

EXPERT OPINION
on the developed modular education programs of Vocational Master's program
on specialty 6M070900 "Metallurgy"
of S. Toraighyrov Pavlodar State University

Modular educational programs of vocational master's program on specialty "Metallurgy" has three educational programs:

- Technological innovations in materials studies and metallurgical engineering;
- Technological innovations in materials studies and metal processing;
- Safety of life and protection of the environment in metallurgy.

The purpose of this educational program is the training of highly qualified specialists for the steel industry and related industries.

The term of study at an educational program of vocational Master's program "Metallurgy" is 1.5 years with 90 ECTS.

The purpose of the educational program is achieved by formation of competencies, skills and knowledge through study of specialized courses combined with practical training, experimental work and internship.

Obligatory part of the professional educational program is aimed at creating management, communicative skills, consisting of the ability to plan and organize the work of the team, using modern management principles and business communication; analysis and control of industrial activity units; ensure compliance with the requirements of industrial safety and labor protection. In addition, the program provides advance of foreign language competence.


The variable part of the educational program enables the expansion and deepening of training and additional competencies, skills and knowledge needed to ensure the competitiveness of graduates in accordance with the requirements of the labor market.

These modules provide advanced training in the field of materials studies, engineering, assessing the level of safety and environmental friendliness of production.

The distribution of disciplines and internships by semester corresponds to the logical sequence and allows balancing the workload of students.

General and specific competencies that graduates acquire within the specialty "Metallurgy":

- Have the ability to innovation, entrepreneurship and self-development;
- Know the current state and prospects of development of the metallurgical 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 materials and metallurgical processes;
- Have the skills to conduct research in materials studies and metallurgy;
- Have the skills to release all kinds of expert reports on materials and processes to experts and non-professionals.

To ensure an adequate level of research performance in modular educational program “Metallurgy”, special focus is made on the formation of knowledge and skills in instrumental methods of analysis of materials and technological processes, research and innovation component.

We believe that the structure and content of educational programs of vocational Master’s program on specialty “Metallurgy” meets the needs of the labor market and employers, in line with similar master's programs of the European educational space and allows achieving the expected learning outcomes.

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