Course Unit Descriptor

Study Programme: Precision agriculture

Course Unit Title: Technical information systems in horticulture and phytomedicine

Course Unit Code: 19.PRP018

Name of Lecturer(s): Aleksandar D. Sedlar, PhD, Full Professor

Type and Level of Studies: Master 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: 5

Prerequisites: No

Course Aims: The goal of the course is to introduce students with and enable them to choose and use technical and information systems of precision agriculture technologies with an emphasis on environmental protection and creating conditions for more efficient and economical work.

Learning Outcomes: Upon completion of the course, students acquire knowledge and skills that enable them to exploit the optimal choice, as well as the correct use of technical and information systems of the concept of precision agriculture in fruit growing, phytomedicine and viticulture.

Syllabus:

Theory

Trends in the development of precision agriculture technologies. System analysis of recording technologies in fruit growing, viticulture and phytomedicine. Analysis of technical and informational response systems in fruit growing, viticulture and phytomedicine. Application of sensors in fruit growing, viticulture and phytomedicine. Selection of machines in fruit and grape production. Acquaintance with the possibilities and needs of applying the technology of variable application of pesticides, with an emphasis on adjusting the geometry of the jet in accordance with the geometry of the crops and determining the norm and dose of treatment in accordance with the three-dimensional characteristics of the crops, i.e. the needs of field crops. Control of operational correctness and selection of optimal technique and information systems for variable application of fertilizers and pesticides.

Practice

Demonstration and demonstrative exercises. Laboratory and field tests.

Required Reading:

Bugarin R, Bošnjaković A, Sedlar A. 2015. Mašine u voćarstvu i vinogradarstvu, Univerzitet u Novom Sadu – Poljoprivredni fakultet, s. 344, ISBN 978 -86-7520-329-5.

Sedlar A, Bugarin R, Đukić N. 2015. Tehnika aplikacije pesticida, Univerzitet u Novom Sadu – Poljoprivredni fakultet, s. 212, ISBN 978-86-7520-328-5.

Weekly Contact Hours: 5	**Lectures:** 3	**Practical work:** 2

Teaching Methods:

Studying the course is carried out through: lectures with the use of video presentations and simulations, demonstration exercises in laboratory and field conditions, computational exercises, preparation of laboratory and seminar papers,

measurements in laboratory and field conditions and consultations.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	Points 50	**Final exam**	Points 50
Active class participation	5	written exam	
Practical work		oral exam	50
Preliminary exam(s)		…….	
Seminar(s)	45		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			