

CERTIFICATE

is presented to

GENNADIY PIVNYAK

to certify that he successfully completed 180-hour distance internship in
Hochschule Esslingen University of Applied Sciences (01.03.21-31.05.21) according
to the individual program and earned **6 credits ECTS**

MODULE №1 (2 credits ECTS - 60 hours)

- 1.1. Literature search in technical libraries in the following areas for covering in educational process: transients, power quality, electromagnetic compatibility, power supply systems, electrical equipment, protections of power supply systems, smart grid in power supply, measurement of voltage changes.
- 1.2. Acquaintance with the laboratories of the Faculty of Mobility and Technology.
- 1.3. Preparation of materials for the monography "Transients in power supply systems with alternative sources of energy".
- 1.4. Preparation of materials for scientific articles.

MODULE №2 (2 credits ECTS - 60 hours)

- 2.1. Calculations and measurement of transients in the supply system.
- 2.2. Analysis of nonlinear loads and levels of harmonics in the laboratory of Electromagnetic Compatibility and Transients.
- 2.3. Scientific research in the laboratory of Transients.
- 2.4. Participation in the simulation of current and power waveform harmonics under three phase and one phase loads.

MODULE №3 (2 credits ECTS - 60 hours)

- 3.1. Attending lectures and seminars on Transients and Electromagnetic Compatibility, Power Quality, Power System Faults, Photovoltaic Cells, Protection of Power Supply Systems.
- 3.2. Meeting with colleagues from the Faculty of Mobility and Technology and discussing cutting edge topics in electrical engineering.
- 3.3. International cooperation: discussing enhancement of international cooperation between Hochschule Esslingen University of Applied Sciences and Dnipro University of Technology.

Internship supervisor,
Professor, Dr.-Ing.



Nikolaus Neuberger