

EXPERT OPINION

on the developed modular education programs of Vocational Master's program on specialty 6M072100 "Chemical Technology of Organic Substances"

of S. Toraighyrov Pavlodar State University

Educational programs have the following directions:

- Metrological support of production in the oil and gas industry;
- Innovative technologies in the refining industry;
- Project management in petrochemical industry.

The educational programs are developed within the State Program of Industrial-Innovative Development of Kazakhstan for 2015 - 2019, whose main objectives are to improve the efficiency of the oil refining industry.

The term of study at an educational program of profile Magistracy on "Chemical Technology of Organic Substances" 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 oil and gas refining processing, polymer production, engineering, assessing the level of safety and environmental production, production management, interdisciplinary field of knowledge.

General and specific competencies that graduates acquire within the specialty "Chemical Technology of Organic Substances":

- Have the ability to innovation, entrepreneurship and self-development;
- Know the current state and prospects of development of the oil chemistry 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 of oil and gas refinery in order to improve energy and resource efficiency, quality of products;
- Have the skills of correct use of information resources;
- Have the skills of inspection, verification of quality of materials and processes;

- Have the skills to conduct research in the field of oil refining, gas, and polymers;

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

Graduates of the Master's program are able to work in their professional field in the petrochemical industry and related industries in the fields related to the study of processes of oil and gas, the production of polymers, production, environment, innovation, and management of the company.

We believe that the structure and content of educational programs of Vocational Master's program on "Chemical Technology of Organic Substances" 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**



A handwritten signature in blue ink, appearing to read "Ronny Berndtsson". The signature is fluid and stylized, with a large initial letter.

Ronny Berndtsson