

# OS5b - The concept of bioindication in ecology and environmental protection - cuckoo as an indicator of biodiversity - opis przedmiotu

| Informacje ogólne   |                                                                                                                      |
|---------------------|----------------------------------------------------------------------------------------------------------------------|
| Nazwa przedmiotu    | OS5b - The concept of bioindication in ecology and environmental protection - cuckoo as an indicator of biodiversity |
| Kod przedmiotu      | 13.9-WB-OS2P-Bioind.-S17                                                                                             |
| Wydział             | <a href="#">Wydział Nauk Biologicznych</a>                                                                           |
| Kierunek            | Environmental Protection                                                                                             |
| Profil              | ogólnoakademicki                                                                                                     |
| Rodzaj studiów      | pierwszego stopnia z tyt. licencjata                                                                                 |
| Semestr rozpoczęcia | semestr zimowy 2021/2022                                                                                             |

| Informacje o przedmiocie        |                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------|
| Semestr                         | 4                                                                                  |
| Liczba punktów ECTS do zdobycia | 2                                                                                  |
| Typ przedmiotu                  | obowiązkowy                                                                        |
| Język nauczania                 | angielski                                                                          |
| Sylabus opracował               | <ul style="list-style-type: none"><li>dr hab. Federico Morelli, prof. UZ</li></ul> |

| Formy zajęć |                                         |                                        |                                            |                                           |                     |
|-------------|-----------------------------------------|----------------------------------------|--------------------------------------------|-------------------------------------------|---------------------|
| Forma zajęć | Liczba godzin w semestrze (stacjonarne) | Liczba godzin w tygodniu (stacjonarne) | Liczba godzin w semestrze (niestacjonarne) | Liczba godzin w tygodniu (niestacjonarne) | Forma zaliczenia    |
| Ćwiczenia   | 15                                      | 1                                      | -                                          | -                                         | Zaliczenie na ocenę |

## Cel przedmiotu

**The concept of bioindicators in Ecology and Conservation: Common cuckoo as surrogate of biodiversity, and the potentialities of citizen science**

## Wymagania wstępne

Regular students. Basic knowledge of ecology, evolution, biodiversity and conservation biology is helpful.

## Zakres tematyczny

Topics: bioindicators and surrogates. Focal species, umbrella species, charismatic species and comparison about surrogacy effectiveness between common cuckoo and raptor species. Common cuckoo as indicator of taxonomic diversity, functional diversity in Europe and Asia. Citizen sciences programs, opportunities and weakness related to involving common people.

## Metody kształcenia

Lectures, exercises, and semester assignment (exposition of 1 selected topic in a presentation).

## Efekty uczenia się i metody weryfikacji osiągnięcia efektów uczenia się

| Opis efektu                                                                                                                                                                                                                                                                                                                                                                                                                         | Symbole efektów                                                                                         | Metody weryfikacji                                                                            | Forma zajęć                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| On completion of the course the students should be able to achieve: bioindicators and surrogates. Focal species, umbrella species, charismatic species and comparison about surrogacy effectiveness between common cuckoo and raptor species. Common cuckoo as indicator of taxonomic diversity, functional diversity in Europe and Asia. Citizen sciences programs, opportunities and weakness related to involving common people. | <ul style="list-style-type: none"><li><a href="#">K1A_W20</a></li></ul>                                 | <ul style="list-style-type: none"><li>bieżąca kontrola na zajęciach</li><li>projekt</li></ul> | <ul style="list-style-type: none"><li>Ćwiczenia</li></ul> |
| The student is able to analyse course-specific literature in Polish and English                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"><li><a href="#">K1A_K36</a></li></ul>                                 | <ul style="list-style-type: none"><li>bieżąca kontrola na zajęciach</li></ul>                 | <ul style="list-style-type: none"><li>Ćwiczenia</li></ul> |
| The student is able to plan and conduct a project with focus on counting and observing animals as well as critically analysing the results                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"><li><a href="#">K1A_U06</a></li><li><a href="#">K1A_K05</a></li></ul> | <ul style="list-style-type: none"><li>aktywność w trakcie zajęć</li><li>projekt</li></ul>     | <ul style="list-style-type: none"><li>Ćwiczenia</li></ul> |
| The student is able to present results of own work and other sources in front of class                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"><li><a href="#">K1A_W20</a></li><li><a href="#">K1A_K36</a></li></ul> | <ul style="list-style-type: none"><li>bieżąca kontrola na zajęciach</li><li>projekt</li></ul> | <ul style="list-style-type: none"><li>Ćwiczenia</li></ul> |

## Warunki zaliczenia

Presence all lectures of the course. Development and presentation of one topic selected during the course.

## Literatura podstawowa

Santangeli, A., Toivonen, T., Pouzols, F.M., Pogson, M., Hastings, A., Smith, P., Moilanen, A., 2016. Global change synergies and trade-offs between renewable energy and biodiversity. *GCB Bioenergy* 8, 941–951. doi:10.1111/gcbb.12299

Morelli, F., Møller, A.P., Nelson, E., Benedetti, Y., Liang, W., Šímová, P., Moretti, M., Tryjanowski, P., 2017. The common cuckoo is an effective indicator of high bird species richness in Asia and Europe. *Sci. Rep.* 7, 4376. doi:10.1038/s41598-017-04794-3

Caro, T.M., O'Doherty, G., 1999. On the Use of Surrogate Species in Conservation Biology. *Conserv. Biol.* 13, 805–814.

Butchart, S.H.M., Clarke, M., Smith, R.J., Sykes, R.E., Scharlemann, J.P.W., Harfoot, M., Buchanan, G.M., Angulo, A., Balmford, A., Bertzky, B., Brooks, T.M., Carpenter, K.E., Comeros-Raynal, M.T., Cornell, J., Ficetola, G.F., Fishpool, L.D.C., Fuller, R.A., Geldmann, J., Harwell, H., Hilton-Taylor, C., Hoffmann, M., Joolia, A., Joppa, L., Kingston, N., May, I., Milam, A., Polidoro, A., Ralph, A., Richman, N., Rondinini, C., Segan, D., Skolnik, B., Spalding, M., Stuart, S.N., Symes, A., Taylor, J., Visconti, P., Watson, J., Wood, L., Burgess, N.D., 2015. Shortfalls and solutions for meeting national and global conservation area targets. *Conserv. Lett.* 1–9. doi:10.1111/conl.12158

## Literatura uzupełniająca

### Uwagi

Zmodyfikowane przez dr Olaf Ciebiera (ostatnia modyfikacja: 19-05-2021 22:02)

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