

Course Unit Descriptor

Study Programme: Precision Agriculture			
Course Unit Title: Microclimate in animal husbandry			
Course Unit Code: 19.PRP022			
Name of Lecturer(s): Miodrag, S, Zoranović			
Type and Level of Studies: Graduated-Master			
Course Status (compulsory/elective): elective			
Semester (winter/summer): winter			
Language of instruction: Serbian			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: -			
Course Aims: Pointing out the importance of the microclimate in the technology of cultivation of animal species in terms of technological productivity, the quality of the base products, environmental protection and energy saving.			
Learning Outcomes: High technical ability to lead the process in livestock breeding, involvement in contemporary trends in the field of environmental protection, the choice and design of ventilation systems, air filtration system selection in a controlled area, taking serious steps in the field of rational energy consumption, alternative energy choice, apply effects of the heat pump and so on.			
Syllabus: <i>Theory: The definition of the relevant factors microclimate controlled area in livestock. Reference values microclimate factors in breeding species according to age. Natural and forced modes of regulation factors of the microclimate of the types of facilities for breeding animals. The existing heating systems and their impact on microclimate factors controlled area in livestock. Existing and new ventilation systems of buildings for livestock. Air filtration as a factor in the reduction of energy inputs, increase the quality of the final product, environmental protection and human factors as direct participants of the technological process.</i> <i>Practice: Modelling System for control microclimate in livestock buildings. Participation in the implementation of national and technological projects on the subject of maintaining the microclimate. Going into the field of monitoring and solving significant problems in farming.</i>			
Required Reading: 1. Kamp P., Timmerman J.G.(2003): Computerised Environmental Control in Greenhouses. PTC ⁺⁺ , Netherlands. 2. Todorović, B. (1998): Klimatizacija. Savez mašinskih i elektrotehničkih inženjera i tehničara Srbije (SMEITS), Kneza Miloša 7. Beograd. 3. Bogner, M., Stanojević, M., Livo, L. (2006). Prečišćavanje i filtriranje gasova i tečnosti. ETA Milana Rakića 4. Beograd.			
Weekly Contact Hours: 4	Lectures: 2		Practical work: 2
Teaching Methods: Theoretical basis of factors microclimate, direct demonstration of the practical solutions in practice and laboratory conditions with direct participation in the implementation of appropriate technical and technological solutions, presentations in the form of animation processes manure, heating, ventilation and air filtration, finishing manure.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	30
Practical work	20	oral exam	40
Preliminary exam(s)		
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			