

TRAINING PROGRAM IN DISCIPLINE: Automation, Electronic and Electrical Engineering

1. Basic information

Domain: Engineering and Technology

Discipline: Automation, Electronic and Electrical Engineering

Degree awarded: PhD in Automation, Electronic and Electrical Engineering

2. Training demand

The development of knowledge-based economy in the field of new technologies such as automation, electronic and electrical engineering raises the demand for high-class specialists, including Ph.D. in engineering and technical sciences, employed in higher education institutions, research and development departments, manager consulting firms, as well as in small and medium-sized enterprises. Graduates are expected to have broadened and theoretically grounded basic knowledge in disciplines related to the area of research, to be familiar with new trends, and to be able to think in a creative, innovative way. The abilities to supervise a team, to establish priorities and manage competing deadlines for themselves and others are also important.

3. Detailed entry requirements

Doctoral candidates may qualify for admission if they have a master's degree in science or engineering, in particular in the following fields: electrical, electronic, computer, and automation engineering. Candidates should demonstrate the ability to present and defend their research plans, to evaluate and comment on the work of others, to participate in discussions on technical and scientific issues, to organize their self-education, and to conduct self-directed research. They should be able to acquire and apply the knowledge of other disciplines.

4. Teaching methods

Lectures, classes, laboratories, projects, seminars.

5. Graduate's profile

A graduate has a detailed knowledge corresponding to their own area of scientific research in automation, electronic and electrical engineering. A young scientist is prepared to manage their own research team. They are able to work on R&D managerial position, create new structures and independent businesses such as Spin off/out or Start up. A graduate has the ability to modify, evaluate and consult new solutions in terms of their efficiency, profitability and innovation. They are able to review scientific publications, draw conclusions, present and defend their own opinions. They have acquired basic teaching skills. A graduate pursues research ethos that promotes exceptional expertise as well as ethical responsibility in the quest for knowledge and the development, conservation and transfer of such knowledge. They are aware of their professional responsibilities to society and to the specific communities in which they work.

PhD in automation, electronic and electrical engineering is highly employable and can find work in many areas, including research and development departments, universities, and the sector of small and medium-sized enterprises. Thanks to a comprehensive education a graduate can be a leader of design and creative teams. They can work in consulting companies, and in the state/local government sector (public sector agencies, local government).

6. Training plan

First year (Semester 1 and 2)		
No.	Subcategory	Subject
1	E	Entrepreneurship
2	CC1	Scientific Research Methodology in Automation, electronic and electrical engineering
3	CC2	Signals and systems
Second year (Semester 3 and 4)		
No.	Subcategory	Subject
1	CC3	Modeling of Dynamical Systems – part 1
2	CC4	Statistics for Automation, electronic and electrical engineering - part 1
3	CC5	Modeling of Dynamical Systems - part 2
4	CC6	Statistics for Automation, electronic and electrical engineering - part 2
MEDIUM-TERM ASSESSMENT		
Third year (Semester 5 and 6)		
No.	Subcategory	Subject
1	CC7	Modern numerical methods in optimization – part 1
2	CC8	Modern numerical methods in optimization – part 2