

Micro and Nano Electronics (MINA)

	Study Profiles:			
	I. Design	II. Technology	III. Neuromorphic Hardware	IV. Optoelectronics
A) Catalogue CORE				
1. Compound Semiconductors and Optical Components	X	X	X	X
2. High Frequency Electronics	X	X	X	X
3. Solid-State Technology	X	X	X	X
4. VLSI-Design for Digital Signal Processing – Fundamentals	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
4. Computer Arithmetic – Advanced Topics	X			
5. Computer Arithmetic – Fundamentals	X			
6. Electronic and Optical Measurement Technologies				X
7. Electronic Noise in Devices and Circuits	X			
8. Fabrication and Characterization of Nanoelectronic Devices and Circuits		X	X	
9. Fundamentals of OE: Technology and Applications				X
10. GaN: Material, Devices and Technology		X		X
11. Microwave Electronics	X			
12. Novel Materials and Devices for Information Technology – Displays and Communication		X		
13. Novel Materials and Devices for Information Technology – Logic and Memories	X	X	X	X
14. Organic Electronics and Optoelectronics: Advanced Characterization, Physics, Devices				X
15. Optical Telecommunications: Devices				X
16. Optical Telecommunications: Systems			X	X
17. Oxide Thin-Films for Information Technology – Growth- and Analysis		X	X	
18. Oxide Thin-Films for Information Technology – Materials and Properties		X	X	
19. Physical Sensors in Silicon Technology		X		
20. Power Management Integrated Circuits	X			
21. Quantum Simulations of Carbon Nanotube and Graphene-Nanoribbon Field-Effect Transistors		X	X	
22. RF Techniques and Circuits	X			
23. VLSI-Design for Digital Signal Processing – Architectures	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 Technology	X		X
5.	VLSI Design Technology	X		X

D) Catalogue PROJECT

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