

Subject name	Plant Genetic Transformation	
Subject code	E.1.PGTP.SC.ECTIE.O	
Department	Department of Genetics, Plant Breeding and Seed Science	
Faculty	Faculty of Biotechnology and Horticulture	
Subject supervisor/Lecturer	Prof. Rafał Barański	
General information	Teaching period	1 semester / winter or summer semester
	ECTS credit	6
	Lectures total	10 h
	Lab practical's	20 h
Objective and general description	The main objective of the course is understanding basic rules of plant genetic transformation and the impact of genetically modified plants in agricultural production.	
Lectures 5 x 2 hours	<ol style="list-style-type: none"> 1. Current status of GM plant production 2. Resistance to herbicides, pests and diseases, modified and novel traits 3. Marker and reporter genes 4. Methods of plant transformation 5. Regulations concerning GMO 	
Lab practicals 5 x 4 hours	<ol style="list-style-type: none"> 1. Agrobacterium culture and selection 2. Tobacco transformation using Agrobacterium tumefaciens 3. Carrot transformation using Agrobacterium rhizogenes 4. Selection of transgenic material 5. Identification of GM material 	
Literature	<p>Gene transfer to plants. Potrykus I, Spangenberg G. Springer, Berlin, 1995</p> <p>Agrobacterium tumefaciens. Nester E, Gordon MP, Kerr A. APS Press, St. Paul, 2005</p> <p>Plant biotechnology and genetics. 2008. C.N. Steward Jr. (ed.), Wiley</p> <p>Genetically modified plants: assessing safety and managing risk. 2009. G.T. Tzotzos i in. (ed.), Elsevier</p>	