Special Subjects of the Department of Physiological Sciences

Field	Subject Code	Subject	Unit	Content of subject	
Molecular & Cellular Physiology・Homeostatic Regulation・Fundamental Neuroscience・System Neuroscience	20DPH029	Molecular and Cellular Physiology Ⅰ	1	Ion channels, receptors and cell-adhesion molecules in neurons and epithelial cells will be introduced from the point of view of their structure, function, regulation and analytical methods.	Masaki Fukata Yoshihiro Kubo Mikio Furuse
	20DPH030	Molecular and Cellular Physiology Ⅱ	1	Molecular bases of ion channels and membrane transporters as well as intracellular signal transduction will be introduced to understand physiological functions of neurons and epithelial cells.	
	20DPH031	Regulation of Biological Function Ⅰ	1	The homeostasis of the organism is maintained by the communication of various organs, and its abnormality causes the diseases. In this lecture, we outline the role of each organ for controlling the blood circulation, feeding, metabolism, temperature, and sensory regulation from the viewpoint of inter-organ interaction.	Makoto Tominaga Motohiro Nishida Yasuhiko Minokoshi
	20DPH032	Regulation of Biological Function Ⅱ	1	The homeostasis of the organism is maintained by the communication of various organs, and the abnormality causes the disease. In this lecture, we outline the role of each organization for controlling muscle movement, endocrine, and temperature regulation from the viewpoint of inter-organ interaction.	
	20DPH033	Fundamental Neuroscience Ⅰ	1	In order to understand the mechanisms underlying information processing in the brain, this course reviews the properties and functions of neurons and glia cells, the neural mechanisms for sensory and motor functions, and circuit models of information processing.	Yasuo Kawaguchi Jyunichi Nabekura Yumiko Yoshimura
	20DPH034	Fundamental Neuroscience Ⅱ	1	In order to understand the functional development and plasticity of the brain, this course reviews the development of neurons and neural circuits, activity-dependent synaptic plasticity and remodeling, and homeostatic development.	
	20DPH035	System Neuroscience Ⅰ	1	This course reviews the brain mechanisms underlying movement, vision, language, and social cognition in physiology and disease.	Masaki Isoda Atsushi Nambu Norihiro Sadato Keiichi Kitajo
	20DPH036	System Neuroscience Ⅱ	1	This course reviews the brain mechanisms underlying movement, emotion, learning, and social cognition in physiology and disease.	
	20DPH037	Brain science step by step Ⅱ	1	Advanced knowledge necessary for brain science can be learned through an e-learning system with lecture and small tests.	Atsushi Nambu
	20DPH038	Basic physiological and anatomical brain science	1	Basic physiology and anatomy on brains can be learned through 8 lectures and 2 practices.	Atsushi Nambu
	20DPH039	Basic information brain science	1	Bases of information brain science can be learned through 3 lectures and 7 practices.	Atsushi Nambu
	20DPH019	Methodology in Physiological Sciences	1	Various technology and methodology in physiological sciences will be introduced in laboratories which you do not belong to.	
	20DPH020	Scientific Writing in Physiological Sciences	1	Basic expression and logical writing for scientific publication in English will be introduced.	
	20DPH021	Practical Spoken English Ⅰa	1	Basic expression and preparation for oral presentation in English will be introduced.	Sechrist, Jeremiah S Mikio Furuse
	20DPH022	Practical Spoken English Ⅰb	1		
	20DPH023	Practical Spoken English Ⅱa	1		
	20DPH024	Practical Spoken English Ⅱb	1		
	20DPH025	Special Lectures in Physiological Sciences Ⅰ	1	Recent progress and results at the cutting edge will be introduced by experts in the physiological sciences.	
	20DPH026	Special Lectures in Physiological Sciences Ⅱ	1		
	20DPH027	Special Lectures in Physiological Sciences Ⅲ	1		

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Molecular & Cellular Physiology・Homeostatic Regulation・Fundamental Neuroscience・System Neuroscience	20DPH901	*Pathological biochemistry	1	Analysis of pathological condition, its biochemical background, and medication.	
	20DPH902	*Oncology	1	Pathology of tumors and pharmacology of anti-tumor drugs.	
	20DPH903	*Endocrinology	1	Usage of hormons in clinical fields.	
	20DPH904	*Gastroenterology	1	Pathology and treatment of gastrointestinal diseases.	
	20DPH905	*Cardiology	1	Pathology and treatment of cardiovascular diseases.	
	20DPH906	*Nephrology	1	Pathology and treatment of kidney diseases.	
	20DPH907	*Environmental Medicine	1	Relationship between recognition, behavior, and environment.	

The marked subjects are open only at Nagoya University Graduate school of Medicine (with Credit transfer system).