

Elective modules

Module number	Module name	1. Semester	2. Semester	3. Semester	Credits
		Lecture (Lecturer) (V/Ü/Se/Sp/P)	Lecture (Lecturer) (V/Ü/Se/Sp/P)	Lecture (Lecturer) (V/Ü/Se/Sp/P)	
NES-30 GLC-14.1	German Language and Culture	German Language and Culture TUDIAS (0/0/0/4/0)			4
NES-12 12 01-14.1	Materials for Nanoelectronics and Vacuum Technology	Vacuum Technology (Bartha) (2/0/0/0/0) Materials for Nanotechnology (Richter)(2/0/0/0/1)			6
NES-11 06 06-14.1	Distributed Systems Engineering	Systems Engineering 1 (Fetzer) (2/2/0/0/0)			5
NES-12 09 01-14.1	Stochastic Signals and Systems	Stochastic Signals and Systems (Jorswieck) (2/2/0/0/0)			6
NES-10 01 01-14.1	Investing in a Sustainable Future		Investing in a Sustainable Future (Prof. Günther) (1/0/2/0/0)		4
NES-13 14 03	Nanotechnology and Material Science		Nanostructured Materials (Cuniberti) (2/2/0/0/2) Nanotechnology (Eng) (2/0/0/0/0)		12
NES-12 10 02-14.1	Communications		Communications (Fettweis) (2/1/0/0/0)		3
NES-11 06 03	Software-Fault Tolerance		Software Fault Tolerance (Fetzer) (2/2/0/0/0)		6
NES-11 06 04-14.1	Wireless Sensor Networks		Wireless Sensor Networks (Schill/Dargie)(2/0/2/0/0)		6
NES-12 10 06-14.1	Integrated Photonic Devices for Communications and Signal Processing		Integrated Photonic Devices for Communications and Signal Processing (Jamshidi) (4/0/0/0/2)		7
NES-12 08 07	Neuromorphic VLSI Systems		Neuromorphic VLSI Systems Mayr (4/2/0/0/0)		7
NES-12 08 07	VLSI Processor Design		VLSI Processor Design Mayr (2/2/0/0/2)		7
ET-12 08 26	Modeling and characterization of nanoelectronic devices		Characterization of mikro- and nanoelectronic devices (Schröter) (2/0/0/0/1) Modeling of nanoelectronic devices (Schröter) (2/1/0/0/0)		7
NES-12 06 01-14.1	Materials for the 3D System Integration		3D System Integration and 3D Technologies (Bock/Panchenko) (2/0/0/0/0)	Micro-/Nanomaterials and Reliability Aspects (Bock/Panchenko) (2/0/0/0/1)	7
NES-12 12 03-14.1	Memory Technology		Memory Technology 1 (Mikolajick) (2/0/1/0/0)	Memory Technology 2 (Mikolajick) (2/0/1/0/0)	7
NES-12 12 06-14.1	Semiconductor Industry Challenges: Market Dynamics - Technology Innovations - Yield and Reliability Engineering		Dynamics and economics of the semiconductor market driven by technological innovations (Kücher) (1/0/0/0/0)	Reliability Engineering and Kinetics of Degradation Processes in Advanced Electronics (Zscheck) (2/0/0/0/0)	4
NES-12 12 07-14.1	Innovative Semiconductor Devices			Innovative Semiconductor Devices (Mikolajick) (2/1/0/0/0)	4
NES-13 14 02-14.1	Molecular Electronics			Molecular Electronics (Cuniberti/Moresco) (2/2/0/0/0)	6
NES-12 12 05-14.1	Optoelectronics			Optoelectronic Devices and Systems (Lakner) (2/1/0/0/0) Nanooptics (Eng) (2/0/0/0/0)	7
NES-02 04 01	Quantum Mechanics for Nanoelectronics			Semiconductor Quantum Structures (Helm) (2/0/0/0/0) Quantum and solid state physics (Scholz) (3/1/0/0/0)	7
ET-12 10 20	Communication Networks 3 Kommunikationsnetze - Vertiefungsmodul			Communication Networks 3 (Fitzek) (3/0/0/0/0) CN-Actual Topics-Problem based learning (Fitzek)(1/2/0/0/0)	7
NES-11 06 05-14.1	Real-Time Systems			Real-Time Systems (Härtig) (2/1/0/0/0)	6

NES-12 08 05-14.1	Theory of Nonlinear Networks			<i>Theory of nonlinear networks</i> (Tetzlaff/Ascoli) (2/1/0/0/0)	4
NES-11 06 07-14.1	Ubiquitous Information Systems			<i>Distributed Systems</i> (Schill) (2/2/0/0/0) <i>Mobile Communication and mobile computing</i> (Schill/Springer) (2/0/0/0/0)	9
NES-12 10 08	Introduction to Optical Nonclassical Computing: Concepts and Devices			<i>Introduction to Optical Nonclassical Computing: Concepts and Devices</i> (Jamshidi) (4/2/0/0/0)	7
NES-12 12 04-14.1	Electromechanical Networks			<i>Electromechanical Networks</i> (Marschner) (2/1/0/0/0)	4
NES-12 10 04-14.1	Hardware/Software Codesign Lab			<i>HW/SW Codesign Lab</i> (Fettweis) (0/0/0/0/2)	4
NES-12 08 04-14.1	Integrated Circuits for Broadband Optical Communications			<i>Integrated Circuits for Broadband Optical Communications</i> (Ellinger) (3/1/0/0/2)	7

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V lecture
 Ü tutorial
 Se seminar
 Sp language course
 P lab course

Key areas:

Technology
 Design
 Applications