

EXPERT OPINION

on the developed modular education programs of Vocational Master's program on specialty 6M071700 "Heat and power engineering" of S. Toraighyrov Pavlodar State University

The educational programs have the following directions:

- Industrial power;
- Thermal power plants;
- Innovations in industrial power systems.

The educational programs are developed within the State Program of Industrial-Innovative Development of Kazakhstan for 2015 - 2019, whose main objectives are to improve competitiveness through diversification and modernization, the development of a competitive domestic production.

The term of study at an educational program of profile Magistracy on "Heat and power Engineering" is 1.5 years with 90 ECTS.

The educational program includes general and special modules that provide the formation of the economic, administrative, fundamental research and applied skills.

These modules provide advanced training in the field of energy engineering, assessing the level of safety and environmental aspects of production, production management, an interdisciplinary areas.

General and specific competencies that graduates acquire within the specialty "Heat and Power Engineering":

- Have the ability of innovation, entrepreneurship and self-development;
- Know the current state and prospects of development of the energy complex of Kazakhstan and Pavlodar region;
- Know a foreign language to the extent necessary for the professional activity;
- Be able to work in a team, build a professional qualification structure of the unit, manage staff;
- Be able to plan and organize the implementation of the production plan department, to analyze industrial activity units and maintain control of the implementation of planned targets;
- Be able to organize and supervise the enforcement of the requirements of occupational health and safety;
- Be able to organize innovative activities in the enterprise, to develop and improve production processes in order to improve energy and resource efficiency, quality of products;
- To have a problem-solving skills and the organization of environmental management waste production;
- Have the skills of correct use of information resources;
- Have the skills of inspection, verification, audit technological processes;
- Have the skills to conduct research in energetics;

- Have the skills to release all kinds of expert reports to experts and non-professionals.

Graduates of the master's program are able to work in their professional field in the energy industries.

We believe that the structure and content of educational programs of Vocational Master's program on "Heat and Power Engineering" specialty corresponds to similar Master's programs of the European educational space, and allow reaching the planned learning outcomes.

**Lund University,
Faculty of Engineering,
Professor, PhD**



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Ronny Berndtsson