

Course title: PLANT PHYSIOLOGY

ECTS credit allocation (and other scores): 7 ECTS

Semester: spring

Level of study: ISCED-6 - first-cycle programmes (EQF-6)

Branch of science: Natural sciences

Language: English

Number of hours per semester: 175

Course coordinator/ Department and e-mail: prof. dr hab. Agnieszka Piotrowicz-Cieślak / Department of Plant Physiology, Genetics and Biotechnology

Type of classes: classes and lectures

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#### Substantive content

**CLASSES:** Laboratory experiments explaining role: water management of the cell and plant organism, photosynthesis, respiration, mineral nutrition of plants, seed germination, the action of growth regulators and plant development, rest, correlation and regeneration.

**LECTURES:** Physiological processes of plant organisms. Water management of the cell and plant organism. Mineral management of plants and its importance in agriculture. Nitrogen cycle. Photosynthesis. Production and decomposition of organic matter in the aquatic and terrestrial environment. Deposits of organic matter. Coal cycle. Redox processes in the biosphere. Respiration. Secondary metabolism. Indications inside and intercellular. Biology and regulation of plant development. Structure and function of plants and adaptation to the environment

**LEARNING PURPOSE:** The main goal of the course is provide students with a general knowledge about diversity of native flora of Poland.

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**Knowledge:** Is able to define and characterize physiological processes at the molecular and cellular level in plants. He knows the physiological processes of plants, understands the interaction and regulation of physiological processes. Understands the specifics of the experiment in plant physiology. Has knowledge of basic research techniques used in physiology

**Skills:** U1 Applies elementary techniques of experimental biology. He uses laboratory equipment. He learns himself in a targeted way. Uses a specialized scientific language in the field of plant physiology.

**Social Competencies:** is able to work in a group.

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**Basic literature:** 1) Lincoln Taiz, Plant Physiology, wyd. Academic press, 2010

**Supplementary literature:** Kopcewicz Jan. Lewak Stanisław, Fizjologia roślin, wyd. PWN, 2019, t. 1 , s. 812

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The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 94 h

Student's independent work: 81 h