

Title	Plant Breeding and Cultivar Registration System		
Code	3GN18NAK17B		
Prerequisites	Plant Genetics		
Description	Students will learn objectives (increased yield, improved quality, biotic and abiotic stress resistance etc.) and strategies of plant breeders as well as the exact definition of plant variety. Sexual and asexual reproduction biology of the main horticultural crops is also detailed. Steps of plant breeding process are shown including collection of variation (gene banks), hybridization, selection, evaluation, variety release, multiplication and distribution of the new variety. Basic techniques cover heterosis breeding, mutation breeding, backcrossing and modern methodologies encompass molecular approaches (ranging from in vitro techniques and marker-assisted selection to cis- and transgenic plants). Domestication of crop plants and history of horticultural plant breeding will be also presented. The UPOV test and the administrative procedure of variety recognition are also inherent topics of the course.		
Lecturer	Dr. Attila Hegedűs, Dr. Júlia Halász, Dr. Zsuzsanna Benyóné György, Dr. Róbert Oláh		
Semester	6th, spring	Contact hours/week	4+0
Level	BSc	ECTS	3
Teaching and Learning Methods:	Learning the topics delivered in the lectures, participation in field practice		
Reading:	Recommended readings: Acquaah, G. (2009). Principles of plant genetics and breeding. John Wiley & Sons.		
Assessment:	oral exam		