



POLYTECH

Peter the Great
St. Petersburg Polytechnic
University

ENGINEERING

MICROELECTRONICS OF TELECOMMUNICATION SYSTEMS

PROGRAM NAME: Microelectronics of Telecommunication Systems

AWARD A DEGREE: Master of Science

MODE OF STUDY: full-time

COURSE DURATION: 2 years: 3 semesters at SPbPU + 1 semesters at a partner university (optional)

PROGRAM OUTLINE: Our students are trained to do research and development in the field of integrated circuits design as well as in micro- and nanoelectronics for up-to-date wireless telecommunication systems. The program covers RF, analog and digital circuits design for receivers and transmitters, and digital signal processing based on FPGA and microcontrollers.

CURRICULUM (GENERAL MODULES):

MODULES	ECTS
Theory of Telecommunication Systems and Networks	5
Design of Microelectronic Digital, Analog and RF Circuits	7
Simulation and Optimization Methods in Integrated Circuits Design	7
Physics of Integrated Circuit Technology	6
Functional and Organic Microelectronics	5
Microelectronics Filter Design	4
Design of Integrated Transceivers	4
Digital Signal Processing	6
Elective Courses	17
Master's Thesis and Research Work	59
Total	120

ENTRY REQUIREMENTS: Bachelor's, Specialist's or Master's degree in a relevant area is required / English language proficiency - B+ (CEFR B2) / Exam Test in a relevant field of studies / Interview in English with a program coordinator (Skype option is available)

PARTNERS:

- Germany – Hamburg University of Technology
- Germany – Leibniz University of Hannover
- Germany – Fraunhofer Institute for Integrated Circuits
- France – Telecom ParisTech
- Check Republic – Czech Technical University in Prague

CAREER OPPORTUNITIES: Upon graduation of this course one may pursue positions in R&D departments in international companies in the field of telecommunication. There is also an option to continue studies and get PhD.

