

Course Scheme Master Information and Communication Systems (IMPICS)

Re com. Term	Module Name (German)	Modul Name (English)	Institute	C/EC (1)	CM/OM (2)	Grade	Examination Form(3)	CP (4)	Course Name (German)	Course Name (English)	Course Form LV(5)	Language (6)	SWS (7)	Sem. LV
Core qualification Compulsory Courses: 48 LP Optional Courses: 0 LP														
2	Informationstheorie und Codierung	Information Theory and Coding	E-8	C	CM	Yes	Kl	6						
									Informationstheorie und Codierung	Information Theory and Coding	VL	DE/EN	3	2
									Informationstheorie und Codierung	Information Theory and Coding	HÜ	DE/EN	1	2
2	Technischer Ergänzungskurs I (laut FSPO)	Technical Complementary Course I	E-18	C	CM	Yes	lt. FSPO	6						
3	Forschungsprojekt und Seminar	Research Project and Seminar	not defined	C	CM	Yes	PA lt. FSPO	18						
									Hauptseminar	Seminar	SE	DE/EN	2	3
3	Technischer Ergänzungskurs II für IMPICS (laut FSPO)	Technical Complementary Course II for IHWMS (according to Subject Specific Regulations)	E-4	C	CM	Yes	lt. FSPO	6						
1-3	Betrieb & Management	Business & Management	W-1	C	OM			6	Selection out of Catalogue					
1-3	Nichttechnische Ergänzungskurse im Master	Nontechnical Elective Complementary Courses for Master	0-TUHH	C	OM			6	Selection out of Catalogue					
Specialisation Communication Systems Compulsory Courses: 6 LP Optional Courses: 12 LP Number of Focuses to choose: 2														
1	Digitale Nachrichtenübertragung	Digital Communications	E-8	C	CM	Yes	Kl	6						
									Digitale Nachrichtenübertragung	Digital Communications	VL	DE/EN	2	1
									Digitale Nachrichtenübertragung	Digital Communications	HÜ	DE/EN	1	1
									Praktikum Digitale Nachrichtenübertragung	Laboratory Digital Communications	PR	DE/EN	1	1
1	Hochfrequenztechnik	Microwave Engineering	E-3	EC	CM	Yes	Kl	6						
									Hochfrequenztechnik	Microwave Engineering	VL	DE/EN	2	1
									Hochfrequenztechnik	Microwave Engineering	HÜ	DE/EN	2	1
									Hochfrequenztechnik	Microwave Engineering	PR	DE/EN	1	1
1	Kommunikationsnetze I - Analyse und Struktur	Communication Networks I - Analysis and Structure	E-4	EC	CM	Yes	Ko	6						
									Analyse und Struktur von Kommunikationsnetzen	Analysis and Structure of Communication Networks	VL	EN	2	1

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									Ausgewählte Themen der Kommunikationsnetze	Selected Topics of Communication Networks	POL	EN	2	1
									Übung Kommunikationsnetze	Communication Networks Exercise	POL	EN	1	1
2	Kommunikationsnetze II - Simulation und Modellierung	Communication Networks II - Simulation and Modeling	E-4	EC	CM	Yes	Ko	6						
									Simulation und Modellierung von Kommunikationsnetze	Simulation and Modelling of Communication Networks	POL	EN	5	2
3	Traffic Engineering	Traffic Engineering	E-4	EC	CM	Yes	MdIP	6						
									Seminar Traffic Engineering	Seminar Traffic Engineering	SE	EN	2	3
									Traffic Engineering	Traffic Engineering	VL	EN	2	3
									Traffic Engineering Übung	Traffic Engineering Exercises	UE	EN	1	3
Focus Software Compulsory Courses: 0 LP Optional Courses: 12 LP														
1	Softwareverifikation	Software Verification	E-16	EC	CM	Yes	KI	6						
									Softwareverifikation	Software Verification	VL	EN	2	1
									Softwareverifikation	Software Verification	UE	EN	2	1
1	The Computational Web	The Computational Web	E-13	EC	CM	Yes	PA	6						
									The Computational Web	The Computational Web	VL	EN	2	1
									The Computational Web	The Computational Web	PS	EN	2	1
2	Anwendungssicherheit	Application Security	E-15	EC	CM	Yes	KI	6						
									Anwendungssicherheit	Application Security	VL	EN	3	2
									Anwendungssicherheit	Application Security	UE	EN	2	2
2	Software für eingebettete Systeme	Software for Embedded Systems	E-17	EC	CM	Yes	KI	6						
									Software für eingebettete Systeme	Software for Embedded Systems	VL	DE/EN	2	2
									Software für eingebettete Systeme	Software for Embedded Systems	UE	DE/EN	3	2
2	Softwareanalyse	Software Analysis	E-16	EC	CM	Yes	KI	6						
									Softwareanalyse	Software Analysis	VL	EN	2	2
									Softwareanalyse	Software Analysis	UE	EN	2	2
Focus Signal Processing Compulsory Courses: 0 LP Optional Courses: 12 LP														
1	Digitale Bildanalyse	Digital Image Analysis	E-2	EC	CM	Yes	KI	6						
									Digitale Bildanalyse	Digital Image Analysis	VL	EN	4	1
1	Digitale Signalverarbeitung und Digitale Filter	Digital Signal Processing and Digital Filters	E-8	EC	CM	Yes	KI	6						
									Digitale Signalverarbeitung und Digitale Filter	Digital Signal Processing and Digital Filters	VL	EN	3	1
									Digitale Signalverarbeitung und Digitale Filter	Digital Signal Processing and Digital Filters	HÜ	EN	1	1
2	Computer-Grafik und Animation	Computer Graphics and Animation	E-13	EC	CM	Yes	PA	6						

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									Computer-Grafik und Animation	Computer Graphics and Animation	VL	EN	2	2
									Computer-Grafik und Animation	Computer Graphics and Animation	PS	EN	2	2
2	Mustererkennung und Datenkompression	Pattern Recognition and Data Compression	E-2	EC	CM	Yes	KI	6						
									Mustererkennung und Datenkompression	Pattern Recognition and Data Compression	VL	EN	4	2
3	3D Computer Vision	3D Computer Vision	E-2	EC	CM	Yes	KI	6						
									3D Computer Vision	3D Computer Vision	VL	EN	2	3
									3D Computer Vision	3D Computer Vision	UE	EN	2	3
Specialisation Secure and Dependable IT Systems Compulsory Courses: 6 LP Optional Courses: 12 LP Number of Focuses to choose: 2														
1	Softwareverifikation	Software Verification	E-16	C	CM	Yes	KI	6						
									Softwareverifikation	Software Verification	VL	EN	2	1
									Softwareverifikation	Software Verification	UE	EN	2	1
1	Software-Sicherheit	Software Security	E-15	EC	CM	Yes	KI	6						
									Software-Sicherheit	Software Security	VL	EN	2	1
									Software-Sicherheit	Software Security	UE	EN	2	1
2	Anwendungssicherheit	Application Security	E-15	EC	CM	Yes	KI	6						
									Anwendungssicherheit	Application Security	VL	EN	3	2
									Anwendungssicherheit	Application Security	UE	EN	2	2
2	Netzwerk-Sicherheit	Network Security	E-15	EC	CM	Yes	KI	6						
									Netzwerk-Sicherheit	Network Security	VL	EN	3	2
									Netzwerk-Sicherheit	Network Security	UE	EN	2	2
Focus Networks Compulsory Courses: 0 LP Optional Courses: 12 LP														
1	Digitale Nachrichtenübertragung	Digital Communications	E-8	EC	CM	Yes	KI	6						
									Digitale Nachrichtenübertragung	Digital Communications	VL	DE/EN	2	1
									Digitale Nachrichtenübertragung	Digital Communications	HÜ	DE/EN	1	1
									Praktikum Digitale Nachrichtenübertragung	Laboratory Digital Communications	PR	DE/EN	1	1
1	Kommunikationsnetze I - Analyse und Struktur	Communication Networks I - Analysis and Structure	E-4	EC	CM	Yes	Ko	6						
									Analyse und Struktur von Kommunikationsnetzen	Analysis and Structure of Communication Networks	VL	EN	2	1
									Ausgewählte Themen der Kommunikationsnetze	Selected Topics of Communication Networks	POL	EN	2	1
									Übung Kommunikationsnetze	Communication Networks Exercise	POL	EN	1	1
2	Kommunikationsnetze II - Simulation und Modellierung	Communication Networks II - Simulation and Modeling	E-4	EC	CM	Yes	Ko	6						

Re com. Term	Module Name (German)	Modul Name (English)	Institute	C/EC (1)	CM/OM (2)	Grade	Examination Form(3)	CP (4)	Course Name (German)	Course Name (English)	Course Form LV(5)	Language (6)	SWS (7)	Sem. LV
									Simulation und Modellierung von Kommunikationsnetze	Simulation and Modelling of Communication Networks	POL	EN	5	2
3	Traffic Engineering	Traffic Engineering	E-4	EC	CM	Yes	MdIP	6	Seminar Traffic Engineering	Seminar Traffic Engineering	SE	EN	2	3
									Traffic Engineering	Traffic Engineering	VL	EN	2	3
									Traffic Engineering Übung	Traffic Engineering Exercises	UE	EN	1	3
Focus Software and Signal Processing Compulsory Courses: 0 LP Optional Courses: 12 LP														
1	Digitale Bildanalyse	Digital Image Analysis	E-2	EC	CM	Yes	KI	6	Digitale Bildanalyse	Digital Image Analysis	VL	EN	4	1
1	The Computational Web	The Computational Web	E-13	EC	CM	Yes	PA	6	The Computational Web	The Computational Web	VL	EN	2	1
									The Computational Web	The Computational Web	PS	EN	2	1
2	Computer-Grafik und Animation	Computer Graphics and Animation	E-13	EC	CM	Yes	PA	6	Computer-Grafik und Animation	Computer Graphics and Animation	VL	EN	2	2
									Computer-Grafik und Animation	Computer Graphics and Animation	PS	EN	2	2
2	Mustererkennung und Datenkompression	Pattern Recognition and Data Compression	E-2	EC	CM	Yes	KI	6	Mustererkennung und Datenkompression	Pattern Recognition and Data Compression	VL	EN	4	2
2	Software für eingebettete Systeme	Software for Embedded Systems	E-17	EC	CM	Yes	KI	6	Software für eingebettete Systeme	Software for Embedded Systems	VL	DE/EN	2	2
									Software für eingebettete Systeme	Software for Embedded Systems	UE	DE/EN	3	2
2	Softwareanalyse	Software Analysis	E-16	EC	CM	Yes	KI	6	Softwareanalyse	Software Analysis	VL	EN	2	2
									Softwareanalyse	Software Analysis	UE	EN	2	2
3	3D Computer Vision	3D Computer Vision	E-2	EC	CM	Yes	KI	6	3D Computer Vision	3D Computer Vision	VL	EN	2	3
									3D Computer Vision	3D Computer Vision	UE	EN	2	3
Thesis Compulsory Courses: 30 LP Optional Courses: 0 LP														
4	Masterarbeit	Master Thesis	not defined	C	CM	Yes	lt. FSPO	30						

Explanation:

¹C=Compulsory, EC=Elective Compulsory

²CM=Compulsory Defined Module, OM=Optional Defined Module

³KI=Written exam, SA=Written elaboration, Re=Presentation, MdIP=Oral exam, KI=Written exam, Ko=Colloquium, PA=Project, lt. FSPO=according to Subject Specific Regulations, HA=Homework, PA=Project, PA lt.

⁴FSPO=Project (accord. to Subject Specific Regulations), MdIP=Oral exam

⁵CP=Credit Points

⁶VL=Lecture, SE=Seminar, UE=Recitation Section (small), POL=Problem-based Learning, PR=Laboratory Course, PS=Project Seminar, HÜ=Recitation Section (large)

⁷DE=German, EN=English, DE/EN=German and English

⁸SWS=Contact hours