTS:

Department of Physics (DPh)

Department of Electromagnetic and Biomedical Engineering (DEBE)

Department of Mechatronics and Electronics (DME)

Department of Power Systems and Electric Drives (DPSED)

Department of Control and Information Systems (DCIS)

Department of Multimedia and Information-Communication Technology (DMICT)