
Course title: TAXONOMY AND DIVERSITY OF PLANTS

ECTS credit allocation (and other scores): 3

Semester: spring

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

Branch of science: Natural sciences

Language: English

Number of hours per semester: 45

Course coordinator/ Department and e-mail: prof. dr hab. Jakub Sawicki, Department of Botany and Nature Protection

Type of classes: classes and lectures

Substantive content

CLASSES: The general rules and tips during plant identification using book keys. The application of cloud-based solution for preliminary delimitation based on morphological traits. Morpho-anatomical delimitation of representatives of selected plant families. Application of ecological data for genus-level plant identification. Practical approaches in plant delimitations using modern molecular and bioinformatics methods. Principles of phylogeny reconstruction with the use of morphological and molecular datasets.

LECTURES: The historical and modern classification systems of plants. The most important theories of plant evolution and their impact on systematics and taxonomy. Main evolutionary processes leading to speciation and diversification of plants. The role of bryophytes in the conquest of terrestrial environments. The application and role of modern molecular biology methods in studies on plant taxonomy and evolution. Morphological vs molecular plant species delimitations – an introduction to barcoding and superbarcoding. Review of selected taxonomic and ecological groups of plants.

Learning purpose: Understanding and application of wide spectrum of methods to identify of plant species

On completion of the study programme the graduate will gain:

Knowledge: the principles of modern plant taxonomy and gains knowledge about evolution and diversification of plants

Skills: Correctly identification of plants species using morphological and molecular methods

Social Competencies: Is aware of the influence of the representatives of particular systematic groups on the functioning of ecosystems and on human beings

Basic literature: Stuessy TF, Plant Taxonomy, publisher: Columbia University Press, 2009,

Supplementary literature: Leading journals in plant taxonomy and systematics (Taxon, Systematics Biology, Journal of Systematics and Evolution, Systematics Botany, American Journal of Botany)

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 1.88 ECTS

Student's independent work: 1.12 ECTS