### Outline and Purpose of the Course

Director and Instructors:
Harunori Ohmori (Professor, Emeritus of Kyoto University)
Kenji Ueshima (Professor, Department of EBM research, Institute for Advancement of Clinical and translational Science, Kyoto University Hospital)

This course introduces the basics of human anatomy, physiology, endocrinology, biochemistry, immunology as a basis for the understanding of human diseases.

### Course Goals

- To understand the basics of the circulatory system
- To understand the basics of the structure and function of the nervous system
- To understand the basics of sensory system
- To understand the basics of movement control

### Course Schedule and Contents

Course Schedule (*Schedule may be changed*)
1 Oct 5 Circulatory system (Introduction)
2 Oct 12 Circulatory system 1 (valvular heart disease, congenital heart disease, and vascular disease)
3 Oct 19 Circulatory system 2 (ischemic heart disease and emergency medicine)
4 Oct 26 Circulatory system 3 (hypertension and arrhythmia)
5 Nov 2 Neuronal cell and signaling
6 Nov 9 Nervous cell research
7 Nov 16 Chemical transport at cell membrane and excitability
8 Nov 23 Neuronal activity and ion channels
9 Nov 30 Transduction of neuronal activity
10 Dec 7 Nervous and muscular signal transduction
11 Dec 14 Signal transmission at synapses and their plasticity
12 Dec 21 Energy conversion and sensory perception
13 Dec 28 Sensory system
14 Jan 11 Neuronal mechanisms of auditory system
15 Jan 18 Cerebral efferent circuit function

### Class requirement

Second Semester, Required for students without medical background
[Method, Point of view, and Attainment levels of Evaluation]

Attitude & Attendance 30%, Examination 70%

[Textbook]

Suggested readings:
- 佐藤昭夫、佐伯由香編．人体の構造と機能．医歯薬出版，2006.
- テイポドー、パットン(コメディカルサポート研究会訳)．カラーで学ぶ解剖生理学．医学書院，2006.
- A.シェフラー、S.シュミット(三木明徳、井上新次訳)．からだの構造と機能．西村書店，2002.
- クロスマン、ネアリー（野村毅、水野昇訳）．神経解剖カラーテキスト 第2版．医学書院，2008.
- 大地陸男（著）．生理学テキスト．文光堂，2013.
- 福田康一郎（監修）．標準生理学．医学書院，2014.
- （日本語版）金澤一郎、宮下保司（監修）．カンデル神経学．メディカルサイエンスインターナショナル，2014.
- 泰羅雅登、中村克樹（監修、翻訳）．カールソン神経科学テキスト 脳と行動．丸善出版，2013.

[Reference books, etc.]

（Reference books）

[Regarding studies out of class (preparation and review)]

Preparation in advance and review after lecture

(Others (office hour, etc.) )

Akio Koizumi (Education Committee Chairman; Professor, Department of Health and Environmental Sciences: koizumi.akio.5v@kyoto-u.ac.jp)

- The class is open to students from Graduate School of Human Health Science.

*Please visit KULASIS to find out about office hours.