

Study Programme: <i>PRECISION AGRICULTURE</i>			
Course Unit Title: Operations research			
Course Unit Code: 19.PRP019			
Name of Lecturer(s): Full professor Snežana Matić-Kekić			
Type and Level of Studies: Master academic studies			
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: -			
Course Aims: To train the students to apply methods of operations research in practice.			
Learning Outcomes: Student will be trained to apply methods of operations research in practice.			
Syllabus: <i>Theory</i> - heuristic programming methods: genetic algorithm, raking method, hill climbing, generate and try it out - basics of the Monte-Carlo method: random number generation, statistical method for stochastic processes - game theory: optimal strategy determination, saddle point, mixed matrix games, solving reduction, solving using linear programming - network planning and management: project network diagram, project time analysis, critical path, project cost analysis, cost minimization and project duration optimization inventory management: mathematical models for managing inventory with constant demand, with demand greater than inventory, and with a constant rate of inventory depletion <i>Practice</i> Solving the problems rose from the theory.			
Required Reading: 1. Petrić, J., Operations research, 1. and 2. book (in Serbian), Savremena administracija, Belgrade, 1974.			
Weekly Contact Hours:	Lectures: 2	Practical work: 2	
Teaching Methods: Theory and practical classes, consultations if needed.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work	40	oral exam	10
Preliminary exam(s)		
Seminar(s)	40		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			