

Course Unit Descriptor

Study Programme: PRECISION AGRICULTURE			
Course Unit Title: Development and use of single axle tractors and motor implements			
Course Unit Code: 19MIII0001H018			
Name of Lecturer(s): Mirko Simikić			
Type and Level of Studies: Graduated-Master			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): summer			
Language of instruction: Serbian			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: None			
<p>Course Aims:</p> <p>The objective of the course is to familiarize students with the development and more efficient use of single-axle tractors and power tools. Also, students should be familiar with the structures, functioning, the basic setup, maintenance and safety precautions when working with single-axle tractors and power tools.</p>			
<p>Learning Outcomes:</p> <p>Upon passing the exam the student acquires the knowledge and skills which provide him with essential understanding of the technical basis of single-axle tractors and power tools. Knowledge acquired through this course will serve as a base for the correct choice, rational and safe usage of small machinery with the aim of improving agricultural production, especially on small farms, yards and in mountainous areas.</p>			
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Classification of single-axle tractors and power tools. Theory of movement of single-axle tractors – soil characteristics, the characteristics of the tires, the structure of the systems. Tendencies in the development of single-axle tractors. Development of power tools. The development of engine for single-axle tractors and power tools. The development of implements for single-axle tractors and power tools. Maintenance and care of single-axle tractors and power tools. Possible injuries, consequences and preventive measures when working with single-axle tractors and power tools. Standards and testing single-axle tractors and power tools.</p> <p><i>Practice</i></p> <p>Exercises, Other methods of teaching, Research work</p> <p>Introduction to the structure, operating principle and settings of single-axle tractors and power tools. Basics of calculation for stability of single-axle tractors and power tools – longitudinal stability, lateral stability and stability in a curve. Traction and energy balance of single-axle tractors at work with a variety of power tools – basics of calculation. Introduction to the hazardous parts of single-axle tractors and power tools and regulations for safe handling.</p>			
<p>Required Reading:</p> <ol style="list-style-type: none"> 1. Nikolić et al: Development and use of single axle tractors and motor implements, Faculty of agriculture Novi Sad, 2011 2. Nikolić R, Savin L, Simikić M. Power machines, Faculty of agriculture Novi Sad, 2008 3. Nikolić R, Savin L, Simikić M.: Tractors - testing, Faculty of agriculture Novi Sad, 2007 			
Weekly Contact Hours: 4	Lectures: 2	Practical work: 2	
<p>Teaching Methods:</p> <p>The method of oral presentations and discussions. The method of drawing, presentations, demonstrations, simulations and illustrations on the board and by using video presentations. Consultations and seminar papers. The method of practical work in laboratories and at the Institute</p>			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points

Active class participation	10	written exam	
Practical work		oral exam	60
Preliminary exam(s)		
Seminar(s)	30		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			