

LIFS 3160 Ecology

Fall 2016

1. Instructors:

Prof. Karen CHAN (KC), course coordinator
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Office: CYT Room 5004 (L25/26), Division of Life Science
Office Hours: Thursday 4-5 p.m.

Dr. Ice KO (IK)
Phone: 2358 8923; Email: iceko@ust.hk
Office: Room 5444(L25/26), Division of Life Science

2. Meeting Time and Venue: Tuesday and Thursday, 9:00 – 10:20 am; Room CYTG010

3. Course Description

Credit points: 3

Pre-requisite: Nil

Exclusion: Nil

Brief description:

This course is designed to equip students with basic understanding in ecology, which includes the organism-environment interaction, characteristics of population as a basic biological unit in an ecosystem, intra- and inter-specific interactions, as well as human impacts on biodiversity and ecosystems.

4. Intended Learning Outcomes

On successful completion of this course, students are expected to be able to:

1. Examine the different levels of organization in the biosphere (i.e. individual, population, community and ecosystem).
2. Assess the interactions between individuals of the same species, between different species of organisms, and between living things and the physical environment.
3. Identify major environmental problems and the scientific tools for evaluating and addressing the problems.
4. Critically evaluate scientific literature so as to (i) identify the objectives of the study, (ii) appreciate the importance of the scientific questions addressed, (iii) understand the principle, advantages and limitations of the experimental design and data analysis methods, (iv) evaluate the soundness of the conclusion drawn.

5. Assessment Scheme

Case Studies	10%
Midterm exam:	45%
Final exam:	45%

Case Studies: Students are required to study peer-reviewed articles in depth and come to class prepared to discuss the design, findings, and implications of the reading materials. Reading

materials and study questions will be made available on Canvas at least 5 days before class, however, the instructor's interpretation will only be shown and discussed in lecture.

Mid-term and final: Materials from lectures #1 to #11 will be covered in the mid-term and the final exam will serve as assessment for the remaining course content. Both exams will consist of multiple choice questions and short questions. There will be NO make-up exams. Students with legitimate academic conflict of schedule must seek approval and reschedule exam with the instructor within the first 2 weeks of the semester.

6. Student Learning Resources:

Textbook – Stiling, P. 2015. *Ecology: Global Insights & Investigations*, Second edition, McGraw-Hill.

Lecture notes and supplementary reading materials will be made available on canvas.ust.hk prior to each lecture.

7. Teaching and Learning Activities

Three hours of lecture per week

8. Other class policies

Email communication:

We follow a 24 hour email return policy i.e., please allow at least 24 hours before your email is addressed. Implication: Emails sent to the instructors the day before midterms or final exams will not be addressed in time before the due date.

Grade dispute:

Grade dispute should be requested in writing within 7 days of the announcement of results.

Academic Integrity:

Collaboration is encouraged and valued in this class. However, you have to complete your own work independently. Suspected cheating in assignments will automatically receive a zero and reported to the department. Any other suspected case of cheating, plagiarism, or academic misconduct will be handled according to University policy. Please refer to the <http://tl.ust.hk/integrity/student-1.html> as a refresher of appropriate your academic conduct.

Disability accommodation:

To request academic accommodations due to a disability, please contact Advisor to Students with Special Needs. If you have a letter from the advisor indicating that you have a disability which requires academic accommodations, please present the letter to the instructor so we can discuss the accommodations needed for this class within the first 2 weeks of class.

9. Course Schedule

	Date	Topic	Instructor
1)	1 Sept (Thu)	Introduction Scientific Methods, Statistics for Ecologists Biodiversity Revisited	KC
2)	6 Sept (Tue)	Genetics and Evolution	
3)	8 Sept (Thu)	Genetics and Evolution Case Study: Why are Cave Fish Blind	
4)	13 Sept (Tue)	Physiological Ecology for Plants	
5)	15 Sept (Thu)	Physiological Ecology for Animals Case Study: Climate Change and Range Shift	
6)	20 Sept (Tue)	Foraging Behaviors	
7)	22 Sept (Thu)	Social Behaviors, Group Selection	
8)	27 Sept (Tue)	Evolution of Sex, Sexual Selection	
9)	29 Sept (Thu)	Population Distribution and demographic techniques	
10)	4 Oct (Tue)	Life History	
11)	6 Oct (Thu)	Population Growth and Model	
12)	11 Oct (Tue)	Mid-term Exam	
13)	13 Oct (Thu)	Competition and Coexistence	
14)	18 Oct (Tue)	Facilitation	
15)	20 Oct (Thu)	Predation	
16)	25 Oct (Tue)	Case Study: Wolves of the Yellow Stone Park	
17)	27 Oct (Thu)	Herbivory	
18)	1 Nov (Tue)	Parasitism	
19)	3 Nov (Thu)	Population Regulation	
20)	8 Nov (Tue)	Species Diversity	
21)	10 Nov (Thu)	Species Richness Patterns	
22)	15 Nov (Tue)	Species Richness and Community Services (I)	
23)	17 Nov (Thu)	Species Richness and Community Services (II)	
24)	22 Nov (Tue)	Succession and Stability	
25)	24 Nov (Thu)	Landscape Ecology	
26)	29 Nov (Tue)	Geographic Ecology	