

Course number		U-LAS14 20054 LE68					
Course title (and course title in English)		Introduction to Ecology-E2 Introduction to Ecology-E2		Instructor's name, job title, and department of affiliation		Graduate School of Science Associate Professor,BARNETT, Craig Antony	
Group	Natural Sciences		Field(Classification)		Biology(Issues)		
Language of instruction	English		Old group	Group B		Number of credits	2
Number of weekly time blocks	1	Class style	Lecture (Face-to-face course)		Year/semesters	2025 • First semester	
Days and periods	Mon.2		Target year	Mainly 1st & 2nd year students		Eligible students	For all majors
[Overview and purpose of the course]							
Ecology is the investigation of how living organisms interact with their environment. We will start with the question of how individual organisms handle the difficulties of their environments, and then work up the scale of ecological organization, from looking at individuals to populations, communities, ecosystems, and global and conservation ecology. Beyond description, we will focus on simple but elegant mathematical models that explain patterns we see in the world and processes that may produce them.							
[Course objectives]							
1) To understand the principles of how organisms respond to your environments, populations grow and go extinct, species interact through food webs and mutualisms, communities are structured, and ecosystems work as systems, cycling nutrients and energy. 2) To learn about the environmental challenges that we will encounter in the coming century, and how ecological principles inform our solutions to mitigate and adapt to them. 3) To be able to describe the ideas behind mathematical ecological theories using graphs, and to appreciate their predictions and assumptions. 4) To sharpen listening skills, and interact in a classroom setting in English.							
[Course schedule and contents)]							
1) Introduction: The Science of Ecology 2) Evolution and Ecology 3) Behavioural Ecology 4) Population Distribution, Abundance, Growth, and Regulation 5) Population Dynamics 6) Competition 7) Assignment: Analysis of Ecological Data 8) Predators and Herbivores 9) Other Species Interactions 10) Species Diversity 11) Applied Problem: Harvesting Populations 12) Applied Problem: Conservation 13) Energy and Nutrient Cycles 14) Landscape and Global Ecology 15) Final Exam 16) Feedback							

Continue to Introduction to Ecology-E2(2)							

Introduction to Ecology-E2(2)

[Course requirements]

Understanding of high school biology is recommended.

[Evaluation methods and policy]

Assessment will comprise of assignments (50%), and a final examination (50%). The final examination will test whether students have achieved the course goals. Students who are absent more than five times will not be credited.

[Textbooks]

Not fixed

[References, etc.]

(References, etc.)

Krebs, C.J. 『Ecology: The experimental Analysis of Distribution and Abundance』 (Pearson) ISBN:978-1-29202-627-5

[Study outside of class (preparation and review)]

To achieve the course goals students should review the course materials plus optionally the according chapters in the recommended text books after each class. The time necessary for review should be in the range of 2-3 hours per class.

[Other information (office hours, etc.)]

[Essential courses]