科目ナンバリング	U-LAS14 10012 LE69						
授業科目名<英訳>	Fundamentals of Organismal and Population Biology-E2 Fundamentals of Organismal and Population Biology-E2			担当者所属職名・氏名	理学研究科　准教授　BARNETT, Craig Antony		
群	自然科学科目群			分野(分類)	生物学(総論)	使用言語	英語
旧群	B群	単位数	2単位	週コマ数	1コマ	授業形態	講義（対面授業科目）
開講年度・開講期	2026・前期	曜時限	金2	配当学年	主として1・2回生	対象学生	全学向

[授業の概要・目的]

In the history of the earth (4.6 billion years), life has diversified from simple unicellular organisms into a myriad of different organisms including human beings since it appeared 3.8 billion years ago. This course will explain how living creatures have diversified from these simple origins. We will also examine the biology of individual organisms and explain the formation of ecological communities and ecosystems. This class discusses basic principles of biology and is suitable for students who have not previously studied biology.

[到達目標]

An introductory course that mainly deals the evolution of biological diversity, the biology of individuals and groups. Having completed the course, students will have a basic understanding of the evolution of biological diversity and the mechanisms by which diverse species coexist.

[授業計画と内容]

The following subjects will be held for 2-5 weeks each. The items in [] are the main items.
(1) The history of life
We will systematically examine the origin and evolutionary history of life on Earth, and the systematic evolution and diversification of organisms. The latest knowledge about the classification system is also introduced. [The origin of life, prokaryotes, eukaryotes, intracellular symbiosis].
(2) Animal behavior and physiology
We will examine the diverse adaptive animal behavior patterns and physiological characteristics of organisms in temporally and spatially variable environments. [Adaptation, sexual selection, homology, the evolution of altruistic behavior, homeothermic animals, variable temperature animals, temperature acclimation, and homeostasis].
(3) Ecology of groups and communities
Ecology and evolution of organisms the adaptation of organisms to the environment is explained based on genetic and evolutionary mechanisms. We will explore the ecology of populations, communities, the structure and function of ecosystems, ecological niches, and the basis and function of biodiversity. [Genetic systems, evolutionary mechanisms, natural selection, adaptation, life history, individual group dynamics, interspecies relationship, biological communities, food webs, biome, ecosystem function, biodiversity].
(4) Human characteristics and evolution
Explain the biological characteristics of primates (including humans) using comparisons of their forms, behaviors, and ecology. [Evolutionary history, distribution, tree adaptation, grasping ability, vision, food habits, brain size, sex differences, social structure, bipedalism, canine retraction, tool use, division of labor, and the genetic diversity in modern people].

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[履修要件]

It is not necessary to have completed high school biology, but it would be an advantage.

[成績評価の方法・観点]

The course will be assessed by end of semester test.

[教科書]

No textbook

[授業外学修（予習・復習）等]

To achieve the course goals, students should review the course materials and the recommended readings after each class. The time necessary for review should be in the range of 2-3 hours per week. If you have any questions, please ask the instructor.

[その他（オフィスアワー等）]

No formal office hours, the instructor is available by appointment to meet with students.

[主要授業科目（学部・学科名）]

理学部