

# SYLLABUS – A COURSE DESCRIPTION

## I. General information

1. Course name: **Birds monitoring methods\_2020en**
2. Course code:
3. Course type (compulsory or optional): **optional**
4. Study programme name: **Environmental protection**
5. Cycle of studies (1st or 2nd cycle of studies or full master's programme): **2nd cycle of studies**
6. Educational profile (general academic profile or practical profile): **general academic profile**
7. Year of studies (if relevant): **I and II 2nd cycle of studies**
8. Type of classes and number of contact hours (e.g. lectures: 15 hours; practical classes: 30 hours):  
**lectures: 10 hours**  
**practical classes: 20 hours**
9. Number of ECTS credits: **3**
10. Name, surname, academic degree/title of the course lecturer/other teaching staff:  
**dr Michał Budka, m.budka@amu.edu.pl**
11. Language of classes: **english**
12. Online learning – yes (partly – online / fully – online) / no: **B-learning is not planned**

## II. Detailed information

1. Course aim (aims)

**During the theoretical part of the course students will be familiar with various methods of bird monitoring (e.g.: complete census, strip transects, point counts, capture-mark-recapture method, passive acoustic monitoring). They will know examples of various monitoring approaches as well as the advantages and limitations of each method.**

**During the practical part of the course (classes), students will get a particular case to solve. They will plan the monitoring program of a species or group of species in specific habitat conditions (e. g. monitoring of the Aquatic warbler population in Biebrza National Park). Their project will be a manual, including all details of the monitoring program (number, distribution, size of the study plots, number and duration of survey, time of survey during a day and season, researchers requisition, data analysis scheme, predicted errors of estimation, etc.).**

**The field part of the course will show how to use various monitoring techniques and methods in the practice. Students will collect data in the field (e.g. catching and marking birds, surveying birds by using point-count or line-transect methods, recording soundscape by using autonomous sound recorders). Students will use GPS receivers, binoculars, loudspeakers, autonomous sound recorders. Collected data will be developed in groups, students will conduct bioacoustics, GIS, and statistical analyses. The field part of the course will take place during four succeeding days, outside the Poznań.**
2. Pre-requisites in terms of knowledge, skills and social competences (if relevant)

**Basic knowledge in statistics, computer software (R), birds identification. Ability to work in a group. Ready for work during the untypical part of a day (early in the morning) and in the field conditions (field part of the course).**

3. Course learning outcomes (EU) in terms of knowledge, skills and social competences and their reference to study programme learning outcomes (EK)

<b>Course learning outcome symbol (EU)</b>	<b>On successful completion of this course, a student will be able to:</b>	<b>Reference to study programme learning outcomes (EK)</b>
EU_01	The student knows various methods of bird monitoring, is able to point strong and weak sides of each method, is able to choose an appropriate monitoring method for the particular monitoring task.	K_W01, K_W06, K_U01, K_U10
EU_02	The student is able to plan to monitor a particular species or group of species using various monitoring methods.	K_U02, K_U08, K_K01
EU_03	The student is able to conduct monitoring in the field	K_U03, K_K03
EU_04	The student is able to analyze empirical data, interpret results and draw conclusions	K_K06, K_U07, K_U02

4. Learning content with reference to course learning outcomes (EU)

<b>Course learning content</b>	<b>Course learning outcome symbol (EU)</b>
Introduction to bird monitoring methods and bird species identification. Advantages and disadvantages of particular methods. Trends in birds monitoring, new methods.	EU_01, EU_02
The statistical approach to analyzing empirical data. How to plan to monitor from the statistical point of view?	EU_02, EU_04
Practical conducting of monitoring in the field, verification of theoretical framework in practice.	EU_01, EU_02, EU_03
Analyzing of empirical data, data preparation, statistical approach, drawing conclusions.	EU_04

5. Reading list

**Wydawnictwa książkowe**

**1. Gillian Gilbert, David W. Gibbons, Julianne Evans: Bird Monitoring Methods: A Manual of Techniques for Key UK Species, Whittles Publishing, Dunbeath, 2012**

**2. Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. : Bird Census Techniques. 2nd edition., Academic Press, London, 2000**

**3. William J. Sutherland, Ian Newton, and Rhys Green: Bird Ecology and Conservation: A Handbook of Techniques, Oxford University Press, Oxford, 2004**

**4. William J Sutherland (editor): Ecological Census Techniques 2ed: A Handbook 2nd Edition , Cambridge University Press, Cambridge, 2006**  
**Artykuły w czasopiśmie**

**1. Andrew Digby, Michael Towsey Ben D. Bell Paul D. Teal (2013): A practical comparison of manual and autonomous methods for acoustic monitoring, Methods in Ecology and Evolution, doi.org/10.1111/2041-210X.12060**

**2. Damiel T. Blumstein et al. (2011): Acoustic monitoring in terrestrial environments using microphone arrays: applications, technological considerations and prospectus, Methods in Ecology and Evolution, doi.org/10.1111/j.1365-2664.2011.01993.x**

### III. Additional information

1. Teaching and learning methods and activities to enable students to achieve the intended course learning outcomes (please indicate the appropriate methods and activities with a tick or/and suggest different methods)

Teaching and learning methods and activities	
Lecture with a multimedia presentation	X
Interactive lecture	
Problem – based lecture	
Discussions	X
Text-based work	
Case study work	X
Problem-based learning	X
Educational simulation/game	
Task – solving learning (eg. calculation, artistic, practical tasks)	X
Experiential work	X
Laboratory work	
Scientific inquiry method	X
Workshop method	
Project work	X
Demonstration and observation	
Sound and/or video demonstration	
Creative methods (eg. brainstorming, SWOT analysis, decision tree method, snowball technique, concept maps)	
Group work	X

2. Assessment methods to test if learning outcomes have been achieved (please indicate with a tick the appropriate methods for each LO or/and suggest different methods)

Assessment methods	Course learning outcome symbol			
	EU_1	EU_2	EU_3	EU_4
Written exam	X			
Oral exam				
Open book exam				

Written test				
Oral test				
Multiple choice test				
Project		X	X	X
Essay				
Report		X	X	X
Individual presentation				
Practical exam (performance observation)			X	
Portfolio				

### 3. Student workload and ECTS credits

Activity types	Mean number of hours spent on each activity type
Contact hours with the teacher as specified in the study programme	30
Preparation for classes	10
Reading for classes	10
Essay / report / presentation / demonstration preparation, etc.	10
Project preparation	10
Term paper preparation	
Exam preparation	10
Total hours	80
Total ECTS credits for the course	3

### 4. Assessment criteria according to AMU in Poznan grade system

**Very good (bdb; 5,0): Excellent knowledge and skills, perfect project**

**Good plus (+db; 4,5): Very good knowledge and skills, very good project**

**Good (db; 4,0): Good knowledge and skills, good project**

**Satisfactory plus (+dst; 3,5): Knowledge and skills with some gaps, project with some mistakes or gaps**

**Satisfactory (dst; 3,0): Knowledge and skills with many gaps, project with many gaps**

**Unsatisfactory (ndst; 2,0): Insufficient knowledge and skills, project with fundamental gaps**