

National Pingtung University of Science and Technology

Department of Biological Science and Technology

Curriculum Table of Undergraduate Program for Academic Year107-110

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 Education	1/2	Physical Education	1/2
	General Education	2/2	General Education	2/2	Physical Education	1/2	General Education	2/2
	Chinese (1)	2/2	Chinese (2)	2/2	General Education	2/2	Constitution	2/2
	Freshman English (1)	2/2	Freshman English (2)	2/2	Biometry	2/2	Microbiology	3/3
	English Listening & Speaking Practice 101	1/2	English Listening & Speaking Practice 102	1/2	Biometry Experiments	1/2	Microbiology Lab.	1/3
	Foreign Language Proficiency Test	0/0	Student Life Service Education	0/2	Cell Biology	3/3	Biochemistry (2)	3/3
	Student Life Service Education	0/2	Education		Biochemistry (1)	3/3	Biotechnology	2/2
	General Chemistry (1)	3/3	Analytical Chemistry	2/2	Biochemistry Experiments	1/3		
	General Chemistry Experiments (1)	1/2	Analytical Chemistry Lab.	1/2				
	Biology (1)	3/3	Organic Chemistry	3/3				
	Biology Lab.(1)	1/3	Organic Chemistry Lab.	1/2				
	Total		16/23		15/21		14/19	
Elective	Intellectual Property	2/2	Biology (2)	3/3	Cosmetics Ingredient	2/2	Plant Anatomy	2/2
	Techniques of Biological Illustration	2/2	Biology Lab. (2)	1/2	Introduction to functional food	2/2	Plant Anatomy Lab.	1/2
	Free Radical Biology	2/2	Scientific Method	3/3	Animal Anatomy	3/3	Animal Taxonomy	2/2
	Essential oil products	2/2	Introduction of Bioinformatics	2/2	Animal Anatomy Lab.	1/2	Vertebrate Zoology	2/2
	The Sixth Industrialization for Biotechnology and Agriculture	3/3			Plant Taxonomy	2/2	Vertebrate Zoology Lab	1/2
	The Sixth Industrialization for Biotechnology and Agriculture	1/1			Plant Taxonomy Lab.	1/2	Cosmetic Manufacture	1/2
	Consumer health consciousness	0.5/-			Environmental biotechnology	2/2	The Biology of Animal Aging	2/2
	Bio Beauty Industry Forum	0.5/-			Summer Vacation Practice(1)	2/4	Industrial analytical chemistry practice	2/4
	Keynote Speech	0.5/-					Manipulation of Laboratory Animals	2/2
	Biotechnology Industry Regulations	0.5/-					Practice of Manipulation of Laboratory Animals	1/2
	Plant breeding technology and commercialization model	3/3						
	Plant breeding technology and commercialization model	1/1						
Total		17/15		9/10		15/18		16/22

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Curriculum Table of Undergraduate Program for Academic Year107-110

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 Molecular Biology(Remark4)	2/2 2/2	General Education Special Projects Ecology (Remark4)	2/2 1/2 2/2	Special Projects Bioindustry Seminar	1/2 2/2 1/2	Bioindustrial Internship Bioindustrial Industrial Practice(Remark 5)	9/18 9/18	
Total		4/4		3/4		4/6		9/18	79
Elective	Plant Physiology Plant Physiology Lab. Genomics Applied Microbiology Gastrointestinal Microbiology Invertebrate Zoology Invertebrate Zoology Lab. Animal Behavior Herpetology Animal Transgenics Animal Transgenics Practice Concept and Application of Functional Cosmetic Organic Analysis Proteomics Proteomics experimental Course Immunology Virology Animal Physiology Animal Physiology Lab. Natural Product Chemistry Summer Vacation Practice(2) Microbial fermentation technology	3/3 1/2 2/2 2/2 3/3 2/2 1/2 2/2 2/2 2/2 1/2 2/2 3/3 2/2 2/2 1/2 3/3 3/3 3/3 1/2 3/3 1/2 2/4 1/1	Plant Growth and Development Plant Biochemistry Environmental Genomics Morphological and physiological adaptations of animals Gene Recombination and Expression Separation science& laboratory practice Quality assurance and quality control Medical Embryology Animal Histology Mid-size laboratory Animal Practice of Embryo manipulation Molecular Virology Advanced Biotechnology Functional Evaluation of Health Food Beauty Care Practice Multidisciplinary Innovative and Creative Application of Biology Special Topics in Photosynthesis Physiological Plant Pathology Plant Cell and Tissue Culture Plant Cell and Tissue Culture Lab. Natural Products Chemistry Lab. Functional training	2/2 2/2 2/2 2/2 2/2 3/3 2/2 2/2 2/2 3/3 3/3 1/2 3/3 2/2 2/2 1/2 2/2 2/2 2/2 2/2 2/2 2/4 2/2	Plant Functional Genomics and Applications Plant Functional Genomics and Applications Lab. Endocrinology Protein Engineering Stem cell biology Application and Establishment of Stem Cells Practice of Application and Establishment of Stem Cells Apoptosis Animal Cell Culture Molecular Based Diagnostic Technique Cancer Biology Summer Vacation Practice(3)	2/2 1/2 2/2 3/3 3/3 2/2 1/2 3/3 2/2 2/2 2/2 2/2 2/2 2/4			
Total		45/52		47/52		25/29			174

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. Students must select noe of the two required course, "Molecular Biology" and "Ecology",in the third-year.
5. Senior students are required to take all " Bioindustrial Internship (off-campus)". Except for the following special circumstances, they can also take " Bioindustrial Industrial Practice (on-campus)" approved by the departmental meeting, but they must abide by the relevant off-campus internship regulations. Special circumstances include: 1. Preparatory graduate students, 2. Students with disabilities, 3. Foreign students, 4. People with other special conditions.
6. 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.