

Electronics, Radio Engineering and Communication Systems (Postgraduate)

Saint Petersburg Electrotechnical University "LETI"

Degree or qualification is awarded: **PhD**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **220 000 rubles per year**

Programme webpage at the university website:

<https://etu.ru/en/study/post-graduate-study/11.06.01-electronics-radio-engineering-and-communication-systems>

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Graduate Department: Department of Theoretical Fundamentals of Radio Engineering, Department of Radio Engineering Systems, Department of Radio Electronic Facilities, Department of Radio Microelectronics and Radio Equipment Technology, Department of Television and Video Engineering, Department of Micro- and nanoelectronics, Department of Electron Devices and Systems, Department of Physical electronics and Technologis, Department of Radio electronics.

Program purposes

Main objective of training is formation of profound theoretical knowledge and practical skills in the field of development of programs of carrying out scientific research and technical developments, preparation of tasks for carrying out research and scientific works.

Field of professional activity

The field of professional activity includes: theoretical and pilot research, mathematical and computer modeling, design, designing, use and operation of materials, components, electronic devices, installations of vacuum, plasma, solid-state, microwave, optical, micro and nanoelectronics of various functional purpose; research and development directed to creation and ensuring of functioning of devices, systems and complexes based on the use of electromagnetic oscillations and waves and intended for transfer, reception and information processing, obtaining information on the environment, natural and technical objects and impacts on natural or technical objects for the purpose of change of their properties; set of technologies, means, ways and methods of human activity directed to creation of conditions for exchange of information at distance on wire, radio, optical systems, its processings and storages.

Objects of professional activity

Objects of professional activity are: materials, components, electronic instruments, devices, installations, methods of their research, design and constructioning, technological processes of production, diagnostic and technology equipment, equipment for X-ray diffraction and x ray spectral analysis, mathematical models, algorithms of solution of standard tasks, modern program and information support of processes of simulation and design of products of electronics and nanoelectronics; radio engineering systems, complexes and devices, methods and means of their design, simulation, experimental working off, preparation for production and application, applications to destination and maintenance; technologies, means, methods and methods of human activities directed to creation of conditions for information exchange at distance, its processings and storages, including technological systems and technical means providing reliable and high-quality service, reception, processing and storage of different signs, signals, written text, images, sounds on wire, radio and optical systems.

Features of the curriculum

The curriculum includes mastering of modern theoretical questions, practical training, doing of laboratory practical works on modern and unique equipment, conducting research in the form of classroom occupations and in the form of independent work. The central place in training of graduate students is research and preparation and defense of thesis, preparation of PhD thesis under the leadership of outstanding scientists participating in research projects in relevant areas of basic and applied researches, that allows to create at graduate students ability to work in research team, to generate new ideas and also to show skill of independent research. In the course of research graduate students acquire skills of search and analysis of scientific and technical information, learn current problems of development of science and technology, acquire skills of setting research problems, representation, approbation and protection of results of researches. Special attention is paid to training of compilation of reviews, reports and preparation of publications, implementations of results of researches.

Specializations within this programme

Radioengineering including TV systems and devices

Antennas and microwave devices technologies

Systems, networks and devices of communications

Radiolocation and navigation

Solid-state electronics, radioelectronic components, micro- and nanoelectronics, devices on quantum effects

Vacuum and plasma electronics

Quantum electronics

Technology and equipment for production of semiconductors, materials and electronic devices