

Faculty of Electrical Engineering and Media Technology

Master Applied Research in Engineering Sciences Selectable modules at the Deggendorf Institute of Technology

Subject-specific compulsory electives FWPM 1 - 3

PO	No.	Module/Subject	SWS	ECTS	From course
84/ET/20132	4010	Harmonisation course ENS (High-frequency electronics)	4	5	Bachelor Electrical Engineering
	4310	Harmonisation course ENS (Communications engineering 2)	4	5	
	3110	Harmonisation course AET (Power electronics)	4	5	
	2710	Harmonisation course AET (Control systems engineering 2)	4	5	
90/MET/20121	110	Advanced programming techniques	4	5	Master Electrical Engineering and Information Technology
	210	Numerical methods	4	5	
	310	Special mathematical methods	4	5	
	960	Selected chapters in micro-electronics and nano-electronics	4	5	
	970	Selected chapters in optoelectronics and laser technology	4	5	
	980	High frequency and radio engineering systems	4	5	
	990	Special devices and circuits	4	5	
	1010	Signals and systems in communications engineering	4	5	
	910	Advanced modelling and simulation	4	5	
	920	Selected chapters in control systems engineering	4	5	
	930	Selected topics in non-contact sensor systems	4	5	
	940	Automobile and industrial electrical drive systems	4	5	
512	Advanced automation	4	5		
_MET/0	950	Renewable energies	4	5	Master Electrical Engineering and Information Technology
	513	Advanced HTML programming	4	5	
	515	Digital video and audio broadcasting technology	4	5	
90/MTP/20083	810	Advanced topics of audio production	4	5	Master Media Technology
	910	Hearing and psychoacoustics	4	5	
	410	Web-engineering	4	5	
	610	Special tools for informatics	4	5	
	510	Methods of visualisation	4	5	
	710	Hardware-related media development	4	5	
		Content design	4	5	
	1210	Application-oriented 3D modelling and animation	4	5	
	1550	Image processing and image understanding	4	5	
	1810	Modern Internet technologies	4	5	
	1410	Simulation and performance optimisation	4	5	
	1610	Cyber security	4	5	
	1710	Application design	4	5	

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90/MAI/_20152	110	Theoretical informatics * Subjects: Semantics, computability and complexity theory Formal languages and compiler construction	6	8	Master Applied Informatics
	210	Practical informatics * Subjects: Advanced software engineering Compiler construction II/internship	6	8	
	310	Selected topics in embedded software development 1 Subjects: Embedded safety Embedded connectivity	4	5	
	410	Selected topics in embedded software development 2	4	5	
	1110	FPGA programming	4	5	
	7001	Cyber security	4	5	
		Modern Internet technologies	4	5	
	1019	Java programming	4	5	
	1020	Principles of driver assistance systems	4	5	
	1022	C in automotive software development	4	5	
	1025	Basics of artificial intelligence	4	5	
_/_LSI/2019	LSI-01	Informatics and biomedicine (5 ECTS) LSI 1101 Informatics LSI 1102 Biomedicine	2 2	3 2	Master Life Science Informatics
	LSI-02	Life science I	4	5	
	LSI-03	Informatics I	4	5	
	LSI-04	Biostatistics I	4	5	
	LSI-05	Sequencing technologies	4	5	
	LSI-06	Biomedical data analysis	4	5	
	LSI-07	Life science II	4	5	
	LSI-08	Informatics II	4	5	
	LSI-09	Biostatistics II	4	5	
	LSI-10	Data management, data analysis and data mining	4	5	
	LSI-11	Bioinformatics algorithms and data structures	4	5	
	LSI-12	Data Visualisation	4	5	
90/MMB/20151	105	Advanced mathematics *	5	7	Master Mechanical Engineering
	205	Technical databases	4	5	
	305	Fluid dynamics/thermodynamics *	4	6	
	405	Dynamic systems	4	5	
	505	FEM/MKS *	6	7	
	605	Numerical methods *	6	7	
	705	Drive system technology	4	5	
	805	CAD/CAM *	6	7	
	905	Virtual testing *	4	6	
	1005	Innovation management	4	5	
90/MTE/20152	405	Engineering in companies Subjects: Tools for development Quality and controlling II *	4 4	4 4	Master Technology management
	505	Production technology Subjects: Selected topics in production Logistics *	3 2	4 2	
	530	Production technology – Subject: Case study production technology (PStA - student)	3	5	

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	805	Sustainability Subjects: Values and strategy development Methods of process control and optimisation *	2 4	2 4	
90/MBU/ 20161	1710	Recycling and disposal	4	5	Master Civil/Environ- mental Engineering
	2710	Renewable energies 2	4	5	
90/MMC/218	MCS-1	Modules: Cyber physical systems *			Master Mechatronics and Cyberphysical Systems
		MCS 1101 Structure and functions of cyber physical systems (4 ECTS) MCS1102 Business models for CPS (2 ECTS)	4 2	4 2	
	MCS-2	Cooperative and Autonomous Systems	4	5	
	MCS-3	Modules: Advanced simulation systems *			
		MCS 1106 Advanced modelling and simulation (4 ECTS) MCS 1107 Case study mechatronic system simulation (6 ECTS)	4 4	4 6	
MCS-4	Human Machine Interfaces	4	5		
MCS-5	Additive Manufacturing (AM)	4	5		

Subject-specific compulsory electives FWPM 4 (inter-university)

- See inter-university offers for the respective semester

Interdisciplinary modules IWPM

PO	No.	Module/Subject	SWS	ECTS	From course
20121	610	Selected topics in operations management and HR management	4	5	MET
20121	514	Contract and labour law	4	5	MET
20151	1005	Innovation management	4	5	MMB
		Foreign language course Master (from the language catalogue of the Language Centre)	4	5	AWP
20151	310	Inter-cultural competence	4	5	SIM
	1210	Strategic planning	4	5	
90/MTP/20083	105	Innovation in companies	2+4	2+4	Master Media Technology
		Subjects: Project management 2 Business development and market research - tools for innovation *			
	310	Media and innovation management	4	5	
	650	Media art	4	5	
	1010	Short film	4	5	
1110	Storyboard	4	5		
90/MTE/20152	130	Innovation in companies Subject: Case study innovation (PstA - student research project) *	4	6	Master Technology management
	205	Corporate management Subjects: Hot topics in economics Legal issues within a company *	4+4	4+4	
	320	Product planning – Subject: Case study specification and FMEA (PstA - student research project) *	4	6	

Research methods and strategies FM&S (inter-university)

- See inter-university offers for the respective semester

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Please note: Subjects marked with * are entered in MAR as FWP subjects with only 5 ECTS regardless of the ECTS information in the original examination regulations. Surplus ECTS are excluded and cannot be entered as additional credit.