VILNIAUS KOLEGIJA/UNIVERSITY OF APPLIED SCIENCES
STUDY SUBJECT/MODULE PROGRAMME (SSMP)

CHEMICAL ANALYSIS

Entitlement Chromatographic Analysis, 6 cr.

Prerequisites

B1 level of English language, Organic chemistry

Main aim

The aim of the subject is to deepen a chemistry specialist's skills in the diversity of chemical analysis methods on the basis of the knowledge in chromatographic analysis, and develop practical skills.

Summary

While studying the subject students get acquainted with the basics of chromatographic analysis, classification of methods, examples of liquid and gas chromatography application, operating principles of the used equipment and peculiarities of the instrumental analysis.

Learning Outcomes

1. Be able to apply the knowledge in solving chromatographic analysis issues;
2. Be able to describe the specifics of the chromatographic analysis methods;
3. Be able to choose appropriate chromatographic analysis research methods taking into consideration the structure, nature and properties of inorganic and organic compounds;
4. Be able to carry out tests competently using the methods of chromatographic analysis in accordance with the theoretical basics of qualitative and quantitative analysis;
5. Be able to use modern virtual tools to collect and process the chromatographic analysis data;
6. Be able to to explain and comment on the chromatographic analysis measurement data submitted in the reports

Syllabus

1. Fundamentals of chromatographic analysis
2. Liquid adsorptive chromatography. Effective chromatography
3. Distributive chromatography. Thin layer chromatography
4. Ion-exchange chromatography
5. Affinity chromatography
6. Gel permeation chromatography
7. Electrophoresis chromatography
8. Gas chromatography apparatus and performance of the analysis
9. Column gas chromatographic analysis

10. Quantitative gas chromatography analysis
11. Examples of chromatographic analysis application

Evaluation procedure of knowledge and abilities

Cumulative assessment (intermediate settlements, laboratory work, self-study, examination)