Course Unit Descriptor

Study Programme: Field and vegetable crops,

Course Unit Title: Functional food

Course Unit Code: 19.RIP033

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

Type and Level of Studies: Undergraduate 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: None

Course Aims:
To gain knowledge and scientific abilities, as well as the development of creative skills and practical skills necessary for the exercise of the profession, which are related to contemporary science in world.

Learning Outcomes:
After completing the course of Functional food, students will be prepared to follow contemporary achievements in science and profession and to solve problems using scientific methods in different area of healthy food production and plant growing.

Syllabus:

Theory
Functional food-definition, role, significance and division. Classification of functional foods. Biofortification in agriculture. Nutrients and antinutritive compounds. Essential food components. Biologically active food components-nutraceuticals. Phytochemicals as nutraceuticals. Nutraceuticals with animal origin. Antioxidant compounds in food. Nutraceuticals in different foods (fruits, crops, fungi, algae, spices, honey and honey products, milk and dairy, eggs and meet products). Evolution of human nutrition. Regimes of human diet. The role of functional food in the prevention and treatment of certain diseases (cardio-vascular, neuro-degenerative, diabetes, cancer, infectious and autoimmune diseases). Value-added food products. Dietetic products and supplements. Supplementation of food for animals.

Practice
Collecting of food samples. Analytical determination of nutrient contents in food. Determination of total polyphenols, anthocyanins, tannins, proanthocyanidins and pigments in vegetal food, spices and medicinal plants. Determination of antiradical and reduction capacity of different plant and animal samples. HPLC analysis of polyphenolic compounds. Determination of specific nutraceuticals in food. HPLC analysis of polyphenol compounds in food and supplements.

Required Reading:
1. Wildman, C. Handbook of Nutraceuticals and Functional Foods. CRC Press, 2001.
2. М. Јашић, Биолошки активни састојци хране, Технолошки факултет, Тузла, 2010.
3. Б. Новаковић, Љ.Торовић, Броматологија, Медицински факултет, Нови Сад, 2014.

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

Teaching Methods:
Lectures and students group work

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation		written exam	45
Practical work		oral exam	If necessary
Preliminary exam(s)	30	…….	
Seminar(s)	25		