

Vertiefungsempfehlung Digital Communications / Digitale Kommunikation
für den Kernbereich Communications Engineering

Empfohlene Kernmodule

Modul-Nr.	Modulname	Semester	Credits
EI70320	Channel Coding	WS/SS	5
EI70330	Data Networking	WS	5
EI70350	Information Theory	WS	5
EI70360	Machine Learning and Optimization	WS	5
EI70370	Physical Layer Methods	SS	5

Empfohlene Wahlmodule

Modul-Nr.	Modulname	Semester	Credits
EI79002	Advanced Topics in Communications Engineering	SS	5
EI79001	Advanced Topics in Communications Systems	SS	5
EI7450	Analysis, Modeling and Simulation of Communication Networks	SS	6
EI71086	Applied Machine Intelligence	SS	9
EI7411	Channel Codes for Iterative Decoding	SS	5
EI7440	Circuit Theory and Communications	WS	5
EI74121	Coded Modulation	SS	5
EI71087	Coding Theory for Storage and Networks	SS	5
EI71004	Communication Acoustics	WS	6
EI7644	Communication Network Reliability	SS	5
EI71024	Einführung in die Zero-Error-Informationstheorie	SS	5
EI73441	Informationstheoretische Grundlagen der Informationsforensik und biometrische Sicherheit	SS	5
EI73451	Informationstheoretische Sicherheit	WS	5
EI7607	Integrierte Systeme für den Mobilfunk	SS	5
EI71064	Introduction to Quantum Networks	WS/SS	5
EI71018	Machine Learning for Communications	WS	5
EI7436	MIMO Systems	WS	6
EI7352	Multimedia Communications	SS	5
EI7353	Multi-User Information Theory	SS	5
EI7356	Network Planning	SS	5
EI71062	Nonlinear Optics (<i>vom Kernbereich Electromagnetics, Microwave Eng., Measurements</i>)	WS	5
EI5075	Optical Communication Systems	WS	6
EI7633	Optical Networks	SS	5
EI71038	Optische Übertragungstechnik	WS	5
EI71029	Physical Unclonable Functions	WS	5
EI71073	Quantum Computers and Quantum Secure Communications	SS	5
EI71060	Security in Communications and Storage	WS	5
EI7432	System Aspects in Communications	WS	5
EI71063	Turing Berechenbarkeit für Kommunikationsnetze und Informationstheorie	SS	5
EI71075	Wireless Communications	WS	5

Empfohlene Praktika

Modul-Nr.	Modulname	Semester	Credits
EI72561	Convex Optimization Laboratory	SS	6
EI5030	Simulation of Optical Communication Systems Laboratory	WS/SS	6
EI78017	Software Defined Networking Lab	WS/SS	6
EI78045	Software Defined Radio Laboratory	WS/SS	6
EI7426	Wireless Communications Laboratory	SS	5
EI50471	Wireless Sensor Networks Lab	WS/SS	6

Empfohlene wissenschaftliche Seminare

Modul-Nr.	Modulname	Semester	Credits
EI7743	Seminar Kommunikationsnetze	WS/SS	5
EI77015	Seminar on Coding and Cryptography	WS/SS	5
EI77013	Seminar on Digital Communications	WS/SS	5
EI77014	Seminar on Optical Communications	WS/SS	5
EI7746	Seminar Sicherheit in der Informationstechnik	WS/SS	5
EI7774	Seminar Signal-und Informationstheorie	WS/SS	5

Vertiefungsempfehlung Signal Processing / Signalverarbeitung
für den Kernbereich Communications Engineering

Empfohlene Kernmodule

Modul-Nr.	Modulname	Semester	Credits
EI70220	Digital Signal Processing	WS/SS	5
EI70350	Information Theory	WS	5
EI70360	Machine Learning and Optimization	WS	5
EI70380	Signal Processing and Machine Learning	SS	5
EI70240	Statistical Signal Processing	SS	5

Empfohlene Wahlmodule

Modul-Nr.	Modulname	Semester	Credits
EI7301	Abtasttheorie und Frames	SS	5
EI7433	Adaptive and Array Signal Processing	WS	5
EI71086	Applied Machine Intelligence	SS	9
EI7644	Communication Network Reliability	SS	5
EI7638	Compressive Sampling	WS	5
EI74351	Convex Optimization	WS	6
EI71067	Digital Signal Processing for Optical Communication Systems	SS	5
EI7341	Image and Video Compression	SS	5
EI7223	Information Retrieval in High Dimensional Data	WS	6
EI71018	Machine Learning for Communications	WS	5
EI7436	MIMO Systems	WS	6
EI7584	Multirate Signal Processing	WS	3
EI7353	Multi-User Information Theory	SS	5
EI76471	Quantum Information Theory	WS/SS	5
EI73761	Radar Signals and Systems	WS	5
EI7640	Signals and Array Signal Processing for Global Navigation Satellite Systems	SS	3
EI70260	The Auditory System (<i>vom Kernbereich Bio/Neuroengineering</i>)	WS	5
EI5052	Time-Varying Systems and Computations	WS	6
EI76211	Topics in Machine Intelligence Research	SS	5

Empfohlene Praktika

Modul-Nr.	Modulname	Semester	Credits
EI72561	Convex Optimization Laboratory	SS	6
EI7420	Digital Signal Processing Laboratory	WS/SS	9
EI78039	High-Performance Computing for Machine Intelligence	WS	6
EI50291	Image and Video Compression Lab	WS/SS	6
EI78033	Projektpraktikum Audio-Signalverarbeitung	WS/SS	6
EI7493	Signal Processing for Audio Technology	SS	8

Empfohlene wissenschaftliche Seminare

Modul-Nr.	Modulname	Semester	Credits
EI7764	Seminar Audio Information Processing	WS/SS	5
EI77691	Seminar Machine Intelligence	WS/SS	5
EI77009	Seminar Machine Learning	WS/SS	5
EI7744	Seminar Media Technology	WS/SS	5
EI7774	Seminar Signal- und Informationstheorie	WS/SS	5
EI7778	Seminar Signalverarbeitung	SS	5