



TITLE OF THE COURSE:	EXPANSION OF PLANT GENETIC DIVERSITY BY BIOTECHNOLOGY METHODS	
Course code:	AFBBM 005	
Course group:	C	
Faculty:	Agronomy	
Study program:	Quality and safety of food plant raw material	
Level:	<i>Master</i>	
Semester:	<i>Spring</i>	
ECTS credits:	6	
Language of instruction	English	
Course lecturer/s:	Prof. Natalija Burbulis, Prof. Aušra Blinstrubienė	
Short course description:	The course covers the principles of plant genetic diversity development <i>in vitro</i> , the patterns and unique features of the use of <i>in vitro</i> technologies in plant breeding, and method improvement opportunities and their applications. The main objective - to provide students with knowledge in biotechnology and to develop a system of skills required to achieve an overall understanding of development of agricultural plants with improved traits.	
Course content:	Applications of biotechnological methods in plant breeding. Types of genetic incompatibility. Factors affecting plant resistance and consistent patterns of their exhibition. Genetic diversity of cells as initial breeding material. Somaclonal variation and development of somatoclonal lines resistant to biotic / abiotic stresses. Methods for creation of haploids and homozygous lines. Applications of recombinant DNA technologies in plant breeding.	
Grading and evaluating student work in class and/or at the final exam:	The structure of achievements assessment	Importance coefficient
	Control works	0,25
	Laboratories	0,25
	Examination	0,50
Required reading and	Ashraf M., Harris C., Harris P.J.C. Abiotic stresses: plant resistance through breeding and molecular	



<p><i>additional study material</i></p>	<p>approaches. Food Products Press. 2004. 725 p. Brandenber O., Dhlamini Z., Sensi A., Ghosh K., Sonnino A. Introduction to molecular biology and genetic engineering. Rome. 2011. 132 p. Chrispeels M.J., Sadava D.E. Plants, genes and crops biotechnology. Boston. 2003. 562 p. Christou P., Klee H.. Handbook of Plant Biotechnology. V.1-2, Wiley. 2004. Kyte L., Kleyn J. Plants From Test Tubes. Timber Press. 2005. 240 p. Maarten J. Ch., David E. S. Plants, genes and crops biotechnology. Boston. 2003. 562 p. Palmer C.E., Keller W.A., Kasha K.J. Haploids in crop improvement II. Springer. 2005. 318 p. Trigiano R. N., Gray D. J. Plant development and biotechnology. JAV. 2005. 358 p.</p>
<p><i>Additional information (if applicable)</i></p>	