

Module Handbook (<https://modhb.uni-kl.de/>)

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Course of Study "Electrical and Computer Engineering" (M.Sc.)

Department	[EIT] Elektrotechnik und Informationstechnik
Degree	[M.Sc.] Master (M.Sc.)
Course of Study	Electrical and Computer Engineering
Version	2010
State	[NORM] Active
Short Name	M.Sc. Electrical and Computer Engineering
Additional informations	

Section *Theoretical Part*

Compulsory Modules

Major Automation & Control (AUT)

P	EIT-AUT-450-M-7 (/mhb/modules/EIT-AUT-450-M-7/)	Logic Control	4.0 LP
P	EIT-LRS-505-M-7 (/mhb/modules/EIT-LRS-505-M-7/)	Nonlinear and Adaptive Control	5.0 LP
P	EIT-DSV-531-M-4 (/mhb/modules/EIT-DSV-531-M-4/)	Digital Signal Processing	4.0 LP
P	EIT-LRS-429-M-7 (/mhb/modules/EIT-LRS-429-M-7/)	Robust Control	3.0 LP

Major Power Engineering (ENT)

P	EIT-ISE-106-M-5 (/mhb/modules/EIT-ISE-106-M-5/)	Electrical Measurement Technique II	3.0 LP
P	EIT-HST-252-M-4 (/mhb/modules/EIT-HST-252-M-4/)	Electromagnetic Compatibility	4.0 LP
P	EIT-NAT-305-M-4 (/mhb/modules/EIT-NAT-305-M-4/)	Communications Engineering	5.0 LP
P	EIT-FOT-603-M-6 (/mhb/modules/EIT-FOT-603-M-6/)	Theoretical Electrical Engineering III	5.0

P	EIT-EOT-603-M-6 (/mhb/modules/EIT-EOT-603-M-6/)	Theoretical Electrical Engineering III	5.0 LP
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P	EIT-DSV-531-M-4 (/mhb/modules/EIT-DSV-531-M-4/)	Digital Signal Processing	4.0 LP
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Major Embedded Systems (ESY)

P	EIT-EIS-573-M-4 (/mhb/modules/EIT-EIS-573-M-4/)	Architecture of Digital Systems II	4.0 LP
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P	EIT-RTS-540-M-4 (/mhb/modules/EIT-RTS-540-M-4/)	Real-Time Systems I	4.0 LP
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P	EIT-EMS-657-M-7 (/mhb/modules/EIT-EMS-657-M-7/)	Synthesis and Optimization of Microelectronic Systems I	4.0 LP
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P	EIT-EMS-546-M-4 (/mhb/modules/EIT-EMS-546-M-4/)	Embedded Processor Lab	3.0 LP
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Major Integrated Systems (INS)

P	EIT-NAT-301-M-4 (/mhb/modules/EIT-NAT-301-M-4/)	Introduction to Communication Networks	4.0 LP
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P	EIT-EOT-603-M-6 (/mhb/modules/EIT-EOT-603-M-6/)	Theoretical Electrical Engineering III	5.0 LP
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P	EIT-NAT-535-M-7 (/mhb/modules/EIT-NAT-535-M-7/)	Introduction to Information and Coding Theory	3.0 LP
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P	EIT-EIS-560-M-7 (/mhb/modules/EIT-EIS-560-M-7/)	Verification of Digital Systems	5.0 LP
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Major Communication Technology (KOM)

P	EIT-HST-252-M-4 (/mhb/modules/EIT-HST-252-M-4/)	Electromagnetic Compatibility	4.0 LP
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P	EIT-DSV-534-M-7 (/mhb/modules/EIT-DSV-534-M-7/)	Digital Signal Processing: Algorithms and their Implementation	3.0 LP
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P	EIT-NAT-535-M-7 (/mhb/modules/EIT-NAT-535-M-7/)	Introduction to Information and Coding Theory	3.0 LP
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P	EIT-EOT-603-M-6 (/mhb/modules/EIT-EOT-603-M-6/)	Theoretical Electrical Engineering III	5.0 LP
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P	EIT-EMS-546-M-4 (/mhb/modules/EIT-EMS-546-M-4/)	Embedded Processor Lab	3.0 LP
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Major Mechatronics (MET)

P	EIT-NAT-305-M-4 (/mhb/modules/EIT-NAT-305-M-4/)	Communications Engineering	5.0 LP
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P	EIT-LRS-432-M-4 (/mhb/modules/EIT-LRS-432-M-4/)	CAE in Control Engineering	4.0 LP
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P	EIT-AUT-452-M-4 (/mhb/modules/EIT-AUT-452-M-4/)	Process Automation	3.0 LP
P	EIT-LRS-505-M-7 (/mhb/modules/EIT-LRS-505-M-7/)	Nonlinear and Adaptive Control	5.0 LP
P	EIT-EOT-603-M-6 (/mhb/modules/EIT-EOT-603-M-6/)	Theoretical Electrical Engineering III	5.0 LP

Section *Specialization Modules*

Compulsory Modules

Major Automation & Control (AUT)

P	EIT-MEA-204-M-4 (/mhb/modules/EIT-MEA-204-M-4/)	Dynamic Variable Speed Drives / Mechatronic Drive Systems	4.0 LP
P	EIT-LRS-431-M-7 (/mhb/modules/EIT-LRS-431-M-7/)	Advanced Laboratory on Automation	5.0 LP
P	EIT-AUT-453-M-7 (/mhb/modules/EIT-AUT-453-M-7/)	Methods of Soft Control	3.0 LP
P	EIT-AUT-451-M-4 (/mhb/modules/EIT-AUT-451-M-4/)	Modeling and Identification	5.0 LP
WP	EIT-EIT-MSC-SEMINARE-MPOOL-6 (/mhb/modulepools/EIT-EIT-MSC-SEMINARE-MPOOL-6/)	Seminars Master EIT	[3.0] LP

Major Power Engineering (ENT)

P	EIT-EES-853-M-7 (/mhb/modules/EIT-EES-853-M-7/)	Power System Planning and Operation I	5.0 LP
P	EIT-MEA-207-M-4 (/mhb/modules/EIT-MEA-207-M-4/)	Electrical Drive Technology II	4.0 LP
P	EIT-EES-850-M-7 (/mhb/modules/EIT-EES-850-M-7/)	Power Generation I: Thermal Power Plants	4.0 LP
P	EIT-EES-851-M-7 (/mhb/modules/EIT-EES-851-M-7/)	Power Generation II: Renewable Generation and Storage	3.0 LP
P	EIT-MEA-204-M-4 (/mhb/modules/EIT-MEA-204-M-4/)	Dynamic Variable Speed Drives / Mechatronic Drive Systems	4.0 LP
P	EIT-MEA-221-M-7 (/mhb/modules/EIT-MEA-221-M-7/)	Advanced Laboratory on Power	5.0 LP

WP	EIT-EIT-MSC-SEMINARE-MPOOL-6 (/mhb/modulepools/EIT-EIT-MSC-SEMINARE-MPOOL-6/)	Seminars Master EIT	[3.0] LP
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Major Embedded Systems (ESY)

P	EIT-EMS-655-M-7 (/mhb/modules/EIT-EMS-655-M-7/)	Microelectronic Circuit and System Design II	5.0 LP
P	EIT-EIS-560-M-7 (/mhb/modules/EIT-EIS-560-M-7/)	Verification of Digital Systems	5.0 LP
P	EIT-EIS-521-M-7 (/mhb/modules/EIT-EIS-521-M-7/)	Embedded Systems Laboratory	5.0 LP
WP	EIT-EIT-MSC-SEMINARE-MPOOL-6 (/mhb/modulepools/EIT-EIT-MSC-SEMINARE-MPOOL-6/)	Seminars Master EIT	[3.0] LP

Major Integrated Systems (INS)

P	EIT-EIS-571-M-4 (/mhb/modules/EIT-EIS-571-M-4/)	Architecture of Digital Systems I	4.0 LP
P	EIT-ISE-650-M-7 (/mhb/modules/EIT-ISE-650-M-7/)	Manufacturing and Design of Integrated Sensors Systems (HEIS)	5.0 LP
P	EIT-EMS-655-M-7 (/mhb/modules/EIT-EMS-655-M-7/)	Microelectronic Circuit and System Design II	5.0 LP
P	EIT-EMS-657-M-7 (/mhb/modules/EIT-EMS-657-M-7/)	Synthesis and Optimization of Microelectronic Systems I	4.0 LP
P	EIT-EIS-660-M-7 (/mhb/modules/EIT-EIS-660-M-7/)	Synthesis and Optimization of Microelectronic Systems II	3.0 LP
P	EIT-EMS-656-M-4 (/mhb/modules/EIT-EMS-656-M-4/)	Advanced Laboratory on Microelectronics	5.0 LP
WP	EIT-EIT-MSC-SEMINARE-MPOOL-6 (/mhb/modulepools/EIT-EIT-MSC-SEMINARE-MPOOL-6/)	Seminars Master EIT	[3.0] LP

Major Communication Technology (KOM)

P	EIT-NAT-313-M-7 (/mhb/modules/EIT-NAT-313-M-7/)	High Efficiency Broadcast	3.0 LP
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P	EII-NAI-320-M-7 (/mhb/modules/EII-NAI-320-M-7/)	Advanced Laboratory on Communications	5.0 LP
P	EIT-FUN-402-M-4 (/mhb/modules/EIT-FUN-402-M-4/)	Wireless Communication	5.0 LP
P	EIT-NAT-303-M-4 (/mhb/modules/EIT-NAT-303-M-4/)	Digital Signal Transmission	4.0 LP
P	EIT-FUN-405-M-4 (/mhb/modules/EIT-FUN-405-M-4/)	Wireless and Multimedia Systems	3.0 LP
WP	EIT-EIT-MSC-SEMINARE-MPOOL-6 (/mhb/modulepools/EIT-EIT-MSC-SEMINARE-MPOOL-6/)	Seminars Master EIT	[3.0] LP

Major Mechatronics (MET)

P	MV-CPE-M209-M-4 (/mhb/modules/MV-CPE-M209-M-4/)	Dynamics of Structures	5.0 LP
P	EIT-MEA-204-M-4 (/mhb/modules/EIT-MEA-204-M-4/)	Dynamic Variable Speed Drives / Mechatronic Drive Systems	4.0 LP
P	EIT-ISE-106-M-5 (/mhb/modules/EIT-ISE-106-M-5/)	Electrical Measurement Technique II	3.0 LP
P	EIT-AUT-451-M-4 (/mhb/modules/EIT-AUT-451-M-4/)	Modeling and Identification	5.0 LP
P	EIT-LRS-431-M-7 (/mhb/modules/EIT-LRS-431-M-7/)	Advanced Laboratory on Automation	5.0 LP
WP	EIT-EIT-MSC-SEMINARE-MPOOL-6 (/mhb/modulepools/EIT-EIT-MSC-SEMINARE-MPOOL-6/)	Seminars Master EIT	[3.0] LP

Section *Master's Thesis*

Thesis

P	EIT-DEK-004-M-7 (/mhb/modules/EIT-DEK-004-M-7/)	Master's Thesis EIT	30.0 LP
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Section *Elective Subjects*

Free Elective Area

W	EIT-EMS-732-M-7 (/mhb/modules/EIT-EMS-732-M-7/)	FPGA-Based Hardware Accelerators and Hybrid Systems	4.0 LP
W	EIT-FUN-413-M-7 (/mhb/modules/EIT-FUN-413-M-7/)	Information Security Assessment and Operations	8.0 LP
W	EIT-EMS-653-M-6 (/mhb/modules/EIT-EMS-653-M-6/)	Enterprise Data Science	3.0 LP
W	EIT-MEA-190-M-6 (/mhb/modules/EIT-MEA-190-M-6/)	Analog and Power Electronics in Medicine and Biomedical Research	4.0 LP

		Biomedical Research	4.0
W	EIT-DSV-528-M-4 (/mhb/modules/EIT-DSV-528-M-4/)	Audio Signal Processing I	4.0 LP
W	EIT-DSV-529-M-7 (/mhb/modules/EIT-DSV-529-M-7/)	Audio Signal Processing II	3.0 LP
W	EIT-LEL-707-M-4 (/mhb/modules/EIT-LEL-707-M-4/)	Microcontrollers	3.0 LP
W	EIT-EIS-562-M-7 (/mhb/modules/EIT-EIS-562-M-7/)	Class Project Verification of Digital Systems	3.0 LP
W	EIT-LRS-509-M-7 (/mhb/modules/EIT-LRS-509-M-7/)	Control in Power Electronics	3.0 LP
W	EIT-DSV-526-M-7 (/mhb/modules/EIT-DSV-526-M-7/)	Digital Signal Processor Laboratory	3.0 LP
W	EIT-RTS-541-M-7 (/mhb/modules/EIT-RTS-541-M-7/)	Real-Time Systems II	4.0 LP
W	EIT-DSV-915-M-2 (/mhb/modules/EIT-DSV-915-M-2/)	Introduction to Electroacoustics	3.0 LP
W	EIT-JEM-517-M-7 (/mhb/modules/EIT-JEM-517-M-7/)	Electric and Hybrid Vehicles	3.0 LP
W	EIT-MEA-207-M-4 (/mhb/modules/EIT-MEA-207-M-4/)	Electrical Drive Technology II	4.0 LP
W	EIT-EIS-561-M-7 (/mhb/modules/EIT-EIS-561-M-7/)	Embedded Systems Project	15.0 LP
W	EIT-AUT-460-M-7 (/mhb/modules/EIT-AUT-460-M-7/)	Fault Diagnosis and Fault Tolerant Control	3.0 LP
W	EIT-NAT-310-M-7 (/mhb/modules/EIT-NAT-310-M-7/)	Hochratige Datenübertragung	3.0 LP
W	EIT-EES-863-M-4 (/mhb/modules/EIT-EES-863-M-4/)	Hochtemperatur-Supraleiter im technischen Einsatz	3.0 LP
W	EIT-HST-251-M-4 (/mhb/modules/EIT-HST-251-M-4/)	High-Voltage Measurement Technique	3.0 LP
W	EIT-RTS-446-M-7 (/mhb/modules/EIT-RTS-446-M-7/)	Real-Time Systems Laboratory I	3.0 LP
W	EIT-RTS-447-M-7 (/mhb/modules/EIT-RTS-447-M-7/)	Real-Time Systems Laboratory II	3.0 LP
W	EIT-EMS-656-M-4 (/mhb/modules/EIT-EMS-656-M-4/)	Advanced Laboratory on Microelectronics	5.0 LP
W	EIT-MMT-611-M-7 (/mhb/modules/EIT-MMT-611-M-7/)	Laser Technology	5.0 LP
W	EIT-EES-860-M-7 (/mhb/modules/EIT-EES-860-M-7/)	Leittechnik in der elektrischen Energietechnik	3.0 LP
W	EIT-MMT-613-M-4 (/mhb/modules/EIT-MMT-613-M-4/)	Metamaterials and Terahertz Technology	3.0

W	EIT-MMT-515-M-4 (/mhb/modules/EIT-MMT-515-M-4/)	Metamaterials and Terahertz Technology	3.0 LP
W	EIT-JEM-515-M-7 (/mhb/modules/EIT-JEM-515-M-7/)	Model Predictive Control	4.0 LP
W	EIT-EES-854-M-7 (/mhb/modules/EIT-EES-854-M-7/)	Power System Planning and Operation II	5.0 LP
W	EIT-ISE-110-M-7 (/mhb/modules/EIT-ISE-110-M-7/)	Neurocomputing	4.0 LP
W	EIT-EES-862-M-7 (/mhb/modules/EIT-EES-862-M-7/)	Power System Protection	3.0 LP
W	EIT-AUT-465-M-7 (/mhb/modules/EIT-AUT-465-M-7/)	Project Automation	15.0 LP
W	EIT-JEM-519-M-7 (/mhb/modules/EIT-JEM-519-M-7/)	Projekt Elektromobilität	15.0 LP
W	EIT-EES-859-M-7 (/mhb/modules/EIT-EES-859-M-7/)	Projekt Energietechnik	15.0 LP
W	EIT-MEA-229-M-7 (/mhb/modules/EIT-MEA-229-M-7/)	Project Mechatronics	15.0 LP
W	EIT-LRS-434-M-7 (/mhb/modules/EIT-LRS-434-M-7/)	Projekt Regelungstechnik	15.0 LP
W	EIT-EMS-742-M-7 (/mhb/modules/EIT-EMS-742-M-7/)	Implementation of Integrated Circuits	2.0 LP
W	EIT-LRS-426-M-7 (/mhb/modules/EIT-LRS-426-M-7/)	Robot and Motion Control	4.0 LP
W	EIT-EIS-566-M-7 (/mhb/modules/EIT-EIS-566-M-7/)	Robust Digital Systems	3.0 LP
W	EIT-EES-861-M-7 (/mhb/modules/EIT-EES-861-M-7/)	Switchgear	3.0 LP
W	EIT-ISE-112-M-7 (/mhb/modules/EIT-ISE-112-M-7/)	Sensor Signal Processing	5.0 LP
W	EIT-PAN-304-M-4 (/mhb/modules/EIT-PAN-304-M-4/)	System Theory	3.0 LP
W	EIT-ISE-704-M-7 (/mhb/modules/EIT-ISE-704-M-7/)	Technical Cognition Systems and their MEMS-Based Implementation	3.0 LP
W	EIT-DEK-433-M-7 (/mhb/modules/EIT-DEK-433-M-7/)	Theory and Application of Digital Image Processing	4.0 LP
W	EIT-NAT-912-M-4 (/mhb/modules/EIT-NAT-912-M-4/)	Video Signal Processing I	3.0 LP
W	EIT-FUN-402-M-4 (/mhb/modules/EIT-FUN-402-M-4/)	Wireless Communication	5.0 LP
W	EIT-NAT-301-M-4 (/mhb/modules/EIT-NAT-301-M-4/)	Introduction to Communication Networks	4.0 LP

W	EIT-FUN-401-M-4 (/mhb/modules/EIT-FUN-401-M-4/)	Radio Frequency Technology	4.0 LP
W	EIT-NAT-535-M-7 (/mhb/modules/EIT-NAT-535-M-7/)	Introduction to Information and Coding Theory	3.0 LP
W	EIT-ISE-650-M-7 (/mhb/modules/EIT-ISE-650-M-7/)	Manufacturing and Design of Integrated Sensors Systems (HEIS)	5.0 LP
W	EIT-SGE-951-M-7 (/mhb/modules/EIT-SGE-951-M-7/)	Serious Games Project	15.0 LP