Course Unit Descriptor

Study Programme: Fruit and wine growing

Course Unit Title: Functional food

Course Unit Code: 3MVV1I08

Name of Lecturer(s): Prof. Boris Popović, Ass. Prof. Ružica Ždero Pavlović, Assistant MSc Bojana Blagojević

Type and Level of Studies: Master Academic Degree

Course Status (compulsory/elective): Elective

Semester (winter/summer): Winter

Language of instruction: English

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

Number of ECTS Allocated: 6

Prerequisites: Chemistry and Plant biochemistry

Course Aims:

The aim of the course is to achieve scientific skills and academic skills, develop creative abilities and mastering specific practical skills needed for future career development that are aligned with the directions of development of modern scientific disciplines in the world.

Learning Outcomes:

Developing the ability of students to follow modern achievements in science and profession, developing the ability to solve problems using scientific methods and procedures in the process of plant growing and the production of healthy food as well as developing critical and creative thinking.

Syllabus:

Theory

Introduction. Classical methods of chemical analysis-volumetric titration. Introduction to instrumental analysis. Spectroscopic methods. Spectrophotometry and fluorimetry. Atomic absorption spectroscopy. Chromatographic methods. High performance liquid chromatography (HPLC). Gas chromatography (GC). Electroanalytical methods of analysis. The choice of methods of analysis. Sampling and preparation of food for analysis. Analyses of selected components of plant foods.

Practice

Sampling and preparation of food for analysis. Determination of the total nitrogen content, sugar, fat, pigment and antioxidant in foods. Application of potentiometric and conductometric determination. Spectrophotometric determination. Atomic absorption spectroscopy. Application of high performance liquid chromatography-HPLC for analysis of certain food ingredients.

Required Reading:

1. Nielsen, S. Chemical analysis of Food, Techniques and Applications. Elsevier Science, 2012.
2. D. Skoog, D. West, F. Holler. Bases of Analytical chemistry. Školska knjiga, Zagreb, 1999.

Weekly Contact Hours:	**Lectures:** 2	**Practical work:** 2

Teaching Methods:

Depending on the number of applicants, lectures and practical classes will be held or consultations and seminar

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation		written exam	40
Test	30	oral exam	
colloquium	30		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			