Course Unit Descriptor

Study Programme: PRECISION AGRICULTURE

Course Unit Title: Advanced technologies in fruit growing and viticulture

Course Unit Code: 19.PRP015

Name of Lecturer(s): Full prof. Nenad Magazin, PhD; Associate prof. Dragoslav Ivanišević, PhD

Type and Level of Studies: GRADUATE ACADEMIC STUDIES

Course Status (compulsory/elective): Elective

Semester (winter/summer): winter

Language of instruction: Serbian

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

Number of ECTS Allocated: 6

Prerequisites: No

Course Aims: Fruit growing and viticulture are a very dynamic part of agriculture, with a large number of innovations that are constantly introduced with the aim of improving production, ie increasing yields and quality while reducing production costs. Thanks to the application of new technologies in fruit growing and viticulture, the yield per unit area has been multiplied, while preserving the quality of the fruit. The aim of this course is for students to get acquainted with advanced technologies that have become part of regular fruit and grape production, to learn how advanced technologies are applied and to have an insight into the main directions of development of new technologies that are still in their infancy.

Learning Outcomes: The acquired level of knowledge will enable the graduate student to independently make the right decisions on the choice of new, advanced technologies in fruit growing and viticulture in the entire process of cultivation from planting to harvesting and storing fruits.

Syllabus: *Theory.* Precision agriculture in the process of establishing orchards and vineyards (new technologies in the service of site selection, analysis and soil preparation, precision planting). Selection, formation and maintenance of training systems suitable for advanced technologies. Fruit and grape growing systems: open field, under anti-hail net, protected cultivation, growing on substrate. Information technologies in monitoring the condition and diagnosing problems during production. Innovations in harvesting and storage of fruits and grapes.

Practice. Fruit species, varieties and rootstocks for extensive and intensive plantations. Development of a project for raising a modern plantation. Use of IT devices in fruit growing and viticulture.

Required Reading: Gemtos, T., Fountasa,S., Tagarakisa, A., Liakos V.: Precision Agriculture Application in Fruit Crops: Experience in Handpicked Fruits, Procedia Technology 8 (2013) 324 – 332.

Utpal D., Purnima P., Meena, M. K.and Ningdalli M.: Precision Farming a Promising Technology in Horticulture: A Review, nt. J. Pure App. Biosci.6(1):1596-1606 (2018).

Weekly Contact Hours: 4	**Lectures: 2**	**Practical work: 2**

Teaching Methods:

Lectures, presentations, films, tours to orchards and vineyards, laboratory work, practical work in experimental fields

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	10	written exam	
Individual written work	40	oral exam	50

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.