Faculty of Electrical Engineering and Media Technology

DEGGENDORF INSTITUTE OF TECHNOLOGY DIT

Selecting compulsory elective subjects for the master's programme Electrical Engineering and Information Technology

The selected compulsory elective subjects must encompass a minimum 15 awardable ECTS credits. Students wishing to switch their area of specialisation at DIT from that of their bachelor's degree programme must select the harmonisation courses and also one subject with a minimum 5 awardable ECTS credits. Courses attended in other faculties will be reviewed to determine if they meet the evaluation criteria determined by this Faculty and will be accepted for these courses by the examination board overseeing the master's programme Electrical Engineering and Information Technology. Please note: High-Frequency Electronics, Communications Engineering 2, Power Electronics and Control Techniques 2 may only be selected as compulsory elective subjects if you did not take the subject in question as part of your bachelor's degree programme!!

Please note: If German is specified as the language of instruction for an elective subject, then the exam will also be conducted exclusively in German!

PO	No.	Module/Subject	ECTS	Language	From study prog.	Sem
ET-B WS20/21	ET-34/ ET-37	Harmonisation Course ENS (only mandatory if bachelor's specialisation was not NT or TE) Subjects: Radio Frequency (RF) Electronics and Telecommunication 2	5+5	GERMAN	Bachelor Electrical Engineering and Information Technology	SS
	ET-26/ ET-30	Harmonisation Course AT (only mandatory if Bachelor's specialisation was not AUT or EAT) Subjects: Control Techniques 2 and Power Electronics	5+5	GERMAN		SS
	ET-34	Radio Frequency (RF) Electronics as a compulsory elective subject	5	GERMAN		SS
	ET-37	Telecommunication 2 as a compulsory elective subject	5	GERMAN		SS
	ET-26	Control Techniques 2 as a compulsory elective subject	5	GERMAN		SS
	ET-30	Power Electronics as a compulsory elective subject	5	GERMAN		SS
ET-M_WS20/21	MET-08	Selected topics in Optoelectronics and Laser Technology (only for VR AT)	5	ENGLISH	Master's Electrical Engineering and Information Technology	SS
	MET-09	Selected topics in Micro- and Nanoelectronics (only for VR AT)	5	ENGLISH		WS
	MET-10	Modern RF and Radio Systems (only for VR AT)	5	ENGLISH		WS
	MET-11	Special Devices and Circuits (only for VR AT)	5	ENGLISH		WS
	MET-12	Signals and Systems in Communication Technology (only for VR AT)	5	ENGLISH		WS
	MET-13	Advanced Modelling and Simulation (only for VR ENS)	5	ENGLISH		SS
	MET-14	Selected Topics in Control Engineering (only for VR ENS)	5	ENGLISH		WS
	MET-16	Automotive and Industrial Drive Systems (only for VR ENS)	5	ENGLISH		WS
	MET-17	Advanced Automation (only for VR ENS)	5	ENGLISH		WS
ET-M_WS20/21	MET-04	Project for Electrical Engineering 1 - Requirement: topic approved by lecturer	5		Pool for Master's in Electrical Engineering Information Technology	SS/WS
	MET-04	Project for Electrical Engineering 2 - Requirement: topic approved by lecturer	5			SS/WS
	MET-04	Digital TV- and Audio-Broadcast	5	GERMAN/ ENGLISH		WS
	MET-04	Advanced Circuits Lab (Circuitry Hands-On Training) (only for international students!!)	5	ENGLISH		SS/WS

	MET-04	Medical Applications of Electromagnetic Waves	5	ENGLISH		SS
	MET-04	Optical Metrology and Optical Sensors	5	ENGLISH		WS
	MET-04	Imaging Physics	5	ENGLISH		WS
	MET-04	Digital and Connected Vehicles	5	ENGLISH		SS/WS
	MET-04	Industrial Computed Tomography	5	ENGLISH		SS/WS
MT-M-SS22	MTP-02	Mediatheory and Mediamanagement	5	GERMAN	Master's in Media Technology	SS
	MTP-04	Event Conception	5	GERMAN		SS
	MTP-07	Special Tools	5	GERMAN		SS
	MTP-11	Hearing and Psychoacoustics	5	GERMAN		WS
EM-M-SoSe-2023	MEM-04	Modell-Based Requirement Management und Hardware Design	5	GERMAN	Master's Electromobility	SS
	MEM-05	Fuel Cell Technologies incl. Practical Course	5	GERMAN		WS
	MEM-06	Batteries and Supercapacitors for advanced students	5	GERMAN		WS
	MEM-10	Electromagnetic Simulation (FEM)	5	GERMAN		SS
	MEM-13	Power Electronics in Electrical and Fuel Cell Vehicles	5	GERMAN		SS
	MEM-16	Thermal Management	5	GERMAN		WS
AI-M_WS20/21	MAI-01	Theoretical Computer Science	8	ENGLISH	Master's Applied Computer Science	SS
	MAI-02	Practical Computer Science	8	ENGLISH		SS
	MAI-03	Selected Topics in Embedded Software Development I	5	ENGLISH		SS
	MAI-04	Selected Topics in Embedded Software Development II *	5	ENGLISH		WS
	MAI-11	FPGA Programming	5	ENGLISH		SS
SS21	BAIN-32	Quantum Computing	5	ENGLISH	Bachelor AIN	WS
AID-M_SS2021	AID-01	Artificial Intelligence and Software Development	5	ENGLISH	Master's Artificial Intelligence and Data Science	SS
	AID-02	Theoretical Fundamentals of Artificial Intelligence	8	ENGLISH		SS
	AID-03	Advanced Machine Learning	5	ENGLISH		SS

MCS-M_SS2	MCS-1	Module: Cyber Physical Systems
		  MCS 1101 Structure and Functions of Cyber Physical Systems (4)
		  MCS 1102 Business Models for CPS (2 ECTS)
			6	ENGLISH	Master's in Mechatronics and Cyber Physical Syst	WS

	MCS-4	Advanced Modelling and Simulation	4	ENGLISH		WS

	MCS-5	Case Study Mechatronic System Simulation	6	ENGLISH		WS

	MCS-11	Module: Functional Safety
		  MCS 3101 Principles of Functional Safety (4 ECTS)
		  MCS 3102 Design of Safe Systems (2 ECTS)
			6	ENGLISH		WS

MB-M_SS2018	DM-1	Advanced Mathematics	7	GERMAN	Master's in Mechanical Engineering	SS
	DM-2	Technical Databases	5	GERMAN		WS
	DM-3	Fluid/Thermodynamics	6	GERMAN		SS
	DM-4	Dynamic Systems	5	GERMAN		SS
	DM-5	FEM/MKS	7	GERMAN		SS
	DM-6	Numerical Methods	7	GERMAN		WS
	DM-7	Drive Systems	5	GERMAN		WS
	DM-8	CAD / CAM / Rapid Prototyping	7	GERMAN		WS
	DM-9	Virtual Testing	6	GERMAN		WS
	DM-10	Innovation Management	5	GERMAN		SS
TEM-M-WS 2021/22	TE-1	Corporate Innovation – TE1101 Project Management 2 (2 ECTS) / TE1102 Business Development and Market Research - Innovation Tools (4 ECTS)	6	GERMAN	Master's in Technology Management	WS
	TE1103	TE-1 Corporate Innovation - TE1103 Case Study Innovation (PstA)	6	GERMAN		WS
	TE-2	Corporate Leadership – TE1104 Hot Topics in Economics (4 ECTS) / TE1105 Corporate Legal Issues (4 ECTS)	8	GERMAN		WS
	TE1106	TE-3 Product Planning – TE1106 Specification and FMEA	4	GERMAN		WS
	TE1107	TE-3 Product Planning – TE1107 Case Study Specification and FMEA (PstA)	6	GERMAN		WS
	TE-4	Corporate Engineering – TE2101 Tools for Development (4 ECTS) / TE2102 Quality and Controlling II (4 ECTS)	8	GERMAN		SS
	TE2130	TE-4 Corporate Engineering – TE2103 Case Study Engineering (PstA)	3	GERMAN		SS
	TE-5	Production Engineering – TE2104 Selected Topics on Production (4 ECTS) / TE2105 Logistics (2 ECTS)	6	GERMAN		SS
	TE2106	TE-5 Production Engineering: TE2106 Case Study Production Engineering (PstA)	5	GERMAN		SS
	TE-6	Corporate Statistics	4	GERMAN		SS
	TE-8	Sustainability – TE3101 Values and Strategic Development (2 ECTS) / TE310 Process Control and Optimisation Methods (4 ECTS)	6	GERMAN		WS
BU-M_WS22/23	MBU-17	Recycling and Waste Management	5	GERMAN	Master's civil and environmental engineering	WS
	MBU-26W	Regenerative Energies 2	5	GERMAN		WS
spo_life science informatics	LSI-12	Data Visualization	5	ENGLISH	Master Life Science Informatics	SS

Spo_high performance quantum computing _master2021	HPC-01	Physics for HPC/QC	4	ENGLISH	M- High Performance Computing / Quantum Computing	SS

X Katalog FWP	AIX-1	Mobile and Wireless Networks (4SWS). Students should have a basic understanding of computer networks. In case it is used at Master Level, Students must complete an additional Seminar part, where they will present a research paper of their choice that is related to the course content and lead a discussion about it.	5	ENGLISH	AI -X - Fachspezifische Wahlpflichtfächer	WS/SS
	AIX-4	Quantum Computing (4SWS) Prerequisites and/or recommended background knowledge in: -Programming -Algorithms and data structures -Mathematics, in particular linear algebra	5	ENGLISH		Starting WS 24/25
	AIX-5	Modern Internet Technologies (4SWS) Limited to 5 students in the WS of 24/25 Prerequisites and/or recommended background knowledge in: Basics of web development: HTML, CSS and JavaScript	5	ENGLISH		Starting WS 24/25
	AIX-11	Quantum Chemistry (4SWS) Prerequisites and/or recommended background knowledge in: - Linear algebra (matrices, scalar product,…) - Familiarity with Python or another scripting language - Basic knowledge of quantum mechanics is recommended, but not essential	5	ENGLISH		Starting SS/24
	FWP-10	Bildgebende Physik (4SWS) „Scientific Discoveries expressed as Images" Prerequisites and/or recommended background knowledge in: - Differential Analysis/Mathematics - Basics Computer Science and C. Vision - Basics Solid State Physics	5	ENGLISH		WS/SS

Abbreviations:
PstA   Project assignment
VR   Area of specialisation
*   approved by lecturer