

1.	<b>Course name: Plant cell culture techniques</b>
2.	Course code conforms to USOS: 25-BI-S2-E+-PCCT
3.	University department: Faculty of Biological Sciences, Botanical Garden
4.	Course type: <b>lecture (60h)</b>
5.	Degree: <b>master</b>
6.	Semester: <b>winter</b> and <b>summer</b>
7.	Number of hours: <b>60</b>
8.	Name, Surname, academic title: <b>Krystyna Kromer, Professor</b> (krystyna.kromer@uwr.edu.pl)
9.	<b>Course description/Content:</b> Aseptic techniques; Biological factors and signals essential for cell survival and proliferation in vitro; methods of cell transformation; Primary cell cultures from tissue explants; Application of cell cultures in plant propagation and biotechnology. Achievements in culture of plant cells, tissues and organs. The course of differentiation of somatic embryos, buds, roots and callus. Methods of cloning of plant cells. The transformation of plant cells, a somaclonal variation, selection of mutants in vitro culture, and other application of this technique. Biosynthesis of secondary metabolites, plant culture in bioreactors.
10.	Recommended literature: „In vitro culture of higher plants” R.M.L. Pierik “Plant Tissue Culture” R.. Smith “Plant Tissue Culture, Development, and Biotechnology” R.N. Trigiano, D.J. Gray, CRS, 2010
11.	Form of credit: Test
12.	Language: English
13.	Number of ECTS: <b>6</b>