

COURSE TITLE:

## ECOLOGY PRACTICE I.

COURSE DESCRIPTION:

Field practice, students work in groups of two or three. To investigate various ecological problems / hypotheses, students collect field data, analyze data, draw conclusions, and hand in a report on their work. During this, students obtain the following competences (practical skills):

- collecting field data for ecological research
- sampling animal / plant populations / communities
- analyzing ecological data
- drawing conclusion from ecological measurements
- ecological hypothesis testing
- summarizing research work in report

Specific topics according to the two subdisciplines are as follows.

Plant ecology:

Determination of Leaf Area Index (LAI) in forests; estimation of tree canopy and ground layer plant cover in forests; measurement of tree height and trunk circumference; mapping plant populations; search for association between local plant occurrences and soil depth or slope aspect in grasslands; survey of a local flora; assesment of habitat conditions by using plant community ecological indicator values; determination of species richness, evenness and diversity for a forest community; calculation of minimal area for a forest understory community; determination of age structure for a shrub population encroaching a seminatural grassland; seeking association between local occurrences of plant species.

Animal ecology:

Estimation of community composition and population size of animals using various trapping and sampling methods, the use of mark-recapture method, investigation of the effect of food abundance on breeding phenology of birds, estimation of parental investment in birds, learning the usefulness of long-term studies in ecology and evolutionary ecology.

LITERATURE:

Gibson, D.: Methods in Comparative Plant Population Ecology. Oxford University Press, 2014 (2nd ed.) ISSN 978-0-19-967147-2

Krebs, C.J. 1989. Ecological Methodology. Harper & Row, Publ., New York.

Magurran, A.E. 1988. Ecological Diversity and Its Measurement. Princeton Univ. Press, Princeton, 179.

Southwood, T.R.E. 2000. Ecological Methods. Wiley-Blackwell.

TEACHER:

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