

86S1-BIJZ

FOOD SAFETY AND QUALITY

ECTS: 3.0

HOURS PER SEMESTER/WEEK: LECTURES: 15/1; CLASSES: 30/2

FIELD OF THE STUDY: Chemistry

Level of study: First-cycle (Bachelor's degree) program

Course status: optional *

Year of the study: III

COURSE CONTENTS

LECTURES: Introduction to management of food safety and quality. Systems dedicated to food safety and quality control. Main source and examples of contaminations in foods. Rules GMP and GHP, used in the food industry. Recommendation and regulation from the EU in the field of food safety and quality. HACCP system. Analytical methods applied for quality control of foods.

CLASSES: Source and examples of contamination in food. Interpretation of recommendations and regulation of UE about food safety and quality. Practical use of spectrophotometric and FT-IR methods for determination of food contaminations. Elaboration of the final report on the analytical determination carried out. Quick analytical methods.

EDUCATIONAL PURPOSE: To ground knowledge of food chemistry. To provide knowledge on the importance of food safety and quality and to make the students familiar with basic laboratory techniques used in quantitative and qualitative analyses of food contaminants. To develop the ability to select the appropriate analytical method to solve issues related to the analysis of food samples. To develop the ability to perform basic calculations related to analytical chemistry. To develop skills in independent laboratory work. To develop communication and teamwork skills.

LEARNING OUTCOMES

Knowledge. The student knows the systems for quality and safety control of food. He knows the basic chemical food contaminants. He understands the principles and the rules of instrumental analysis applied to the determination of food contaminants.

Skills. The student confidently uses classical methods of instrumental analytical chemistry. He can apply the principles of health and safety in the laboratory. The student selects appropriate conditions and appropriate analytical techniques depending on the analyzed compounds. He correctly interprets the results of the analytical measurements. He performs calculations in the basic level area (preparation of the solutions of the desired concentration, calculation of pH values) and calculations related to the estimation of results.

Social competences. The student evaluates objectively the contribution of one's own work and that of others in the joint research and report preparation. He applies the health and safety rules in a lab.

TEACHING FORMS AND METHODS

Lectures. Information lecture, Lecture with a multimedia presentation of selected issues.

Classes. Discussion, Case study, Laboratory methods, Demonstration and observation, Work in groups.

FORM AND CONDITIONS FOR VERIFICATION OF LEARNING OUTCOMES

Lectures. written test - credit with a grade.

Classes. written test - credit with grade.

BASIC LITERATURE

1) Skoog D.A., West D.M., Holler F.J., Crouch S.R. 2014. Fundamental of Analytical Chemistry. Ninth edition. Brooks/Cole, Cengage Learning

ADDITIONAL LITERATURE

1) Fifield F.W., Kealey D. 2000. Principles and Practice of Analytical Chemistry. Wyd. Wiley-Blackwell

THE TEACHER/TEACHERS CONDUCTING THE CLASSES:

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