

Course Structure for Ph. D Program
Physiology, Department of Life Science
National Taiwan Normal University

Adaptive to Class of	Required Credit(s)	Elective Credit(s)	Free Elective Credit(s)	Minimum Total Credits for Graduation
114	12.0	12.0	0.0	24.0

Note: The first alphabet "E" on the course name refers to the course in English as a medium of instruction

I. Required Courses: 0.0 credit is required

II. Elective Courses: 0.0 credit is required

III. Courses Offered to Students in Different Divisions

Required Course, 12.0 credits are required

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
BIC8018	1 Topics on Animal Physiology (I)	2.0	2.0	0.0	This course must be retaken with a passing score for 4 times
BIC8021	2 Experimental Physiology	2.0	2.0	0.0	
BID0165	3 Seminar	2.0	2.0	0.0	

Elective Course: 12.0 credits are required

Direct Admission to Doctoral Program from Master's Program must Practice 18 credits

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
1 Core Elective Curriculum 2 courses are least required					
BIC7015	1-1 Comparative Animal Physiology	3.0	3.0	0.0	
BIC0119	1-2 Learning and memory	3.0	3.0	0.0	
BID0074	1-3 Topics in Sensory Physiology	3.0	3.0	0.0	
BIC0052	1-4 Neuropharmacology	3.0	3.0	0.0	
BIC8006	1-5 Topics on Animal Physiology (II)	2.0	2.0	0.0	
BIC0017	1-6 Topics in Fish Physiology	3.0	3.0	0.0	
BID0075	1-7 Topics in Brain Physiology	3.0	3.0	0.0	
BIC8012	1-8 Oxidative Stress Physiology	3.0	3.0	0.0	
BID0168	1-9 Special Topic on Endocrinology	3.0	3.0	0.0	
BIC0173	2 Evolutionary Biology	3.0	3.0	0.0	
BIC0174	3 E Advanced Ecology	3.0	3.0	0.0	
BIC8010	4 Research Methods in Ecology and Evolution	2.0	2.0	0.0	
BIC0011	5 Experimental Design and Data Analysis	3.0	3.0	0.0	
BIC7007	6 Population Genetics and Evolution	3.0	3.0	0.0	
BIC7012	7 Principles of Phylogenetics	3.0	3.0	0.0	
BIC0133	8 Topics in Molecular Biology	2.0	2.0	0.0	
BIC0139	9 Protein and Enzyme Chemistry	3.0	3.0	0.0	
BIC8016	10 Writing Scientific Papers in English	3.0	3.0	0.0	
BIC7009	11 Immunochemistry	3.0	3.0	0.0	
BID0069	12 Topics in principle of phylogenetics	3.0	3.0	0.0	
BID0072	13 Topics in Plant Growth and Development	2.0	2.0	0.0	
BIC0016	14 E Topics in Plant Molecular Biology	2.0	2.0	0.0	
BIC0021	15 Topics in Molecular Genetics	3.0	3.0	0.0	
BIC0038	16 Studies in Adaptation and Natural Selection	2.0	2.0	0.0	
BIC0059	17 Architecture of Brain	3.0	3.0	0.0	
BIC0061	18 E Principles and Methods of Plant Taxonomy	3.0	3.0	0.0	
BIC0101	19 Paper Writing and Presentation in Biological Science	2.0	2.0	0.0	
BIC0138	20 Cellular and Molecular Biology	3.0	3.0	0.0	
BIC0153	21 Regression Analysis	3.0	3.0	0.0	
BIC0185	22 Adaptation and Natural Selection	3.0	3.0	0.0	
BIC0186	23 Protein Engineering	3.0	3.0	0.0	
BIC7001	24 Special Topics on Intellectual Property	2.0	2.0	0.0	
BIC8003	25 Ecology and Evolution of Amphibians and Reptiles	2.0	2.0	0.0	
BIC8020	26 Biotechnology for the Drug Development	2.0	2.0	0.0	
BIC7002	27 Industrial Practice	3.0	3.0	0.0	
BIC7004	28 Translational Medicine — Novel Compounds and Chinese Herbal Medicines	2.0	2.0	0.0	
BIC7005	29 E Drug Development and Translational Medicine	2.0	2.0	0.0	
BIC7010	30 Neuroethology	3.0	3.0	0.0	
BIC8007	31 Research Methods of Experimental Biology	2.0	2.0	0.0	
BIC8022	32 E Behavioral Ecology	3.0	3.0	0.0	
BIC8009	33 Advanced Seminar (I)	0.0	0.0	0.0	

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
BIC8014	34 Advanced Seminar (II)	0.0	0.0	0.0	
BID0166	35 Issues and Rationale of Biological Education	3.0	3.0	0.0	
BIC8023	36 Application of Optoelectronic Technology in Biomedical	2.0	2.0	0.0	
BIC8027	37 E Topics in Virology	2.0	2.0	0.0	
BIC8025	38 E Introduction to Statistical Analysis	3.0	3.0	0.0	
BIC8026	39 E Linear and Logistic Regression Models	3.0	3.0	0.0	
BIC8030	40 E Comprehensive Biotech Practice-From Micro Molecular Biology to Macro Physiology	3.0	3.0	0.0	
BIC8028	41 E Apply Sciences Lead to Biotechnology Industry	2.0	2.0	0.0	
BID0169	42 Special Topic on Signal Transduction	3.0	3.0	0.0	
BID0170	43 Special Topics on Scleractinian Coral Taxonomy (I)	3.0	3.0	0.0	
BIC8031	44 Special Topics in Brain Neurobehavioral Studies	3.0	3.0	0.0	
BID0171	45 Special Topics on Scleractinian Coral Taxonomy (II)	3.0	3.0	0.0	

IV. Free Elective Credits: 0.0 credit is required