

**Subject Area: Advanced Methods in Biotechnology and Biodiversity**

**Subject: The design of field, cultivation and controlled environment experiments in ecology**

Level: **PhD**

Year: **I - IV**

Semester: **S**

Speciality: **N/A**

Status: **Facultative**

ECTS: **2**

Department(s): **Department of Botany and Nature Protection**

Cooperating Department:

*Form of teaching (Number of hours; Form of assessment: Exam or Credit)*

<i>Lectures</i>	<i>Seminars/Conversatoria</i>	<i>Practicals</i>	<i>Total</i>
<b>0</b>	<b>4</b>	<b>11</b>	<b>15</b>

**Staff:**

SUBJECT COORDINATOR: Gabriela Woźniak, PhD

CONVERSATORIA: Gabriela Woźniak, PhD; Prof. Barbara Tokarska-Guzik PhD

PRACTICALS: Gabriela Woźniak, PhD; Prof. Barbara Tokarska-Guzik PhD

**Contents:**

The module will focus on improving the student's skills in understanding and assessing the investigation of ecological problems, particularly studies concerning biodiversity in a wide range of habitats, its conservation and management.

On the basis of these detailed analysis the strengths and weakness of field, cultivation and controlled environment approaches to ecological research will be reviewed by students in seminars.

CONVERSATORIA: The student will be required to summarise the outcomes of his or her inquiry in an individual written report which should include an examination and assessment of the following aspects of the experimental studies investigated: i) scientific hypotheses investigated; ii) selection of appropriate methods to verify the hypotheses; iii) experimental design and implementation in the field, in cultivation and in controlled environments, including planning sequential stages in the investigation; iv) collection of results obtained; v) methods of analysis of the results used; vi) discussion and validity of the conclusions drawn by the investigators.

PRACTICALS: Students will be introduced to ongoing and completed ecological experiments, including site visits. The student will be expected to compare the design of the experimental examples presented with appropriate examples in the scientific literature.

**Methods and forms of teaching:** field visits, discussion, individual work

**Requirements:** basic knowledge of plant diversity and ecology

**Literature** (*maximum 5, preferably recent sources, all in English*):

1. Crawford R. M. M. (2008) *Plants at the Margin. Ecological Limits and Climate Change*. Cambridge Univ. Press
2. Falińska K. 1998. *Plant population biology and vegetation processes*. W. szafer Institute of Botany, Polish Academy of Sciences, Kraków
3. Verhoef H.A., Morin P.J. 2010. *Community Ecology Processes, Models, and Applications*. Oxford University Press
4. recent articles provided by the staff

**Remarks** (*if necessary*):