Course Unit Descriptor

Study Programme: Chemistry

Course Unit Title: Quality management in analytical laboratories

Course Unit Code: H-202

Name of Lecturer(s): Associate professor Borko Matijević

Type and Level of Studies: Bachelor Academic Studies

Course Status (compulsory/elective): Compulsory

Semester (winter/summer): Summer

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): Face-to-face

Number of ECTS Allocated: 6

Prerequisites: None

Course Aims:

It provides students the necessary theoretical and above all practical knowledge, on the statistical processing of the measurement results and their correct interpretation. Familiarization with quality standards and procedures for their implementation in the real sense. Mastering procedures for validation and verification of analytical methods as well as their application in an analytical laboratory. Students will be informed on the correct method of keeping records on the quality of the measurement and the results of the analyzes performed.

Learning Outcomes:

After the successful completion of this course, students will be able to understand the necessity of introducing a quality system in an analytical laboratory as well as the justification of conducting quality analytical measurements. They will be trained to carry out practically the validation and verification procedures of different analytical methods. They will be able to write the report in a proper way and keep the documentation of the quality of the analysis done in their laboratory.

Syllabus:

Theoretical instructions

Standards and legal regulations for quality management of laboratories and analytical measurement. Quality control of analytical measurements, statistical processing of obtained results and their interpretation. Validation and verification of analytical methods. Procedure for implementation and introduction in an analytical laboratory. Inter-laboratory testing and method revalidation.

Practical instructions

Checking and evaluating the quality of the analytical measurement performed. Validation of a selected analytical method, statistical calculations related to it and the writing of the final report. Application of different software solutions for calculations.

Required Reading:

1. Weekly teaching load

Weekly Contact Hours: 75	**Lectures:** 45	**Practical work:** 30

Teaching Methods:

Lectures and laboratory work

Knowledge Assessment (maximum of 100 points): 100

Pre-exam obligations	points	**Final exam**	points
Lab exercises	30	Written exam	(40)
Test I , Test II	40	Oral exam	30