

Department of Biomedical Sciences, National Chung Cheng University

Guideline for graduation (for students admitted after 2020)

一、the number of credits for graduation shall be no less than 128 credits , which include (1) general education: 28 credits (2) Major compulsory courses for major in biomedical sciences: 61 credits (3) Major elective courses for major in biomedical sciences: 22 credits (4) Unrestricted selective courses: 17 credits								
二、the curriculum		Year 1		Year 2		Year 3		Year 4
(一) general education 28 credits		Fall	Spring	Fall	Spring	Fall	Spring	Fall Spring
Ability of Chinese/English course:								
Chinese Language Knowledge and Application (4 credits of the subtotal courses)		2 2	2 2					
English ability training (4 credits of the subtotal courses)								
Others: Please choose at least a course from Liberal Arts general education 1,2,3,4,5. The rest of the credit is allowed to study Information ability course, Basic theory course or courses of any degree of Liberal Arts general education.		★ Please refer to “ <u>Guideline for Studying General Education at National Chung Cheng University</u> ” for more information.. ★Nor can you select Basic Theory Course set by this department, nor select the courses this department not allowed in the sheet of the general courses each department not allowed. ★Please refer to “ <u>Guideline for Students Taking Physical Education Courses at National Chung Cheng University</u> ” for relevant information.						
◎Note: <u>Social Service Learning</u> courses are required graduation. (no credit)								
(二) Major compulsory courses for major in biomedical sciences: 61 credits								
Mathematics for Life Sciences (4 credits)		4						
Conceptual Physics (一)(二) (4 credits)		2	2					
General Chemistry (3 credits)		2						
General Chemistry Laboratory(1 credit)		1						
Biology(一)(二)(6 credits)		3	3					
Experiments on Biology (一)(二) (2 credits)		1	1					
Organic chemistry(一)(二) (6 credits)			3	3				
Introduction to Biostatistics(3 credits)			3					
Biochemistry Analysis(3 credits)					3			
Biochemistry (一)(二)(6 credits)				3	3			
experiments on life science (一)(二)(三) (3 credits)				1	1	1		

Molecular biology (4 credits)				4				
Medical Virology (2 credits)					2			
Genetics (3 credits)					3			
Medical Microbiology (2 credits)					2			
Cell biology (4 credits)						4		
Immunology (3 credits)						3		
Seminars(一)(二)(2 credits)							1	1

(三) Major elective courses for major in biomedical sciences: 22 credits

- Professional selective subjects, inclusive of two colleges planned by the department (as table A, B below), and other core courses (As table C below) above 22 degrees. What included are A. college of Genome and protein body and B. Molecule and Cell biology, at least 12 degrees.
- The students who finish the courses of 15 degrees (included) that mention below are allowed to have certificate of course completion after passing the verification by the department.

A. Genomics and Proteomics Courses

Introduction to Genomics 3 credits	Introduction to Bioinformatics 3 credits	Biophysical Chemistry 3 credits
Proteomic Research 2 credits	Introduction to Systems Biology 3 credits	Structural Biology 2 credits
Genomics techniques and its biomedical application 3credits	Epigenomics 3 credits	Experimental Design in Molecular Biology 2 credits
The principle and applications of genome editing 2 credits	RNA transcriptome 3 credits	

B. Molecule and Cell biology Courses

Stem Cell Biology 3 credits	Molecular Oncology 3 credits	Histology 2 credits
Exploring Neuroscience 2 credits	Signal Transduction 2 credits	Cancer Biology 3credits
Introductory Pharmacology 2 credits	Developmental Biology 3 credits	Brain Disorders 2 credits
Biomedical research with model organisms 2 credits	Molecular Biology of RNA 2credits	Human Anatomy 2 credits
Clinical Molecular Oncology 2 credits		

C. Other Core Courses

Biology Morphogenesis 2 credits	Human Physiology 3credits	Protein biotechnology 2 credits
Critical reading and writing Scientific Papers 2 credits	Introduction for Biomedical Sciences Reading (一) 1 credit	Introduction for Biomedical Sciences Reading(二) 1 credit
Introduction to Computers 3credits	Analytical Chemistry 3 credits	Introduction to Tissue Engineering 3 credits
Environmental Microbiology 3 credits	Environmental Chemistry 2 credits	Biomedical Materials 3credits
Nanostructured Material Science 3 credits		

(四) Unrestricted selective courses: 17 credits

1. This department or professional courses of other departments are allowed.
2. Overloaded General education courses are not allowed to count into credit of Free elective and credit of Graduation in this department.
3. The selective credit of Military training (Nursing) course is not allowed to count into credit of Free elective and Graduation.
4. The student who fails to finish education courses (equal to give up the course) or takes excessive education courses, is unable to count into Free elective credit and Graduation credit.
5. The student who selects Basic English course set up by Language center, is unable to count into Free selective credit in this department and Graduation credit. Only the Advanced courses(Middle, High class) can take into Free selective of the department.
6. The student who selects P.E course credit is unable to count unto Free selective and Graduation credit.