



# Faculty of Electrical Engineering

# Electrical and Computer Engineering

at School of Electrical Engineering, 73 Bulevar kralja Aleksandra, 11000 Belgrade, [www.etf.bg.ac.rs](http://www.etf.bg.ac.rs)

ECTS: 180/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: PHD

## Study program content

The study program of doctoral studies is equal to 180 ECTS points, and the duration of these studies is six terms (3 years). 90 ECTS points are obtained by passing the exams of the given study course, and 90 ECTS points are obtained by research work related to the doctoral dissertation, the completion of the dissertation and by defending the dissertation. The study program contains the optional subjects, which are chosen in accordance with the chosen module, selected by a student. The faculty offers 10 optional modules related to particular fields of electrical engineering and computer science.

The instruction process is carried out during the first two years of studies, and the third year is exclusively devoted to the completion of doctoral dissertation. A student makes a profile of his/her research interest by selection of subjects which he/she will attend and pass, and which contribute to advancement of knowledge and comprehension of the topic of the doctoral dissertation. The instruction process is carried out through lectures and individual work with supervisor.

During all three years of studies, the candidate performs the research work related to his/her doctoral dissertation, and the final year is exclusively dedicated to the doctoral dissertation.

## Study program goals

The goal of the study program of doctoral studies of electrical engineering and computer science is to improve and enhance the scientific and research work, to develop critical thinking, to transfer knowledge to new generations from the fields for which the faculty is registered, to train the future staff to independently perform scientific research and develop new technologies.

The objective of the study program is to achieve scientific competences and academic skills from the field of electrical engineering and computer science, which includes the development of creative abilities of evaluating and assessing the problem and critical thinking abilities, the development of the abilities for team work and mastering the specific practical skills necessary

for performing one's profession especially in accordance with the requirements impose on electrical engineers. The study program creates an expert who possesses knowledge profound enough, and adjusted to modern trends.

The goal is to develop students' awareness of need for personal contribution to the development of society as a whole, as well as preparation of experts for team work. The significant goal of the study program is developing capabilities for communicating and exposing one's original results to the scientific community and wider audience.

## Study program outcomes

Doctoral students graduated from our School have the ability for systematic understanding of phenomena and problems in the field of electrical engineering, for critical thinking development and the application of knowledge. In addition to the necessary degree of academic integrity, the graduate students have by means of their original research achieved the realization which broadens the boundaries of the currently known and attested knowledge, which has been published in the appropriated scientific journal and which represents the valid reference both at the national and international levels. With the help of the critical analysis, evaluation and synthesis of the new and complex ideas, they may transfer the technical knowledge and ideas to their colleagues, wider academic community and society as a whole. At the same time, they are capable of promoting the technological, social and cultural advancement in the academic context and professional environment.

The acquired skills of the graduate doctoral students include thorough knowledge and understanding of disciplines they deal with professionally, the ability to solve problems by means of scientific methods and procedures, connecting the basic knowledge derived from various fields and their application, the ability to follow the contemporary achievements in the field, the development of skills and skills in the application of knowledge in the field of electrical engineering, as well as in the application of information and communication technologies.

The competence is verified also in the form of scientific papers which must be written and published by the candidate before the defending the doctoral dissertation, among which, at least one scientific paper should be published in the international journal listed in SCI list.

### Admission requirements

Persons with finished bachelor and master studies in Electrical and Computer Engineering (300 ECTS), with average score greater than 8.

### Modules

1. Electrical power networks and systems
2. Electronics
3. Power converters and drives
4. Nanoelectronics and photonics
5. Nuclear, biomedical and ecological engineering
6. Computer science and informatics
7. Software engineering
8. Telecommunications and information technologies
9. Microwave techniques
10. Control systems and signal processing

Some courses may be taught in English

### Contact

Head of the study program:

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