Micro and Nano Electronics (MINA)

		Study Profiles:	I. Design	II. Technology	III. Neuromorphic Hardware	IV. Optoelectronics	V. Quantum Technology
A)	***Catalogue CORE***						
1.	Compound Semiconductors and Optical Components		X	X	X	X	X
2.	High Frequency Electronics		X	X	X	X	X
3.	Solid-State Technology		X	X	X	X	X
4.	VLSI-Design for Digital Signal Processing – Fundamentals		X	X	X	X	X
B)	***Catalogue ELECTIVE***						
1.	Chemical Sensors and Actuators in Silicon Technology			X			
2.	Compound semiconductor: Electronic, Photonic and Application			X		X	
3.	Compound semiconductor: Physics, Technology and Application					X	X
4.	Computer Arithmetic – Advanced Topics		X				
5.	Computer Arithmetic – Fundamentals		X				X
6.	Electronic and Optical Measurement Technologies					X	
7.	Electronic Noise in Devices and Circuits		X				X
8.	Fabrication and Characterization of Nanoelectronic Devices and Circuits			X	X		X
9.	Fundamentals of Organic Electronics and Optoelectronics - Technology and Applications					X	
10.	GaN: Material, Technology and Devices			X		X	
11.	Hardware Platforms for Quantum Technology						1)
12.	Metrology – Analytical Methods for Semiconductor Characterization						X
13.	Microwave Electronics		X				X
14.	Nanoelectronics Devices						X
15.	Novel Materials and Devices for Information Technology – Displays and Communication			X			
16.	Novel Materials and Devices for Information Technology – Logic and Memories		X	X	X	X	
17.	Numerical Device Simulation						X
18.	Organic Electronics and Optoelectronics: Advanced Characterization, Physics, Devices					X	
19.	Optical Telecommunications: Devices					X	
20.	Optical Telecommunications: Systems				X	X	
21.	Oxide Thin-Films for Information Technology – Growth- and analysis			X	X		
22.	Oxide Thin-Films for Information Technology – Materials and properties			X	X		
23.	Physical Sensors in Silicon Technology			X			
24.	Power Management Integrated Circuits		X				X
25.	Quantum Information						1)

26.	Quantum Mechanics for Electrical Engineers					1)
27.	Quantum Simulations of Carbon Nanotube and Graphene-Nano-ribbon Field-effect Transistors		X	X		
28.	RF Systems					X
29.	RF Techniques and Circuits	X				X
30.	Semiconductor Characterization					X
31.	VLSI-Design for Digital Signal Processing – Architectures	X		X		X

C) Catalogue LABORATORY

1.	Analog and Mixed Signal Design	X				
2.	CAD Lab Course: Simulation of Semiconductor Devices		X			
3.	Conception and Modeling of Optoelectronic Devices				X	
4.	FPGA Design	X		X		
5.	Quantum Technology					1)
6.	VLSI Design	X		X		X

D) Catalogue PROJECT

1.	Innovative Components	X	X	X	X	X
2.	Integrated Digital Systems	X	X	X	X	X
3.	Manufacturing Processes in Micro System Technology	X	X	X	X	X
4.	Microelectronic Circuits in Medical Technology	X	X	X	X	X
5.	Semiconductor Device Simulation	X	X	X	X	X
6.	Sensor Technology in Practice	X	X	X	X	X

1) These modules should always be selected together.