Course code Semester ECTS Lectures/ classes	
13.1.1456 summer 4 Lectures: 15 hours	+
13.1.1456 summer 4 Lab class: 30 hour	S
Name of the lecturer and dr hab. Wojciech Pokora, profesor uczelni; dr hab. Anna Aksmann, profesor uczelni; dr	
contact Aleksandra Eckstein; wojciech.pokora@ug.edu.pl	
Prerequisites basic knowledge in plant biology or plant physiology	
Topics of the lecture:	
Photosynthesis: physiological and ecological aspect; development of plant shoot and root; plant	
hormones – synthesis, degradation, signalling; physiological effects of abiotic stress;	
mechanisms of plant adaptation to stress factors; basis of flowering and flower development;	
biology of plant ageing.	·
Course description	
Topics of laboratories:	
Properties of chloroplast pigments, photosynthetic apparatus functioning under the stress	
conditions, plant growth regulators, plant development and movements, hormonal regu	
of plant development, water management in plant cells and tissues, plant response to biot	
abiotic stress factors.	
Knowledge:	
- Student describes the structure and properties of basic types of biological macromole	cules.
molecular mechanisms of the basic metabolism nathways, the flow of genetic information	-
Learning outcomes sources of variability of plant organisms	
- Student describes the structure and functional relationships in plants at the cellular,	issue.
and organic levels	,

- Student is familiar with the development and current state of knowledge, as well as the latest trends in plant physiology and indicates their relationship with other disciplines in the natural sciences.

Skills:

- Student uses basic research equipment and tools, as well as maintains correct order of activities in the laboratory when works with plant material
- Student conducts observations and performs basic physical, biological, and chemical measurements in the laboratory