

Course Unit Descriptor

Study Programme: Agronomy			
Course Unit Title: Plant Breeding			
Course Unit Code: 3ORT4O15			
Name of Lecturer(s): Professor Jan Boćanski, Assistant professor Velimir Mladenov			
Type and Level of Studies: Undergraduate Academic Study			
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: 6			
Prerequisites: Genetics			
Course Aims: To familiarize students with the theoretical and practical knowledge in the field of biotechnology science that can be used when creating new varieties.			
Learning Outcomes: After graduation, the student should acquire knowledge that will enable them to the proper selection of varieties and zoning affects the higher productivity of their farms.			
Syllabus: <i>Theory</i> Plant Breeding as a scientific discipline: Significance and tasks. The origin of the genetic variability of plants: centers of origin of plants, introduction of plants, preservation of biodiversity. Reproduction systems for agricultural plants. The genetic bases of plant breeding. Methods of plant breeding. Molecular biology: Applications in plant breeding. Plant breeding for resistance to parasites. Methods of selection in self-pollinated plant species. Methods of selection in pollinated plant species. The genetic composition, adaptability and zoning varieties. <i>Practice</i> The technique of experimenting. Heritabinost and genetic gain from selection. Testing of combining ability. Methods of assessment of the properties of field and vegetable crops. Adaptability varieties. Recognition of the newly varieties. The technique of hybridization and the creation of inbred lines. Field exercises: introduction and practical work in the greenhouse and in the field.			
Required Reading: Poehlman, J. M. and D. A. Sleper: Breeding Field Crops. 4 th edition. Iowa State University Press, 1994			
Weekly Contact Hours: 90	Lectures: 60		Practical work: 30
Teaching Methods: Lectures and students group work.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	30
Practical work		oral exam	30
Preliminary exam(s)	30		
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.			