Courses for exchange students- Faculty of Information Technology and Electrical Engineering 2022-2023

SHOW STRUCTURE SHOW DESCRIPTION

SHOW TIMING AS ACADEMIC YEARS

COURSES IN ENGLISH FOR EXCHANGE STUDENTS

Courses for exchange students- Faculty of	ECTS	1.ay
Basic Studies	65	
Basic Studies: Computer Science and Engineering	10	
Principles of Digital Fabrication (in English)	5	✓
Elementary Programming	5	✓
Basic Studies: Engineering Mathematics	30	
Calculus I (in English)	5	✓
Matrix Algebra (in English)	5	✓
Calculus II (in English)	5	✓
Probability and Mathematical Statistics (in English)	5	✓
Differential Equations (in English)	5	✓
Complex analysis (in English)	5	✓

Basic Studies: Electronics and Communications Engineering	5	
Introduction to Electronics (in English)	5	✓
Basic Studies: Information Processing Science	20	
Devices and Data Networks (in English)	5	✓
Technology Innovation and Business	5	✓
Introduction to Software Engineering (in English)	5	✓
Fundamentals to Information Systems (in English)	5	✓
Intermediate Studies	225	
Intermediate Studies: Engineering Mathematics	10	
Signal Analysis (in English)	5	✓
Introduction to Optimization (in English)	5	✓
Intermediate Studies: Computer Science and Engineering	56	
Artificial Intelligence (in English)	5	✓
Computer Systems	8	✓
Digital Filters	5	✓
Digital Image Processing (in English)	5	✓
Embedded Software Project (in English)	8	✓

Human-Computer Interaction (in English)	5	✓
Introduction to Social Network Analysis (in English)	5	✓
Introduction to XR Systems (in English)	5	✓
Mobile Computing (in English)	5	✓
Social Computing (in English)	5	✓
Intermediate Studies: Electronics and Communications Engineering	64	
Electrical Measurement Principles	5	✓
Introduction to Internet (in English)	5	✓
Telecommunication Engineering	5	✓
Digital Techniques 2	5	✓
Bachelor's Thesis / Electronics and Communications Engineering (in English)	8	✓
Maturity Test for Bachelor ‘s Degree in Electronics and Communications Engineering	0	✓
Seminar for Bachelor`s Degree, Electronics and Communications Engineering	0	✓
Simulations and Tools for Telecommunications (in English)	5	✓
Electronics Materials (in English)	5	✓
Electronic Measurement Techniques (in English)	5	✓

Electronic System Design (in English)	5	✓
Practical Training (in English)	3	✓
Introduction to Biomedical Engineering (in English)	5	✓
Advanced Practical Training (in English)	3	✓
Laboratory Works of Electronic Measurement Techniques (in English)	5	✓
Intermediate Studies: Information Processing Science	**95**	
Requirements Engineering (in English)	5	✓
Software Modeling and Design (in English)	5	✓
Software Quality and Testing (in English)	5	✓
Data Modeling and Design (in English)	5	✓
Software Architectures (in English)	5	✓
Programming 2 (in English)	5	✓
Databases (in English)	5	✓
Data Structures and Algorithms (in English)	5	✓
Programming 3 (in English)	5	✓
Programming 4 (in English)	5	✓
Information Systems Modelling, Design and Development (in English)	5	✓

Business Process Management and Modelling (in English)	5	✓
Data Analytics and Business Intelligence (in English)	5	✓
Basics of Project Work (in English)	5	✓
Software Development, Maintenance and Operations (in English)	5	✓
Professional Software Engineering Processes and Human Factors (in English)	5	✓
Digitalisation and Innovation (in English)	5	✓
Servitisation, Co-Creation and Business Development (in English)	5	✓
User Experience (UX) Design and Management (in English)	5	✓
Advanced Studies	457-471	
Advanced Studies: Engineering Mathematics	5	
Numerical Matrix Analysis (in English)	5	✓
Advanced Studies: Computer Science and Engineering	182	
Affective Computing (in English)	5	✓
Application Specific Signal Processors (in English)	5	✓
Applied Computing Project II (in English)	10	✓
Big Data Processing and Applications (in English)	5	✓

Biomedical Engineering Project (in English)	5	✓
Biosignal Processing I (in English)	5	✓
Biosignal Processing II (in English)	5	✓
Computer Graphics (in English)	5	✓
Computer Security (in English)	5	✓
Deep Learning (in English)	5	✓
Distributed Systems	5	✓
Embedded System Project (in English)	5	✓
Fundamentals of Sensing, Tracking and Autonomy 1 (in English)	5	✓
Internet of Things (in English)	5	✓
Machine Learning (in English)	5	✓
Machine Vision (in English)	5	✓
Multi-Modal Data Fusion (in English)	5	✓
Multiprocessor Programming	5	✓
Natural Language Processing and Text Mining (in English)	5	✓
Programmable Web Project (in English)	5	✓
Signal Processing Systems (in English)	5	✓
Software Project (in English)	7	✓

Towards Data Mining (in English)	5	✓
VR Systems and Humans (in English)	5	✓
Special Course in Information Technology 1 - An introduction to computer vision methods for biomedical images (only for BME students) (in English)	5	✓
Special Course in Information Technology 2 - Function and Analysis of Cardiovascular System (only for BME-SIP students) (in English)	5	✓
Special Course in Information Technology 3 - Data Mining Project (in English)	5	✓
Special Course in Information Technology 4 - International Crisis Management (CriM) (in English)	5	✓
Special Course in Information Technology 5 - Computer Security Project (in English)	5	✓
Special Course in Information Technology 6 - Cryptographic systems and their weaknesses (in English)	5	✓
Special Course in Information Technology 7 - Data-Driven Decision Making for Smart Citisen and Businesses (in English)	5	✓
Special Course in Information Technology 8 - AI Ethics, Privacy and Legislation (in English)	5	✓
Special Course in Information Technology 9 - Fundamentals of Sensing, Tracking, and Autonomy 2 (in English)	5	✓
Special Course in Information Technology 12 - Modern Cryptography (in English)	5	✓
	5	✓

Special Course in Information Technology 13 - Empirical Research in Computer Security (in English)		
Advanced Studies: Electronics and Communications Engineering	200-214	
Electronics Design II (in English)	6	✓
Radio Engineering 1 (in English)	5	✓
Statistical Signal Processing 1 (in English)	5	✓
Electronics Design III (in English)	6	✓
RF Components and Measurements	5	✓
Introduction to Nanotechnology (in English)	5	✓
Electronic Sensors (in English)	5	✓
Microelectronics Packaging Technologies (in English)	5	✓
Microelectronics and Micromechanics (in English)	5	✓
Printed Electronics	5	✓
Microelectronics project (in English)	5	✓
Communications Networks I (in English)	5	✓
Statistical Signal Processing II (in English)	5	✓
Wireless Communications II (in English)	5	✓
Radio Channels (in English)	5	✓
	6	✓

Radio Engineering II (in English)		
Communications Networks II (in English)	7	✓
Antennas (in English)	5	✓
Telecommunication Engineering Project (in English)	5	✓
Modern Topics in Telecommunications and Radio Engineering 1 - An Introduction to URLLC (in English)	3-7	✓
Communications Signal Processing (in English)	5	✓
Convex Optimization (in English)	7	✓
Statistical Communication Theory (in English)	7	✓
Optoelectronics (in English)	5	✓
Measurement Systems (in English)	5	✓
Wireless Measurements (in English)	5	✓
Biophotonics and Biomedical Optics (in English)	5	✓
Biomedical Instrumentation	5	✓
Testing Techniques of Electronics and Printed Electronics (in English)	5	✓
EMC Design	5	✓
Optical Measurement Technology Exercise (in English)	5-10	✓
Printed electronics design and construction exercise (in English)	5	✓

Wireless Measurements Project (in English)	5-10	✓
Digital Techniques 3 (in English)	7	✓
Physical Design of Digital Integrated Circuits (in English)	5	✓
Electronics Design and Construction Exercise	6	✓
Energy Harvesting Technologies (in English)	5	✓
Wearable Sensors (in English)	5	✓
Advanced Studies: Information Processing Science	70	
Research Methods (in English)	5	✓
Advanced Software Quality and Security (in English)	5	✓
Software Platforms and Ecosystems (in English)	5	✓
Software-Defined Systems (in English)	5	✓
Software for Intelligent Systems and Artificial Intelligence (AI) (in English)	5	✓
Information Systems Strategy and Leadership (in English)	5	✓
Societal and Individual Impacts of Information Systems (in English)	5	✓
Creating Domain Value with Data (in English)	5	✓
Software Engineering Research (in English)	5	✓
	5	✓

Next Generation Software Engineering (in English)		
Advanced Topics in Digital Cultures and Design (in English)	5	✓
User Experience (UX) and Usability Evaluation (in English)	5	✓
Persuasive Systems Design (in English)	5	✓
ICT and Behaviour Change (in English)	5	✓

Information Technology and Electrical Engineering 2022-2023

SHOW STRUCTURE SHOW DESCRIPTION

SHOW TIMING AS ACADEMIC YEARS

COURSES IN ENGLISH FOR EXCHANGE STUDENTS

Basic Studies, 65 ECTS

Basic Studies: Computer Science and Engineering, 10 ECTS

- Principles of Digital Fabrication, 5 ECTS, 1.ay (in English)
- Elementary Programming, 5 ECTS, 1.ay

Basic Studies: Engineering Mathematics, 30 ECTS

- Calculus I, 5 ECTS, 1.ay (in English)
- Matrix Algebra, 5 ECTS, 1.ay (in English)
- Calculus II, 5 ECTS, 1.ay (in English)

Probability and Mathematical Statistics, 5 ECTS, 1.ay (in English)

Differential Equations, 5 ECTS, 1.ay (in English)

Complex analysis, 5 ECTS, 1.ay (in English)

Basic Studies: Electronics and Communications Engineering, 5 ECTS

Introduction to Electronics, 5 ECTS, 1.ay (in English)

Basic Studies: Information Processing Science, 20 ECTS

Devices and Data Networks, 5 ECTS, 1.ay (in English)

Technology Innovation and Business, 5 ECTS, 1.ay

Introduction to Software Engineering, 5 ECTS, 1.ay (in English)

Fundamentals to Information Systems, 5 ECTS, 1.ay (in English)

Intermediate Studies, 225 ECTS

Intermediate Studies: Engineering Mathematics, 10 ECTS

Signal Analysis, 5 ECTS, 1.ay (in English)

Introduction to Optimization, 5 ECTS, 1.ay (in English)

Intermediate Studies: Computer Science and Engineering, 56 ECTS

Artificial Intelligence, 5 ECTS, 1.ay (in English)

Computer Systems, 8 ECTS, 1.ay

Digital Filters, 5 ECTS, 1.ay

Digital Image Processing, 5 ECTS, 1.ay (in English)

Embedded Software Project, 8 ECTS, 1.ay (in English)

Human-Computer Interaction, 5 ECTS, 1.ay (in English)

Introduction to Social Network Analysis, 5 ECTS, 1.ay (in English)

Introduction to XR Systems, 5 ECTS, 1.ay (in English)

Mobile Computing, 5 ECTS, 1.ay (in English)

Social Computing, 5 ECTS, 1.ay (in English)

Intermediate Studies: Electronics and Communications Engineering, 64 ECTS

Electrical Measurement Principles, 5 ECTS, 1.ay

Introduction to Internet, 5 ECTS, 1.ay (in English)

Telecommunication Engineering, 5 ECTS, 1.ay

Digital Techniques 2, 5 ECTS, 1.ay

Bachelor's Thesis / Electronics and Communications Engineering, 8 ECTS, 1.ay (in English)

Maturity Test for Bachelor ‘s Degree in Electronics and Communications Engineering, 0 ECTS, 1.ay

Seminar for Bachelor`s Degree, Electronics and Communications Engineering, 0 ECTS, 1.ay

Simulations and Tools for Telecommunications, 5 ECTS, 1.ay (in English)

Electronics Materials, 5 ECTS, 1.ay (in English)

Electronic Measurement Techniques, 5 ECTS, 1.ay (in English)

Electronic System Design, 5 ECTS, 1.ay (in English)

Practical Training, 3 ECTS, 1.ay (in English)

Introduction to Biomedical Engineering, 5 ECTS, 1.ay (in English)

Advanced Practical Training, 3 ECTS, 1.ay (in English)

Laboratory Works of Electronic Measurement Techniques, 5 ECTS, 1.ay (in English)

Intermediate Studies: Information Processing Science, 95 ECTS

Requirements Engineering, 5 ECTS, 1.ay (in English)

Software Modeling and Design, 5 ECTS, 1.ay (in English)

Software Quality and Testing, 5 ECTS, 1.ay (in English)

Data Modeling and Design, 5 ECTS, 1.ay (in English)

Software Architectures, 5 ECTS, 1.ay (in English)

Programming 2, 5 ECTS, 1.ay (in English)

Databases, 5 ECTS, 1.ay (in English)

Data Structures and Algorithms, 5 ECTS, 1.ay (in English)

Programming 3, 5 ECTS, 1.ay (in English)

Programming 4, 5 ECTS, 1.ay (in English)

Information Systems Modelling, Design and Development, 5 ECTS, 1.ay (in English)

Business Process Management and Modelling, 5 ECTS, 1.ay (in English)

Data Analytics and Business Intelligence, 5 ECTS, 1.ay (in English)

Basics of Project Work, 5 ECTS, 1.ay (in English)

Software Development, Maintenance and Operations, 5 ECTS, 1.ay (in English)

Professional Software Engineering Processes and Human Factors, 5 ECTS, 1.ay (in English)

Digitalisation and Innovation, 5 ECTS, 1.ay (in English)

Servitisation, Co-Creation and Business Development, 5 ECTS, 1.ay (in English)

User Experience (UX) Design and Management, 5 ECTS, 1.ay (in English)

Advanced Studies, 457-471 ECTS

Advanced Studies: Engineering Mathematics, 5 ECTS

Numerical Matrix Analysis, 5 ECTS, 1.ay (in English)

Advanced Studies: Computer Science and Engineering, 182 ECTS

Affective Computing, 5 ECTS, 1.ay (in English)

Application Specific Signal Processors, 5 ECTS, 1.ay (in English)

Applied Computing Project II, 10 ECTS, 1.ay (in English)

Big Data Processing and Applications, 5 ECTS, 1.ay (in English)

Biomedical Engineering Project, 5 ECTS, 1.ay (in English)

Biosignal Processing I, 5 ECTS, 1.ay (in English)

Biosignal Processing II, 5 ECTS, 1.ay (in English)

Computer Graphics, 5 ECTS, 1.ay (in English)

Computer Security, 5 ECTS, 1.ay (in English)

Deep Learning, 5 ECTS, 1.ay (in English)

Distributed Systems, 5 ECTS, 1.ay

Embedded System Project, 5 ECTS, 1.ay (in English)

Fundamentals of Sensing, Tracking and Autonomy 1, 5 ECTS, 1.ay (in English)

Internet of Things, 5 ECTS, 1.ay (in English)

Machine Learning, 5 ECTS, 1.ay (in English)

Machine Vision, 5 ECTS, 1.ay (in English)

Multi-Modal Data Fusion, 5 ECTS, 1.ay (in English)

Multiprocessor Programming, 5 ECTS, 1.ay

Natural Language Processing and Text Mining, 5 ECTS, 1.ay (in English)

Programmable Web Project, 5 ECTS, 1.ay (in English)

Signal Processing Systems, 5 ECTS, 1.ay (in English)

Software Project, 7 ECTS, 1.ay (in English)

Towards Data Mining, 5 ECTS, 1.ay (in English)

VR Systems and Humans, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 1 - An introduction to computer vision methods for biomedical images (only for BME students), 5 ECTS, 1.ay (in English)

Special Course in Information Technology 2 - Function and Analysis of Cardiovascular System (only for BME-SIP students), 5 ECTS, 1.ay (in English)

Special Course in Information Technology 3 - Data Mining Project, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 4 - International Crisis Management (CriM), 5 ECTS, 1.ay (in English)

Special Course in Information Technology 5 - Computer Security Project, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 6 - Cryptographic systems and their weaknesses, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 7 - Data-Driven Decision Making for Smart Citisen and Businesses, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 8 - AI Ethics, Privacy and Legislation, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 9 - Fundamentals of Sensing, Tracking, and Autonomy 2, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 12 - Modern Cryptography, 5 ECTS, 1.ay (in English)

Special Course in Information Technology 13 - Empirical Research in Computer Security, 5 ECTS, 1.ay (in English)

Advanced Studies: Electronics and Communications Engineering, 200-214 ECTS

Electronics Design II, 6 ECTS, 1.ay (in English)

Radio Engineering 1, 5 ECTS, 1.ay (in English)

Statistical Signal Processing 1, 5 ECTS, 1.ay (in English)

Electronics Design III, 6 ECTS, 1.ay (in English)

RF Components and Measurements, 5 ECTS, 1.ay

Introduction to Nanotechnology, 5 ECTS, 1.ay (in English)

Electronic Sensors, 5 ECTS, 1.ay (in English)

Microelectronics Packaging Technologies, 5 ECTS, 1.ay (in English)

Microelectronics and Micromechanics, 5 ECTS, 1.ay (in English)

Printed Electronics, 5 ECTS, 1.ay

Microelectronics project, 5 ECTS, 1.ay (in English)

Communications Networks I, 5 ECTS, 1.ay (in English)

Statistical Signal Processing II, 5 ECTS, 1.ay (in English)

Wireless Communications II, 5 ECTS, 1.ay (in English)

Radio Channels, 5 ECTS, 1.ay (in English)

Radio Engineering II, 6 ECTS, 1.ay (in English)

Communications Networks II, 7 ECTS, 1.ay (in English)

Antennas, 5 ECTS, 1.ay (in English)

Telecommunication Engineering Project, 5 ECTS, 1.ay (in English)

Modern Topics in Telecommunications and Radio Engineering 1 - An Introduction to URLLC, 3-7 ECTS, 1.ay (in English)

Communications Signal Processing, 5 ECTS, 1.ay (in English)

Convex Optimization, 7 ECTS, 1.ay (in English)

Statistical Communication Theory, 7 ECTS, 1.ay (in English)

Optoelectronics, 5 ECTS, 1.ay (in English)

Measurement Systems, 5 ECTS, 1.ay (in English)

Wireless Measurements, 5 ECTS, 1.ay (in English)

Biophotonics and Biomedical Optics, 5 ECTS, 1.ay (in English)

Biomedical Instrumentation, 5 ECTS, 1.ay

Testing Techniques of Electronics and Printed Electronics, 5 ECTS, 1.ay (in English)

EMC Design, 5 ECTS, 1.ay

Optical Measurement Technology Exercise, 5-10 ECTS, 1.ay (in English)

Printed electronics design and construction exercise, 5 ECTS, 1.ay (in English)

Wireless Measurements Project, 5-10 ECTS, 1.ay (in English)

Digital Techniques 3, 7 ECTS, 1.ay (in English)

Physical Design of Digital Integrated Circuits, 5 ECTS, 1.ay (in English)

Electronics Design and Construction Exercise, 6 ECTS, 1.ay

Energy Harvesting Technologies, 5 ECTS, 1.ay (in English)

Wearable Sensors, 5 ECTS, 1.ay (in English)

Advanced Studies: Information Processing Science, 70 ECTS

Research Methods, 5 ECTS, 1.ay (in English)

Advanced Software Quality and Security, 5 ECTS, 1.ay (in English)

Software Platforms and Ecosystems, 5 ECTS, 1.ay (in English)

Software-Defined Systems, 5 ECTS, 1.ay (in English)

Software for Intelligent Systems and Artificial Intelligence (AI), 5 ECTS, 1.ay (in English)

Information Systems Strategy and Leadership, 5 ECTS, 1.ay (in English)

Societal and Individual Impacts of Information Systems, 5 ECTS, 1.ay (in English)

Creating Domain Value with Data, 5 ECTS, 1.ay (in English)

Software Engineering Research, 5 ECTS, 1.ay (in English)

Next Generation Software Engineering, 5 ECTS, 1.ay (in English)

Advanced Topics in Digital Cultures and Design, 5 ECTS, 1.ay (in English)

User Experience (UX) and Usability Evaluation, 5 ECTS, 1.ay (in English)

Persuasive Systems Design, 5 ECTS, 1.ay (in English)

ICT and Behaviour Change, 5 ECTS, 1.ay (in English)