

National Pingtung University of Science and Technology

Department of Biological Science and Technology

Curriculum Table of Undergraduate Program for Academic Year111-114

Year	First Academic Year				Second Academic Year			
Semester	First Semester		Second Semester		First Semester		Second Semester	
	Courses	Credit/ Hour	Courses	Credit/ Hour	Courses	Credit/ Hour	Courses	Credit/ Hour
Required	Physical Education (1)	1/2	Physical Education (2)	1/2	Lectures on General	1/2	Physical Education	1/2
	General Education	2/2	General Education	2/2	Education(Remark5)		General Education	2/2
	Chinese (1)	2/2	Chinese (2)	2/2	Physical Education	1/2	Constitution	2/2
	Freshman English (1)	2/2	Freshman English (2)	2/2	General Education	2/2	Microbiology	3/3
	English Listening & Speaking Practice 101	1/2	English Listening & Speaking Practice 102	1/2	Biometry	2/2	Microbiology Lab.	1/3
			Computational Thinking and Information Technology Applications	1/2	Biometry Experiments	1/2	Biochemistry (2)	3/3
	Foreign Language Proficiency Test	0/0			Cell Biology	3/3	Biotechnology(1)	2/2
	General Chemistry (1)	3/3	Analytical Chemistry	2/2	Biochemistry (1)	3/3		
	General Chemistry Experiments (1)	1/2	Analytical Chemistry Lab.	1/2	Biochemistry Experiments	1/3		
	Biology (1)	3/3	Organic Chemistry	3/3				
	Biology Lab.(1)	1/3	Organic Chemistry Lab.	1/2				
			Biology (2)	3/3				
			Biology Lab.(2)	1/2				
Total		16/21		20/26		14/19		14/17
Elective	Introduction of Bioinformatics	2/2	Keynote Speech	1/1	Animal Cell Culture	2/2	Concept and Application of	2/2
	Techniques of Biological Illustration	2/2	Scientific Method	3/3	Intellectual Property	2/2	Functional Cosmetic	
	The Sixth Industrialization for	2/2	Free Radical Biology	2/2	Animal Anatomy	3/3	Plant Anatomy	2/2
	Biotechnology and Agricultural		USR Independent Study	1/1	Animal Anatomy Lab.	1/2	Plant Anatomy Lab.	1/2
	Natural biotechnology product	2/2			Plant Taxonomy	2/2	Practice of Embryo manipulation	1/2
	development practice				Plant Taxonomy Lab.	1/2	Animal Taxonomy	2/2
					Summer Vacation Practice(1)	2/4	Vertebrate Zoology	2/2
							Vertebrate Zoology Lab	1/2
							Manipulation of Laboratory Animals	2/2
							Practice of Manipulation of Laboratory Animals	1/3
Total		8/8		7/7		13/17		14/19

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Year	Third Academic Year				Fourth Academic Year				Total
Semester	First Semester		Second Semester		First Semester		Second Semester		
	Courses	Credit/ Hour	Courses	Credit/ Hour	Courses	Credit/ Hour	Courses	Credit/ Hour	
Required	General Education	2/2	General Education	2/2	Special Projects	1/2			
	Molecular Biology	2/2	Special Projects	1/2	Bioindustry	2/2			
	Biotechnology(2)	2/2	Ecology	2/2	Seminar	1/2			
Total		6/6		5/6		4/6		0/0	79
Elective	Advanced Biotechnology Plant	2/2	Plant Biochemistry	2/2	Animal Transgenics	2/2	Bioindustrial Internship	9/18	
	Apoptosis	3/3	Environmental Genomics	2/2	Plant Functional Genomics and	2/2	Bioindustrial Industrial	9/18	
	Microbial fermentation technology	1/1	Quality assurance and quality control	2/2	Applications		Practice		
	Plant Physiology	3/3	Separation science & laboratory	3/3	Plant Functional Genomics and	1/2			
	Plant Physiology Lab.	1/2	practice		Applications Lab.				
	Genomics	2/2	Medical Embryology	2/2	Stem Cell Biology	3/3			
	Organic Analysis	3/3	Animal Histology	3/3	Protein Engineering	3/3			
	Proteomics	2/2	Natural Products Chemistry Lab	2/4	Tumor Biology	2/2			
	Proteomics experimental Course	1/2	Application and Establishment of Stem	2/2	Molecular-Based Diagnostic	2/2			
	Immunology	3/3	Cells		Technique				
	Virology	3/3	Practice of Application and	1/2	Summer Vacation Practice(3)	2/4			
	Natural Product Chemistry	3/3	Establishment of Stem Cells						
	Applied Microbiology	2/2	Gene Recombination and Expression	2/2	Remark: 1.Students must complete at least 130 credits to graduate. (79 required and 51 elective credits) for graduation with undergraduate degree. Among elective credits, elective profession courses are required at least 39 credits. 2.The “Foreign Language Proficiency Test” must be completed in accordance with the “English Proficiency Requirements for Graduation” of the university before graduation. 3.Students must complete 1 credit of “General Education”before graduation. 4.National defense and military training courses only accept up to 2 credits, the repeated courses and sports options are not included in the graduation credits.				
	Gastrointestinal Microbiology	3/3	Morphological and physiological	2/2					
	Herpetology	2/2	adaptations of animals						
	Invertebrate Zoology.	2/2	Snake Venom Technology	2/2					
	Animal Physiology	3/3	Special Topics in Photosynthesis	2/2					
	Animal Physiology Lab.	1/2	Physiological Plant Pathology	2/2					
	Summer Vacation Practice(2)	2/4	Plant Cell and Tissue Culture	2/2					
	Innovative application of	3/3	Plant Cell and Tissue Culture Lab	1/2					
	Bioresources		Multidisciplinary Innovative and	2/2					
			Creative Application of Biology						
			Organic Spectroscopy	3/3					
			Introduction to functional food	2/2					
	Total		45/50		39/43		17/20		