Level: Graduate academic studies (master), second level

Course title: APPLIED CHEMISTRY TEACHING METHODOLOGY IPH-406

Status: elective

ECTS: 7

Requirements: none

Learning objectives

Training students of chemistry for teaching specific chemical disciplines in vocational education and as well as for professional training of technical personnel in applied chemistry and chemical production.

Learning outcomes

After successfully completing the course, the student is able to:

Competently conduct the teaching of vocational subjects in applied chemistry and chemical production in secondary vocational schools. Critically analyze the concepts, processes and methods of work in chemical production; Know the qualifications of workers and professionals in chemical industry; Critically evaluate the methods for quality control of raw materials, products and processes in chemical industry; implement measures for the safe operation of hazardous, toxic, flammable and explosive substances. Understand the importance of the concept of sustainable development in the development of chemical production.

Syllabus

Theoretical instruction:

The concept, methods of operation and objectives of applied chemistry; Methods of training in applied chemistry in formal and non-formal education; Teaching methodology of selected areas of applied chemistry. Standardization of chemistry expert knowledge; The concept of projects and pilot projects for chemical production. Chemical Engineering; Copyrights and patents in chemical production; Accidents in chemical production: prevention and remediation; Work in expert laboratories and licenses.

Practical instruction:

Work in specialized chemical laboratories, field work, work in chemical industry: GLP and standardization of laboratory; Work with dangerous and harmful chemical substances; Working organization in laboratories for quality and production process control, Keeping operating and laboratory records at experts in chemistry; Organizing courses and training; Organizing conferences and various events for chemistry professionals (Fairs, meetings, demonstrations of new products, practical work in marketing).

Weekly teaching load

| Weekly teaching load | | | | Other: |
|----------------------|------------|----------------|-------------------|--------|
| Lectures: | Exercises: | Other forms of | Student research: | |
| 2 | 2 | teaching: 2 | | |