					1 <sup>st</sup>	year			2 <sup>nd</sup>	year			3 <sup>rd</sup>	year			4 <sup>th</sup>	year		
	Course	Credits	Hours	Fa	all	Spi	ring	Fa	all	Spr	ing	Fa	all	Spi	ring	Fa	all	Spi	ring	Note
				class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	
Core Required Courses	Chinese Literature: Appreciation and Creative Writing 1	2	2	2																
	Chinese Literature: Appreciation and Creative Writing 2	2	2		2															
	Practical English 1	0	2	1	1															Note 1
	Practical English 2	0	2			1	1													Note 1
	Practical English 3	0	2					1	1											Note 1
	Practical English 4	0	2							1	1									Note 1
	English for Business Communication 1	2	3									2	1							Note 1
	English for Business Communication 2	2	3											2	1					Note 1
	Practical English of Professionals 1	2	3													2	1			Note 1
	Practical English of Professionals 2	2	3															2	1	Note 1
	Applied Information Technology: Office Software	2	3	2	1															Note 1
	Programming Design	2	3			2	1													Note 1
	General Ed	12	12																	Note 2
	Physical Education (1)~(6)	0	12	2		2		2		2		2		2						
	Subtotal	28																		
Professional	Calculus	3	4	3	1															
Required	General Chemistry	3	3	3																
Courses	General Chemistry Lab.	1	3	1	2															
	Physics principles for biologist	3	3	3																

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Course			1 <sup>st</sup> year   Fall Spring					2 <sup>nd</sup>	year			3 <sup>rd</sup>	year			4 <sup>th</sup>	year		
Course	Credits	Hours	Fa	ıll	Spr	ing	Fa		Spr	ing	Fa	all	Spr	ing	Fa	all	Spi	ring	Note
			class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	
General Biology-1	3	3	3																
General Biology Lab1	1	3	1	2															
General Biology-2	3	3			3														
General Discussion on	2	2			2														
Biotechnology																			
Organic Chemistry	3	3			3														
Organic Chemistry Lab.	1	3			1	2													
Laws, Standards, and	2	2			2														
Academic Ethics on																			
Biotechnology																			
Freshman Seminar	1	1	1																
Analytical	3	3					3												
Chemistry(Lab)																			
Biochemistry-1	4	4					4												
Biochemistry Lab1	1	3					1	2											Service Learning
Biochemistry-2	4	4							4										
Microbiology	3	3							3										
Microbiology Lab.	1	3							1	2									
Cell Biology	3	3									3								
Cell Biology Lab.	1	3									1	2							
<b>Bioinformatics-1</b>	2	3											2	1					Computer courses
Molecular Biology	3	3									3								
Biostatistics	3	3									3								
Laboratory Quality	3	3											3						
Management System																			
Research Training 1	1	1											1						
Research Training 2	1	1													1				alternative courses: Internship in Industry

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							year			2 <sup>nd</sup> y					year				year		Note
	Course	e	Credits	Hours	Fa			ing	Fa		Spr		Fa		Spr			all		ring	
					class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class		class	lab	
		Seminar 1	1	1													1	0			
		Seminar 2	1	1															1	0	
		Subtotal	61																		
		Subtotal Required	89																		
	1	Course Credits																			
Professional	Biomedical	Animal Physiology	3	3					3												
Elective	Program	Animal Cell Culture	2	2							2										
Courses		and Application																			
		Immunology	3	3									3								
		Vaccine &	3	3											3						
		Vaccination																			
		Laboratory Animal Medicine	3	3															3		
		Gene Transfer	2	2															2		
		Virology	3	3													3				
		Genomics	3	3							3										
		Genetics	3	3					3												
		Special Topics to	3	3							3										
		Genome Project &																			
		Annotation																			
		Introduction to	3	3					3												
		Pharmacy Disinger	3	3									3								
		Bioinorganic Chemistry	5	3									3								
		Applied	3	3									3								
		Bioinstrumentation	5	5									5								
		and Analysis																			
		Bioinformatics-2	2	3													2	1			Computer courses
		Special Topics in	3	3											3			-			1
		Molecular Biology	-	-											-						

				1 <sup>st</sup>	year			2 <sup>nd</sup> y	/ear			3 <sup>rd</sup>	year			4 <sup>th</sup>	year		Note	
Cou	irse	Credits	Hours	Fa		Spr		Fa			ing	Fa		Spr			all		ring	
				class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	
	Proteomics	3	3											3						
	Developmental	3	3											3						
	Biology																			
	Protein Separation	2	2													2				
	and Two																			
	Dimensional																			
	Electrophoresis																			
	Protein preparation	2	2															2		
	and mass spectrum																			
	analysis																			
Biofood	Nutrition	3	3					3												
Program	Introduction to	3	3					3												
	Biochemistry																			
	Engineering																			
	Plant Physiology	3	3					3												
	<b>Cosmetics Science</b>	3	3					3												
	Herb Plant	3	3					3												
	Cultivation and																			
	Application																			
	Food Chemistry	3	3							3										
	Food Analysis (Lab)	3	3							3										
	Tissue culture and	3	3							3										
	Application																			
	Environmental	3	3							3										
	Ecology																			
	Food Microbiology	3	3									3								
	(Lab)																			
	Agriculture and	2	2									2								
	Food Industrial																			
	Waste Management																			

Course					1 <sup>st</sup> y	year			2 <sup>nd</sup> y	vear			3rd y	vear			4 <sup>th</sup>	year		Note
Course		Credits	Hours	Fa	all	Spr	ing	Fa	ıll	Spr	ing	Fa	all	Spr	ing	Fa	all	Spr	ing	
				class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	
	The Principle and	3	3									3								
	Practice of																			
	Aquaponics																			
	Enzymology	3	3											3						
	Food Safety	3	3											3						
	Fermentation	3	3											3						
	The Science and	3	3											3						
	Culture Behind Food																			
	Material																			
	Food Process (Lab)	3	3													3				
																0				
	Dietary Supplements	3	3													3				
	and Functional																			
	Foods																			
以上專業選修學	是程至少需修 20 個學分	Profess	ional ele	ctives	must ł	be sele	cted at	least 2	20 crea	lit hou	Irs									

					1 <sup>st</sup>	year			2 <sup>nd</sup>	year			3 <sup>rd</sup>	year			4 <sup>th</sup>	year		
	Course	Credits	Hours	Fa	ıll	Spi	ing	Fa	ıll	Spi	ing	Fa	ıll	Spi	ring	Fa	all	Spi	ing	Note
				class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	class	lab	
Other	Programming Design-1	2	3					2	1											
Elective	Programming Design-2	2	3							2	1									
Course	General Biology Lab2	1	3							1	2									
	Bioorganic Chemistry	2	2					2												
	Biotechnology Law	2	2							2										
	Ecology	2	2									2								
	International Biotech Industry											2								
	Military Training-1	0	2	2																1-semester courses
	Military Training-2	0	2			2														1-semester courses
	Nursing-1	0	2	2																1-semester courses
	Nursing-2	0	2			2														1-semester courses
	Research Paper Writing	1	1											1						
	Internship in Industry	1	1													1				

Biosensor	3	3						3		
Biotechnical Intellectual Property	2	2						2		
Rights and Patents										
Introduction of Bioindustry	2	2						2		
Physic Chemistry	3	3						3		
Subtotal Required Course Credits	89									
Subtotal Elective Course Credits	39									
Subtotal Professional Elective Course Credits	20									
Subtotal Elective courses from other schools	19									
Grand Total	128									

## Notes:

1.In accordance with the General Provisions for Study, undergraduate students need to satisfactorily complete Service Learning, meet the university-wide basic competencies of English, Information Technology, Chinese, and Sports, and pass the core competencies of their department to be eligible for graduation.

2.Students who entered in and since the 2008-09 academic year need to complete at least 12 General Education course credits. General Education courses are divided into three areas: Humanities, Social Science, and Natural Science. Each area is divided into two subcategories: core and extended. Students need to take 1 two-credit course in both of the subcategories within each area to be eligible for graduation. Only 12 course credits will be counted toward graduation. Additional course credits earned in General Education courses are not counted toward graduation.

3. Course credits obtained from the Teacher Education Center cannot be counted toward students' final grades.

4. Elective courses credits include BT professional courses and courses from other schools, but the BT Department can only admit maximum 19 course credits.

5. The newly added elective courses in this academic year can be applied retroactively to students who entered the university prior to the 2022-2023 academic year.

6.When retaking the professional courses, students can choose those which are the same course name or the same course content as substitutions under the approval of the department chair. These courses can be regarded as their graduation credits, and can be applied retroactively to students who entered the university prior to the 2022-2023 academic year. 7.Students can choose the course from BT master program, which can be counted as their graduation credits under the approval of the department chair, and can be applied retroactively to students who entered the university prior to the 2022-2023 academic retroactively to students who entered the university prior to the 2022-2023 academic year.

8. Professional Electives can be selected from two programs of study, students must first complete one of these of study, each consisting of at least 15 course credits.

9. Professional electives must be selected at least 20 credit hours.

10. When retaking the Calculus course, students can choose Calculus 1 or Calculus II course as substitutions under the approval of the department chair. These courses can be

regarded as their graduation credits, and can be applied retroactively to students who entered the university prior to the 2022-2023 academic year.

11. The credits of interdisciplinary focused course program are not included in course structure diagram that can be regarded as the other department credits

12. The required courses on this Course Outline may be counted as elective course credits toward total graduation credits by students who entered the university prior to the 2021 academic year.

13.Graduating students and students in the extended study period who did not pass required courses of Physical Education can waive a maximum of two (2) required Physical Education courses by passing Comprehensive Physical Education I, Comprehensive Physical Education II. This regulation is applicable for those admitted in and prior to 2020-21 academic year.

14. If International students, overseas students or students from Hong Kong and Macao are not good at Chinese, they can take the courses of Basic Chinese I & II through International College instead of taking Chinese Literature: Appreciation and Creative Writing I & II. This regulation can be applied to students who entered the university prior to the 2021-22 academic year.

15. Research Project II and Internship in Industry are optional courses. Students who conduct the type of Research Project I could take the Research Project II continuously or take the Internship in Industry. Both ways will be acceptable for graduation criteria.