

# Embedded Computing Systems TUK Curriculum

The elective program suggests directions and courses for further studies beyond the core topics. You may also check in lecture catalogs and the KIS system for other courses that you may be interested in. Additionally, independent project work is possible in different areas.

Details on modules can be found in <https://modhb.uni-kl.de/mhb/FB-EIT/cos-566/>

Elective Program						
	Code	Title	Credit points	Semester	Instructor	Language
Embedded Systems	EIT-RTS-541	Real-Time Systems II	4	Winter	Fohler	English
	EIT-RTS-446	Real-Time Systems Lab 1	3	Summer	Fohler	English
	EIT-RTS-447	Real-Time Systems Lab 2	3	Winter	Fohler	English
	EIT-EIS-560	Verification of Digital Systems (with Lab)	5	Winter	Kunz	English
	EIT-EIS-566	Robust Digital Systems	3	Summer	Stoffel	English
	INF-61-51	Biologically motivated robot systems	6	Winter	Berns	English
	INF-61-33	Autonomous Mobile Robots	8	Summer	Berns	English
	INF-61-81	Lab/Project: Service Robots and Assistance Systems	8	Summer	Berns	English
	INF-31-31	Software Project and Process Management	4	Summer	Heidrich	English
	INF-31-53	Empirical Model Building & Methods	4	Summer	Jedlitschka	English
	INF-62-54	Parallel Computing	4	Summer	Schneider	English
	INF-62-36	Model-based Design of Embedded Systems	8	Winter	Schneider	English
	INF-41-31	Protocol Engineering	4	Summer	Gotzhein	English

	INF-41-53	Algorithms in Ad-hoc Networks	4	Summer years 2020 + 2022	Gotzhein	English
	INF-33-31	Safety and Reliability of Embedded Systems	4	Winter	Liggesmeyer	English
	INF-65-51	Power-Aware Embedded Systems	4	Winter	Grimm	English
	INF-64-52-V-6	Automotive Software & Systems Engineering	4	Summer	Grimm	English
	EIT-EMS-659-V-7	SystemC and Virtual Prototyping	4	Winter	Jung	English
	EIT- to be determined	'Introduction to Data Science'	3	Summer	Wehn / Kienle	English
<b>Communication and Signal Processing</b>	EIT-FUN-405	Wireless and Multimedia Systems	3	Winter	Schotten	English
	EIT-FUN-402	Wireless Communications	5	Summer	Schotten	English
	EIT-NAT-305	Nachrichtentechnik (für Nichtvertiefer)	5	Summer	Urbansky	German
	EIT-NAT-301	Einführung in Kommunikationsnetze	4	Summer	Urbansky	German
	EIT-DSV-531	Digitale Signalverarbeitung	4	Winter	Potchinkov	German
	EIT-DEK-536-V-4	Digital Signal Processing	4	Summer	Herzog	English
	EIT-DSV-532	Digitale Filter	3	Summer	Potchinkov	German
	EIT-DSV-534	Digitale Signalverarbeitung: Algorithmen und ihre Implementierung	3	Summer	Potchinkov	German
<b>Automation &amp; Control</b>	EIT-LRS-505	Nonlinear and Adaptive Control	5	Summer	Liu	English
	EIT-LRS-426	Robot and Motion Control	4	Summer	Liu	English

	EIT-LRS-509	Control in Power Electronics	3	Winter	Liu	English
	EIT-AUT-452	Prozessautomatisierung	3	Summer	Zhang	To be determined
	EIT-AUT-457	Grundlagen der Automatisierung	5	Summer	Zhang	To be determined
	EIT-AUT-453	Methods of Soft Control	3	Winter	Zhang	English
	EIT-JEM-515	Model Predictive Control	4	Winter	Görges	English
	EIT-JEM-517	Electric and Hybrid Vehicles	3	Summer	Görges	English
<b>Micro-electronics / Microsystems</b>	EIT-ISE-110	Neurocomputing	4	Winter	König	English
	EIT-ISE-112	Sensor Signal Processing	5	Winter	König	English
	EIT-ISE-651	Technology and Design of Integrated Mixed-Signal Circuits and Systems	5	Summer	König	English
	EIT-ISE-650	Fabrication Methods and Design of Integrated Sensor Systems	5	Winter	König	English
	EIT-EMS-655	Microelectronic Circuit and System Design II	5	Summer	Wehn	English
	EIT-EMS-657	Synthesis and Optimization of Microelectronic Systems I	4	Winter	Wehn	English
	EIT-EIS-660	Synthesis and Optimization of Microelectronic Systems II	3	Summer	Kunz	English
	EIT-EMS-732-V-7	FPGA-Based Hardware Accelerators and Hybrid Systems	4	Summer	de Schryver	English
<b>Artificial Intelligence</b>	INF-75-50-V-6	Machine Learning 1	8	Summer	Kloft	English

	INF-75-51-V-7	Machine Learning 2	8	Winter	Kloft	English
	INF-71-57-V-5	Very Deep Learning - Recent Methods and Technologies	4	Winter	Afzal	English
	INF-71-56-V-6	Applications of Machine Learning and Data Science	4	Winter	Dengel	English
	INF-74-51-V-6	Embedded Intelligence	4	Summer	Lukowicz	English