

Study Programme: Precision agriculture
Course Unit Title: Technical and information systems of precision farming
Course Unit Code: 19.PRP002
Name of Lecturer(s): Aleksandar D. Sedlar, PhD, Full Professor
Type and Level of Studies: Master degree
Course Status (compulsory/elective): compulsory
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 aim 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: After passing the course, students acquire knowledge and skills that enable them to exploit and make an optimal choice, as well as the correct use of technical and information systems of the concept of precision agriculture.
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Trends in the development of precision agriculture technologies. Analysis of technical information systems of machine control technology. System analysis of recording technologies. Analysis of technical and informational response systems. Application of sensors in the concept of precision agriculture. Examination of driving machines, tractors and attachment machines from the aspect of forming technical and informational systems of precision agriculture. Mechanization for conservation and reduced processing in precision agriculture. Precision agriculture and soil conservation. Technical information systems of variable sowing. Control of operational correctness, selection of techniques and information systems for variable application of fertilizers and pesticides. Precision farming in harvest.</p> <p><i>Practice</i></p> <p>Demonstration and demonstrative exercises. Laboratory and field tests.</p>
<p>Required Reading:</p> <p>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.</p> <p>Harms H, Meier F. 2006. Agricultural Engineering.</p> <p>Nikolić R, Savin L, Simikić M, Tomić M, Janić Zlata, Nikolić Jelena, Ivanišević M, Molnar T: Traktorski sistemi u poljoprivredi - osnove izbora i korišćenja, Edicija Univerzitetska naučna knjiga 17, Univerzitet u Novom Sadu, Novi Sad, 2017.</p> <p>Sedlar A, Bugarin R, Đukić N. 2015. Tehnika aplikacije pesticida, Univerzitet u Novom Sadu – Poljoprivredni fakultet, s. 212, ISBN 978-86-7520-328-5.</p> <p>Savin L, Simikić M, Nikolić R, Ivanišević M: Poljoprivredni traktori, Edicija: Osnovni udžbenik; Poljoprivredni fakulte, Novi Sad; 2016.</p>

Weekly Contact Hours: 6	Lectures: 4	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, calculation 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.			