

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) General Education Chinese (1) Freshman English (1) English Listening & Speaking Practice 101 Foreign Language Proficiency Test Student Life Service Education General Chemistry (1) General Chemistry Experiments (1) Biology (1) Biology Lab.(1)	1/2 2/2 2/2 2/2 1/2 0/0 0/2 3/3 1/2 3/3 1/3	Physical Education (2) General Education Chinese (2) Freshman English (2) English Listening & Speaking Practice 102 Student Life Service Education Computational Thinking and Information Technology Applications Analytical Chemistry Analytical Chemistry Lab. Organic Chemistry Organic Chemistry Lab. Biology (2) Biology Lab.(2)	1/2 2/2 2/2 2/2 1/2 0/2 1/2 2/2 1/2 3/3 1/2 3/3 1/2	Lectures on General Education(Remark5) Physical Education General Education Biometry Biometry Experiments Cell Biology Biochemistry (1) Biochemistry Experiments	1/2 1/2 2/2 2/2 1/2 3/3 3/3 1/3	Physical Education General Education Constitution Microbiology Microbiology Lab. Biochemistry (2) Biotechnology(1)	1/2 2/2 2/2 3/3 1/3 3/3 2/2
Total		16/23		20/28		14/19		14/17
Elective	Essential oil products Introduction of Bioinformatics Techniques of Biological Illustration The Sixth Industrialization for Biotechnology and Agricultural	2/2 2/2 2/2 2/2	Keynote Speech Scientific Method Free Radical Biology Life chemistry	1/1 3/3 2/2 2/2	Introduction to functional food Animal Cell Culture Intellectual Property Animal Anatomy Animal Anatomy Lab. Plant Taxonomy Plant Taxonomy Lab. Summer Vacation Practice(1)	2/2 2/2 2/2 3/3 1/2 2/2 1/2 2/4	Concept and Application of Functional Cosmetic Plant Anatomy Plant Anatomy Lab. Environmental biotechnology Industrial analytical chemistry practice Practice of Embryo manipulation Animal Taxonomy Vertebrate Zoology Vertebrate Zoology Lab Manipulation of Laboratory Animals Practice of Manipulation of Laboratory Animals	2/2 2/2 1/2 2/2 2/4 1/2 2/2 2/2 1/2 2/2 1/3
Total		8/8		8/8		15/19		18/25

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Curriculum Table of Undergraduate Program for Academic Year111-114

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	Molecular Virology	3/3	Animal Transgenics	2/2	Bioindustrial Internship	9/18	
	Apoptosis	3/3	Signal Transduction	2/2	Plant Functional Genomics and	2/2	Bioindustrial Industrial	9/18	
	Microbial fermentation technology	1/1	Endocrinology	2/2	Applications		Practice		
	Plant Physiology	3/3	Plant Biochemistry	2/2	Plant Functional Genomics and	1/2			
	Plant Physiology Lab.	1/2	Environmental Genomics	2/2	Applications Lab.				
	Genomics	2/2	Quality assurance and quality control	2/2	Stem Cell Biology	3/3			
	Organic Analysis	3/3	Separation science & laboratory	3/3	Protein Engineering	3/3			
	Proteomics	2/2	practice		Tumor Biology	2/2			
	Proteomics experimental Course	1/2	Medical Embryology	2/2	Molecular-Based Diagnostic	2/2			
	Immunology	3/3	Animal Histology	3/3	Technique				
	Virology	3/3	Natural Products Chemistry Lab	2/4	Summer Vacation Practice(3)	2/4			
	Natural Product Chemistry	3/3	Application and Establishment of Stem	2/2					
	Applied Microbiology	2/2	Cells						
	Gastrointestinal Microbiology	3/3	Practice of Application and	1/2	<p>Remark:</p> <p>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.</p> <p>2.The “Foreign Language Proficiency Test” must be completed in accordance with the “English Proficiency Requirements for Graduation” of the university before graduation.</p> <p>3.Students must complete 1 credit of “General Education”before graduation.</p> <p>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.</p>				
	Herpetology	2/2	Establishment of Stem Cells						
	Invertebrate Zoology.	2/2	Mycology	2/2					
	Animal Physiology	3/3	Gene Recombination and Expression	2/2					
	Animal Physiology Lab.	1/2	Morphological and physiological	2/2					
	Summer Vacation Practice(2)	2/4	adaptations of animals						
	Innovative application of	3/3	Snake Venom Technology	2/2					
	Bioresources		Special Topics in Photosynthesis	2/2					
			Physiological Plant Pathology	2/2					
			Plant Cell and Tissue Culture	2/2					
			Plant Cell and Tissue Culture Lab	1/2					
			Multidisciplinary Innovative and	2/2					
			Creative Application of Biology						
Total		45/50		43/47		17/20		18/36	172