

Study Programme: Agricultural engineering and information systems
Course Unit Title: Machines in Field Production
Course Unit Code: 19.PTI015
Name of Lecturer(s): Jan J Turan, PhD, Full Professor
Type and Level of Studies: Bachelor 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: Farming and vegetable growing
Course Aims: Training students for theoretical and practical mastery of subjects for the selection, regulation and management of modern machinery and equipment for agricultural production.
Learning Outcomes: Ability to choose, plan, manage and exploit modern machinery in agricultural production.
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Machines for tillage: machines for vertical tillage (with uprooting working organs - rippers, harrows), tillage machines (ploughs - harrows, rotary, rotary), machines for supplementary tillage (harrows, disc harrows, rollers, cultivators, combined aggregates), machines for inter-row cultivation of crops (inter-row cultivators with passive and active working organs). II Machines for soil fertilization: machines for mineral fertilizers (granular and powder - mechanical and pneumatic spreaders), machines for organic fertilizers (manure spreaders, ash spreaders). III Machines for sowing arable crops: close-row seeders for close-row crops (types of sowing devices, feeders, mechanical and pneumatic sowing mechanisms, etc.), wide-row precision seeders for furrows (mechanical, pneumatic, settings, maintenance), seeders for direct sowing without tillage . IV Combined machines for reduced processing and sowing. V Biotechnical systems in agriculture - systems for variable fertilization and sowing, measurement and regulation systems.</p> <p><i>Practice</i></p> <p>The exercises include a practical presentation and description of machines for tillage, fertilizing, sowing and reduced tillage. The purpose of the machines, the working organs of the said machines, their operation, adjustment and maintenance. The theoretical part of exercises with applied tasks from the mentioned areas.</p>
<p>Required Reading:</p> <p>Barać, S.:Mehanizacija biljne proizvodnje, Izdavač Autor, Kragujevac, 2003. Veselinov, B., Martinov, M., Bojić, S.:Mašine za biosisteme, Izdavač Fakultet tehničkih nauka u Novom Sadu, Novi Sad, 2009.</p> <p>Vojvodić, N., Malinović, N., i dr.: Poljoprivredne mašine, Izdavač Nevkoš, Novi Sad, 1998.</p> <p>Meši, M.: Poljoprivredne mašine, Izdavač Poljoprivredni fakultet u Novom Sadu, Novi Sad, 2012.</p> <p>Ponjičan, J., Korenko, M.: Stroje pre rastlinnú výrobu, Izdavač Slovenská pol'nohospodárska univerzita v Nitre, Nitra 2008.</p> <p>Birkaš, M: Book of Soil Tilage, Szent Istvan University, Godollo, 2014. ISBN: 978-963-269-447-4</p>

Weekly Contact Hours: 6	Lectures: 3	Practical work: 3	
Teaching Methods: Oral lectures with the use of modern equipment for visual display and simulation. Practical exercises on machines with demonstrations in laboratory and field conditions.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	Points 70	Final exam	Points 30
Active class participation	5	written exam	
Practical work	5	oral exam	30
Preliminary exam(s)	30	
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.			