Syllabus(2017-1)

Course Title	Behavior of Animals	Course No.	10930-01
Department/ Major	Life Sciences	Credit/Hours	3 / 3
Class Time/ Classroom	Mondays 11:00 - 12:15, Thursdays 12:30 - 13:45 / General Science Building B102		
Instructor	Name:JANG, YIKWEON	Department: Life Sciences	
Office Hours/ Office Location	Mondays 09:30 - 10:45 Thursdays 10:30 - 12:00 General Science Building B318		

Ⅰ. Course Overview

1. Course Description

Welcome to “Behavior of Animals”!

I am very fortunate to teach this course each semester, because I love animals like you do and because it’s always fun to watch what animals do. However, this course is not like showing you behavior after behavior. What I want you to get out of this class is to learn a framework within which all aspects of animal behavior can be studied. That framework is evolution by means of natural and sexual selection. Throughout the semester, I will do my best to show you how selection has shaped the behavior of animals. Finally, I want this course to be interesting and challenging for each of you and hope that it generates your curiosity about animals and the living world around you.

Understanding what animals do and why they do the way they do is the best way to help them. My main research interests include acoustic communication of insects and frogs, biodiversity and conservation biology. One of my research projects is behavioral ecology and conservation of two Korean treefrog species: the endangered *Hyla suweonensis* and the widespread *H. japonica*. Males of these two treefrog species occur together usually in the same rice paddies. Being numerically and physically inferior to *H. japonica*, males of *H. suweonensis* may have evolved several behaviors that may reduce direct contacts with *H. japonica*. For example, males of *H. suweonensis* move into rice paddies several hours earlier than do males of *H. japonica*, creating a period in which males of *H. suweonensis* produce advertisement calls without disturbance. Furthermore, males of *H. suweonensis* rest on trees in the morning and leave the trees about an hour before males of *H. japonica* arrive. Unfortunately, males of *H. suweonensis* rely more on the levees of rice paddies for resting and feeding than do males of *H. japonica*, which make *H. suweonensis* vulnerable to modern farming practices. Thus, we have initiated a restoration project for *H. suweonensis* in the city of Suwon, of which the name of *H. suweonensis* is derived, based on the information from our research.


Left: A male of *Hyla suweonensis* is calling, while holding the rice seedlings in a rice paddy. Right: A *Hyalessa fuscata* cicada.

I also have a project about acoustic communication and ecology of cicada species in Korea. Recently, cicada noise is a nuisance to city dwellers during the hot summer days in Korea. We found out that cicada densities in the metropolitan Seoul and its suburbs were an order of magnitude higher than were rural cities. Two cicada species, *Cryptotympana atrata* and *Hyalessa fuscata*, are particularly high in urban areas. We are testing several hypotheses about high densities of cicada species in urban areas including favorable abiotic condition, predator reduction, and availability of host plants hypotheses. We are interested in the hypothesis in which high temperatures in urban areas due to heat island effect may be responsible for high cicada densities. Heat island effect refers to the metropolitan areas experiencing higher temperatures than the surrounding areas due to human activities. This year we find that areas with high heat island effect seem to have higher densities of cicada species than do areas of low heat island effect within the metropolitan Seoul. If this heat island hypothesis is true, then cicada density may be a good indicator of human activity in big cities in Korea.

This course will be taught in English, but I understand that many of you, like me, are not native English speakers. At the end of the class, I reserve ten minutes to briefly review the information presented in Korean. The best way of learning animal behavior is by watching behaviors that animals actually perform. Thus, I will use pictures and video clips as often as possible.

2. Prerequisites

NONE

3. Course Format

Lecture	Discussion/Presentation	Experiment/Practicum	Field Study	Other
100 %	%	%		%

(Instructor can change to match the actual format of the class.)

Explanation of course format:

4. Course Objectives

This course focuses on the mechanisms and evolution of animal behavior, including behavioral adaptation, feeding behavior, communication, reproductive behavior, sexual selection, parental care, social behavior, and human evolution.

5. Evaluation System

Midterm Exam	Final Exam	Quizzes	Presentation	Projects	Assignments	Participation	Other
40 %	40 %	%	%	%	10 %	10 %	%

(Instructor can change to match the actual format of the class.)

* Evaluation of group projects may include peer evaluations.

Explanation of evaluation system:

Ⅱ. Course Materials and Additional Readings

1. Required Materials

NONE

2. Supplementary Materials

Alcock, John. *Animal Behavior*. 10th ed. Sinauer. Sunderland, Massachusetts. USA.

장이권. 2015. <야외생물학자의 우리 땅 생명 이야기>. 뜨인돌

브런치. https://brunch.co.kr/@treefrogmst

장이권의 자연생태 탐사기.
http://news.khan.co.kr/kh_news/khan_serial_list.html?s_code=ao237

3. Optional Additional Readings

Ⅲ. Course Policies

* For laboratory courses, all students are required to complete lab safety training.

Attendance:
Attendance of the class is important to achieve mastery of the course materials. I will check attendance at the beginning of and during each class. If you miss a class, you will lose two points our of ten attendance points. If you are late for the class, you will lose one point. I understand that sometimes missing class is unavoidable due to illness or emergency. Thus you will not be penalized for the first four points of your absence or being late. Thereafter, you will be penalized for your absence and being late.

Excessive absences will lead to automatic failure of this course. If you miss the class eight or more times, you will get F, regardless of your performance in this class. Checking attendance starts on March 9. There will be no attendance check for the first two classes of the semester on March 2 and 6.

Homework:
There will be one homework assignment in the form of a survey. The assignment will be judged based on participation, rather than content.

Exams:
There will be two in-class examinations, which will consist of multiple choice, fill-in-in-blank, matching, and short answer questions. The last class before an exam is designated as a review session. You may ask any question regarding the exams during the review sessions.

IV. Course Schedule (15 credit hours must be completed.)

Week	Date	Topics & Class Materials, Assignments
Week 1	3/2	Introduction
	3/6	Biology of cuteness
Week 2	3/9	Evolution
	3/13	Scientific approach to animal behavior
Week 3	3/16	Behavioral adaptation for survival
	3/20	Testing adaptationist hypotheses
Week 4	3/23	The development of behavior
	3/27	Learning
Week 5	3/30	Evolution of feeding behavior
	4/3	Predator-prey interaction
Week 6	4/6	Habitat selection
	4/10	Animal communication
Week 7	4/13	Review session
	4/17	Mid-term exam
Week 8	4/20	Orientation
	4/24	Game theory
Week 9	4/27	Evolution of sex
	5/1	Sexual selection 1
Week 10	5/4	Sexual selection 2
	5/8	Sexual selection 3
Week 11	5/11	Mating systems
	5/15	Kin selection
Week 12	5/18	Eusociality
	5/22	Reciprocal altruism
Week 13	5/25	Animal personality
	5/29	Human behavior
Week 14	6/1	Catch-up session #1
	6/5	Catch-up session #2

Week	Date	Topics & Class Materials, Assignments
Week 15	6/8	Review session
	6/12	Final exam
Makeup Classes 1		
Makeup Classes 2		

V. Special Accommodations

* According to the University regulation #57, students with disabilities can request special accommodation related to attendance, lectures, assignments, and/or tests by contacting the course professor at the beginning of semester. Based on the nature of the students' requests, students can receive support for such accommodations from the course professor and/or from the Support Center for Students with Disabilities (SCSD).

* The contents of this syllabus are not final—they may be updated.