Behavioral ecology in a changing world

Titulaire
Thomas Parmentier (Coordonnateur)

Mnémonique du cours
BIOL-F4001

Crédits ECTS
5 crédits

Langue(s) d'enseignement
Anglais

Période du cours
Premier quadrimestre

Campus
Plaine

Contenu du cours

This course explores **behavioral ecology** in the context of a **rapidly changing world**

Part I: Major concepts of behavioral ecology, including homeostasis, communication, movement, foraging, learning, sociality, interspecific interactions, and parental care, will first be introduced, and then the effects of human-mediated stressors (climate change, acidification, eutrophication, habitat fragmentation, pollution, artificial light, invasive species, urbanization ...) on that specific concept will be examined in turn.

Part II: We will focus on the relationship human-animal and assess the direct impacts of humans on animal behavior, addressing themes such as human-wildlife conflict, animal welfare, conservation and domestication. Particular emphasis will be placed on how our interactions with animals influence their behavior and on strategies to mitigate our impacts

Objectifs (et/ou acquis d'apprentissages spécifiques)

- Introduce the foundational concepts of behavioral ecology, such as homeostasis, communication, movement, foraging, learning, sociality, interspecific interactions, and parental care, while examining how different human-mediated stressors shape these behaviors.
- Analyze behavioral strategies from both proximate (mechanistic) and ultimate (evolutionary) perspectives, with a focus on how species adapt or fail to adapt to a rapid changing world
- Investigate learning and plasticity as mechanisms that allow animals to cope with novel and shifting conditions, and evaluate their role in resilience to global change.
- Explore human-animal relationships and their effect on animal behavior, with attention to human-wildlife conflict, animal welfare, and domestication.
- Promote a scientific approach to animal welfare and conservation, emphasizing how behavioral responses can serve as indicators of stress, well-being, and long-term viability in a human-dominated world.
- Develop an integrated perspective on animal behavior by linking its evolutionary and developmental foundations to its ecological, societal, and economic relevance under global change.

Pré-requis et co-requis

Connaissances et compétences pré-requises

Students are expected to have basic knowledge of ecology and animal behavior, typically acquired during a bachelor's program in biology, bioengineering, or a related field

Méthodes d'enseignement et activités d'apprentissages

theory: lectures

practical excercise: in-depth exploring and presenting a topic related to animal behavior in a changing world

Références, bibliographie et lectures recommandées

powerpoint

Support(s) de cours

Université virtuelle

Autres renseignements

Lieu(x) d'enseignement

Plaine

Contact(s)

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Méthode(s) d'évaluation

Examen écrit

Examen écrit

Question ouverte à réponse courte et Question ouverte à développement long

Méthode(s) d'évaluation (complément)

theory: 80%

practical work (oral presentation on a selected subject): 20%

! Students should actively participate in and complete the practical work before being eligible to take the theoretical examination.

Construction de la note (en ce compris, la pondération des notes partielles)

theory: 80%

practical work: 20%

Langue(s) d'évaluation principale(s)

Anglais

Autre(s) langue(s) d'évaluation éventuelle(s)

Français

Programmes

Programmes proposant ce cours à la faculté des Sciences

MA-BIOR | Master en biologie des organismes et écologie | finalité Approfondie/bloc 2 et finalité Erasmus Mundus Joint Master in Tropical Biodiversity and Ecosystems (TROPIMUNDO)/ bloc 1 et MA-IRBA | Master : bioingénieur en sciences agronomiques | finalité Spécialisée/bloc 2

Programmes proposant ce cours à l'école polytechnique de Bruxelles

MA-IRBA | Master : bioingénieur en sciences agronomiques | finalité Spécialisée/bloc 2