


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Plant Physiology advanced		13.1.1456	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	first tier studies (BA)
Faculty of Biology	Medical Biology	form	full-time
		specialty	all
		specialization	all
Faculty of Biology	Biology	type	first tier studies (BA)
		form	full-time
		specialty	all
Faculty of Biology	Genetics and Experimental Biology	specialization	all
		type	first tier studies (BA)
		form	full-time
Faculty of Biology	Genetics and Experimental Biology	specialty	all
		specialization	all
		form	full-time
Faculty of Biology	Natural Resources Conservation	type	first tier studies (BA)
		form	full-time
		specialty	all
Faculty of Biology	Natural Resources Conservation	specialization	all
		form	full-time
		specialty	all
Teaching staff			
dr hab. Wojciech Pokora, profesor uczelni; dr hab. Anna Aksmann, profesor uczelni; dr Aleksandra Eckstein			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		4	
Laboratory classes, Lecture		a) Classes requiring direct participation of the academic teacher and a student:	
The realization of activities		- participation in lectures: 15 h	
classroom instruction, online classes		- participation in labs: 30 h	
Number of hours		- participation in consultation: 5 h	
Lecture: 15 hours, Laboratory classes: 15 hours		- participation in the exam: 2 h	
		b) Student's own work:	
		- preparation for classes, exam, final assessment: 23 h	
		TOTAL: 75 hours	
The academic cycle			
2022/2023 summer semester			
Type of course		Language of instruction	
an elective course		english	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
- experiments in laboratory according to the provided protocol. - lecture with multimedia presentation		Final evaluation	
		- Graded credit - Examination	
		Assessment methods	
		Exam: test Laboratory: reports - written documentation of performed experiments and obtained results	
		The basic criteria for evaluation	

- exam comprises questions on lecture material and additional readings specified during the lecture series
- exam: minimum 51% of points from the final written test
- laboratory reports: minimum 51% of points from report after each lab meeting

Method of verifying required learning outcomes**Required courses and introductory requirements****A. Formal requirements**

none

B. Prerequisites

basic knowledge in plant biology or plant physiology

Aims of education

Lecture: The aim of the course is to provide students with the actual knowledge, techniques, and applications of the various aspects of plant physiology.

Laboratory: Preparing students to conduct research in the field of plant physiology.

Course contents**A. 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.

B. Topics of laboratories:

Properties of chloroplast pigments, photosynthetic apparatus functioning under the stress conditions, plant growth regulators, plant development and movements, hormonal regulation of plant development, water management in plant cells and tissues, plant response to biotic and abiotic stress factors.

Bibliography of literature**A. Literatura wymagana do ostatecznego zaliczenia zajęć (zdania egzaminu):****A.1. wykorzystywana podczas zajęć**

Taiz L., Zeiger E. (red.). 2015. Plant physiology. The Benjamin/Cummings Publ. Comp. Inc.

A.2. studiowana samodzielnie przez studenta

Taiz L., Zeiger E. (red.). 2015. Plant physiology. The Benjamin/Cummings Publ. Comp. Inc.

B. Literatura uzupełniająca

Selected scientific articles

The learning outcomes (for the field of study and specialization)**Knowledge**

1. Student describes the structure and properties of basic types of biological macromolecules, molecular mechanisms of the basic metabolism pathways, the flow of genetic information and sources of variability of plant organisms
2. Student describes the structure and functional relationships in plants at the cellular, tissue, and organic levels
3. 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

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

Social competence

6. Student makes a critical self-assessment of their own competences, as well as updates their knowledge and improves skills

Contact

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