

Advanced Course in Human Physiology

Lecture/Lab., 前期, Compulsory,
Lecture/Lab. Academic year 1,2 credits 2,4

[Keywords] Behavioral Physiology, Body Odor, Chemical Senses (gustation and olfaction), Chemical Analysis, Gerontology

[Academics] Hisayoshi Ishii, Kazumi Osada

[Course aims]

This course deals with behavioral physiology, physiology of body odor, and the chemical senses. Human beings emit a body odor which is imparted from their major histocompatibility complex. In addition, body odor can change with age, endocrinological changes, nutritional status, and pathogenic symptoms. Therefore, body odor is one tool enabling social communication. The components of body odor consist of volatile organic chemicals; body odor itself is evaluated by behavioral, analytical, and neurophysiological methods. The students who take this course are expected to understand the methods of evaluating chemosignals. In addition, they are expected to understand the physiology of olfaction and body odor.

[Course objectives]

The goals of this course are:

- (1) To be able to explain the mechanisms of the chemical senses.
- (2) To be able to explain the physiological mechanisms of the underpinnings of body odor.
- (3) To be able to conduct behavioral and neurophysiological experiments with rodents appropriately.
- (4) To be able to conduct instrumental chemical analysis with semiochemicals appropriately.

[Course content]

Class	Theme	Content	Academics
1	Classroom lecture 1.	The mechanisms of sensory acceptance of the chemical senses,	Hisayoshi Ishii Kazumi Osada
2	Classroom lecture 2.	The physiology underlying body odor	Hisayoshi Ishii Kazumi Osada
3	Laboratory course 1.	This focused on understanding behavioral approaches and learning their techniques,	Hisayoshi Ishii Kazumi Osada
4	Laboratory course 2.	This focused on understanding instrumental chemical analysis approaches and learning techniques for the chemical analysis of semiochemicals.	Hisayoshi Ishii Kazumi Osada

[Grading policies]

Your overall grade in the class will be decided based on class attendance and reports.

[Remarks]

Textbook: Students will be informed which textbook will be used.

Reference book: See above

[Preparation for course]

Students must understand the course objectives and prepare properly for the classes.