Course Unit Descriptor

Study Programme: Agronomy

Course Unit Title: Biologically active components in vegetal food

Course Unit Code: 3DAI1030

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

Type and Level of Studies: Doctoral 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: 10

Prerequisites: chemistry and biochemistry

Course Aims:

The aim of the course is the acquisition of scientific skills and academic skills, develop creative skills and specific practical skills needed for the future development of the careers that are compatible with the modern developments of the discipline in the world today.

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

The chemical constituents of food. Nutrients and antinutritive compounds. Proteins, carbohydrates and lipids. Vitamins, minerals and trace elements. Factors of functional food. Antioxidant compounds of food. Distribution of biologically active food ingredients. Significant biologically active food components: carotenoids, phenolic compounds (flavonoids, phenolic acids and tannins), phytoestrogens, phytosterols, saponins, fatty acids, monoterpenes, glucosinolates, isothiocyanates, thiols, alkaloids, glycosides, enzymes, probiotics and prebiotics, and crude fiber). Biologically active compounds in different types of plant food and their effect on different systems in the body. Dietary supplements. Fortification of food.

Practice

Sampling of food. Determination the content of certain nutritional substances in food. Determination of total phenols, tannins, anthocyanins, proanthocyanidins, pigments in food. Determination of antioxidant activity of food. Determination of vitamine C and E. Determination of certain bioactive components in plant food.

Required Reading:

1. Wildman C. Handbook of Nutraceuticals and Functional Foods. CRC press, 2001.
2. Štajner, D., Popović, B. Oxidative stress in plants. Faculty of agriculture, Novi Sad, 2008.

Weekly Contact Hours:	**Lectures:**4	**Practical work:** 0

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
Test	30	Oral exam	30
Seminar	40		
The method of oral presentation and discussion. Method of presentations, demonstrations, simulations and illustrations on the board and the application of computers. Methods of practical laboratory work. Lectures, consultations, laboratory sessions, seminars.			