



**ALAR**  
Training Center



ONLINE SUMMER SCHOOL

# ELECTRICAL ENGINEERING

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July 19 – 30, 2021

READY TO LEARN ABOUT AUTOMATIC VOLTAGE  
REGULATORS PRINCIPLES OF OPERATION AND  
ROOT CAUSES OF POWER SYSTEM BLACKOUTS?  
THIS SUMMER COURSE IS FOR YOU!

**ECTS credits: 4.0**



**POLYTECH**

Peter the Great  
St. Petersburg Polytechnic  
University



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## BRIEF DESCRIPTION

The program lectures cover general terms of power systems; basic concept of power system stability, electrical 3-phase system. Fundamental terms of short-circuit currents calculations are introduced. Temporary and surge overvoltages, reactive power compensation means and high voltage cable lines application issues are also considered. Additionally, the course focuses on load flow analysis methods, synchronous machines' excitation systems and automatic voltage regulators principles of operation and root causes of power system blackouts. Special attention will be paid to the topic Grid Integration of Renewable Energies and e-Mobility. Active teamwork in small groups on projects of the course will bring deeper understanding of the subject. All studies are developed accordingly to the European requirements and can be recognized as a period abroad. Besides studying at the university participants also visit leading energy companies.

### **Cost:**

US\$374

### **Includes:**

- Intensive Academic Program
- Cultural Programme Online
- Course Materials

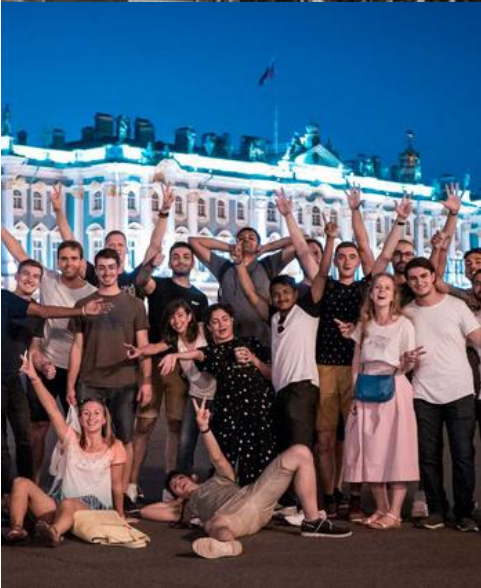
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**Program dates:** July 19 – 30, 2021

**Registration deadline:** July 3, 2021

**Entrance requirements:**

- Good command of English (B1+)
- All classes and out-of-class activities are conducted in English
- Knowledge of the Russian language is not required
- Applicants are expected to have at least 2 year of University level studies.

**Professors and lecturers:**

SPbPU professors, leading international professors and guest speakers from companies

**Program partners:**

- Toshiba
- ROSATOM
- Politecnico di Milano (Italy)
- Politecnico di Milano (Italy)
- South-West CHP
- Lenenergo
- Electroapparat

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