

# Department of Biomedical Sciences, National Chung Cheng University

Study regulations for student(Applicable to new students enrolled in the 111th academic year)

<b>I. Students of the belonged department must complete at least 128 credits upon graduation including:</b> ( 1 ) General Education <b>28 credits</b> ( 2 ) Professional compulsory <b>60 credits</b> ( 3 ) Professional elective <b>22 credits</b> ( 4 ) Free elective <b>18 credits</b>								
<b>II. Various subjects including:</b>	First year		Second year		Third year		Fourth year	
(1) General Education 28 credits	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Chinese and English Proficiency Courses								
● General Study Chinese (4 credits required)	2	2						
● General Study English (4 credits required)	2	2						
Others: Choose at least 1 course from each of the "Information Skills Course" and Liberal Arts dimensions 1, 2, 3, 4, and 5. The remaining credits can be chosen on courses to study information skills, fundamental theory or liberal arts in any dimension.	★Refer to "National Chung Cheng University Students' General Education Regulations" ★If you elect to take courses in the "Fundamental theory Courses" offered by the belonged department and the courses that are not counted as credits by the belonged department are listed in the "List of General Education Courses Not Taken as Credits by the Belonged Department", the courses will not be counted as the credits for general education courses. ★Refer to the "Regulations on the Field of Physical Education for Bachelor Students of National Chung Cheng University"							
<b>◎"Social Service Learning Course" (Compulsory 0 credits)</b>								
(2) A total of 60 credits on professional compulsory subjects								
<b>Calculus</b> (3 credits)	3							
Conceptual Physics (I)(II) (4 credits)	2	2						
General Chemistry (3 credits)	3							
General Chemistry Laboratory(1 credit)	1							
Biology(I)(II)(6 credits)	3	3						
Experiments on Biology (I)(II) (2 credits)	1	1						
Organic Chemistry(I)(II) (6 credits)		3	3					
<b>Linear Algebra</b> (3 credits)		3						
Analytical Biochemistry(3 credits)				3				
Biochemistry (I)(II)(6 credits)			3	3				
Experiments on Life Sciences (I)(II)(III) (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(I)(II)(2 credits)							1	1

(3) At least 22 credits on professional elective subjects

1. Professional elective subjects should be at least 22 credits, including two programs (Table A, B), and other core courses (Table C), in which at least 12 credits are from either Genome and Proteomics program, or Molecule and Cell biology program.
2. Students who finish at least 15 credits from any of the two programs (Table A, B) get have certificate of course completion after verification by the department.

Table A. Genomics and Proteomics Program

Proteomic Research 2 credits	Introduction to Bioinformatics 3 credits	Biophysical Chemistry 3 credits
Genomics Techniques and its Biomedical Application 3 credits	Introduction to Systems Biology 3 credits	Structural Biology 2 credits
The Principle and Applications of Genome Editing 2 credits	Epigenomics 3 credits	Experimental Design in Molecular Biology 2 credits
Gene editing and synthetic biology 3 credits	RNA Transcriptome 3 credits	<b>Introduction to Biostatistics 3 credits</b>

Table B. Molecule and Cell biology Program

Stem Cell Biology 3 credits	Molecular Oncology 3 credits	Histology 2 credits
Exploring Neuroscience 2 credits	Signal Transduction 2 credits	Cancer Biology 3 credits
Introductory Pharmacology 2 credits	Developmental Biology 3 credits	Human Anatomy 2 credits
Biomedical Research with Model Organisms 2 credits	Clinical Molecular Oncology 2 credits	<b>Cellular Mechanisms of Human Diseases 2 credits</b>

Table C. Other Core Courses

Biology Morphogenesis 2 credits	Human Physiology 3 credits	Protein Biotechnology 2 credits
Critical Reading and Writing Scientific Papers 2 credits	Introduction for Biomedical Sciences Reading (1) 1 credit	Introduction for Biomedical Sciences Reading(II) <b>2 credits</b>
Introduction to Computers 3 credits	Analytical Chemistry 3 credits	Introduction to Tissue Engineering 3 credits
Environmental Microbiology 3 credits	Environmental Chemistry 2 credits	Biomedical Materials 3 credits
<b>Material Science 3 credits</b>	Introduction to Clinical Oncology and Medical Technology 2 credits	Application of Biomedical Science 2 credits
<b>Biostatistics and data analysis using SAS with Enterprise Guide (EG) 3 credits</b>	<b>Cancer Gene Therapy 2 credits</b>	<b>Introduction to Clinical Molecular Diagnosis 2 credits</b>
<b>Entrepreneurship team innovation and industrial application 3 credits</b>	<b>Nanomedicine 2 credits</b>	

(4) A total 18 credits on free elective courses

1. These courses can be taken from the specialized courses of the Biomedical Science department and other departments. However, the "Biology" and "Biochemistry" courses offered by other departments will not be included in this department's free elective credits and graduation credits.
2. Excessive general education courses shall not be counted as free elective credits and graduation credits
3. The credits of elective military training (nursing) courses for the students of the belonged department shall not be included in the calculation of free elective and graduation credits
4. For students of the belonged department who take the course of education, if they have overtaken credits or give up the courses, their overtaken credits or completed credits shall not be included in the free elective credits and graduation credits of the belonged department.
5. Student who selects Basic English course offered by Language center, is unable to count into unrestricted selective credit in this department and graduation credit. Only the Advanced courses (medium or advanced level English class) can be counted for unrestricted elective credit of the department.
6. The credits of elective physical education courses for the students of the belonged department shall not be included in the free elective and graduation credits