

Chung Yuan Christian University
Department of Biomedical Engineering
Academic Guidelines for Bachelor

March/17th, 2021 Passed by the 1st Academic Affairs Meeting, spring semester, Academic Year 2020-2021.
July/20th, 2022. Revised by the 2nd Academic Affairs Meeting, spring semester, Academic Year 2021-2022.

Article 1 This Academic Guidelines of the department are formulated in accordance with the “CYCU Regulation Governing the Determination of Each Degree’s Name, Conferral of Degrees, and Alternatives to Submission of a Master's Degree Thesis or Doctoral Dissertation”.

Article 2 The Chinese and English names for the Bachelor's degree awarded by this department are as follows:

The title of the department in Chinese & English	Degree conferring	
	Name of Chinese & English	Abbreviation
生物醫學工程學系	工學學士	
Department of Biomedical Engineering	Bachelor of Science	B.S.

Article 3 Please refer to Appendix I for the Table of Curriculum & Credit for Bachelor.

Article 4 Department Requirements for Course Enrollment:

- I. Students must fulfill the department requirements specified in Appendix One to be eligible for graduation. Credits for courses that do not conform to the requirements outlined in Appendix One and have not been approved through administrative procedures will not be counted towards graduation credits.
- II. Departmental mandatory courses should be primarily taken by students within the department and designated class. Exceptions may be granted based on administrative procedures.
- III. Students must complete the designated extensive general education course, Engineering Ethics, to satisfy college requirements before graduation.
- IV. Students must complete the courses according to the academic guidelines of this department.

Article 5 All other relevant matters not covered in these policies shall be governed by the “CYCU Academic Policies” and relevant regulations.

Article 6 This guideline has been carried out in the review of the Academic Affairs Meeting. Any revision to this guideline will follow the same procedures.
This regulation is applicable to Bachelor students enrolled from the academic year 2022-2023.

CYCU Department of **Biomedical Engineering**

Table of Curriculum & Credit for Bachelor

(Applicable to students enrolled in the **2023~2024** academic year)

Course Name	Characteristic	Credits	Renewal subjects & conditions for continued study	
			Course Name	Limitation
Calculus (I)	Half	3		
Calculus (II)	Half	3	Calculus (I)	Have taken
General Physics	Half	3		
Physics in Biomedical Engineering	Half	3		
General Physics Laboratory	Half	1	General Physics	Concurrently
General Chemistry	Half	3		
General Chemistry Laboratory	Half	1	General Chemistry	Concurrently
General Biology	Half	3		
Organic Chemistry	Half	3	General Chemistry	Have taken
Programming Language	Half	2		
Introduction to Biomedical Engineering (I)	Half	1		
Introduction to Biomedical Engineering (II)	Half	1		
Laboratory in Biomedical Engineering	Half	1		
Circuit Theory	Half	3	Physics in Biomedical Engineering	Have taken
Engineering Mathematics(I)	Half	3	Calculus (II)	Have taken
Engineering Mathematics(II)	Half	3	Calculus (II)	Have taken
Electronics(I)	Half	3	Circuit Theory	Have taken
Biochemistry	Half	4	General Chemistry	Have taken
Biostatistics	Half	3		
Electronics Practice(I)	Half	1	Circuit Theory	Concurrently
Electronics Practice(II)	Half	1	Electronics(I)	Concurrently
			Electronics Practice(I)	Have taken
Anatomy and Physiology (I)	Half	3	General Biology	Have taken
Anatomy and Physiology (II)	Half	3	Anatomy and Physiology (I)	Have taken
Anatomy and Physiology Laboratory (I)	Half	1	Anatomy and Physiology (I)	Concurrently
Anatomy and Physiology Laboratory (II)	Half	1	Anatomy and Physiology(II)	Concurrently
Biomedical Engineering Leadership & Entrepreneur	Half	1		
Electronics(II)	Half	3		
Biomedical Instrumentations and Measurements Laboratory	Half	3		
Seminar	Half	1		

Compulsory Course

Independent Study	Full	1	In accordance with the format of a 'thesis,' credits for the special topic will only be earned after the semester's completion.
Total		66	

Structure table of Graduation Credits

Minimum credits required for graduation	128	Basic Knowledge Subjects			
Category	Credits	Course Name	Characteristic	Credits	
1、Basic Knowledge	6	English(I)&(II)	Half	(1,1)	
2、General Education	16	Practical English (I)&(II)	Half	(1,1)	
3、Compulsory Course	66	English Listening and Speaking in Lab (I)&(II)	Half	(1,1)	
4、Elective Courses offered by department	14	Environment Service-Learning (2 semesters)	Half	0	
5、Extended General Education elective	12	Physical Education (I)&(II); Any two sports during the sophomore	Half	0	
6、Other Elective Courses	14				
		General Education - Compulsory Course			
		GQ	Religion philosophy	Half	2
			Human philosophy	Half	2
		EQ	Taiwan Politics and Democracy	Half (choose one from six) Excess credits can be included in neither general education nor extended general.	2
			Law and The Modern Life		
			Contemporary Human Rights Issues and Challenges		
			Sociology of Everyday Life		
			Big Issues of Globalization		
			The World of Economics		
		EQ	History of Regional Civilizations	Half(Select one) Excess credits can be included in neither general education nor extended general.	2
			History of Cultures and Thoughts		
		KQ	Computational thinking and programming	Half	2
			Introduction to Natural Science and Artificial Intelligence	Half	2
		IQ	Chinese Literature Classics	Half	2(2,0)
			Literacy and Rhetoric	Half	2(0,2)
		Total			16

Instruction :

I. The School Regulations :

- A. The "KQ-Sciences" and "IQ-Literature & Rhetoric" in the General Education Program are mandatory and must be completed during the freshman year. Regarding the "IQ-Literature & Rhetoric" courses, the Chinese Literature Classics should be taken during the first semester of the freshman year, while the Literacy and Rhetoric should be taken during the second semester of the freshman year."
- B. The General Education elective courses are divided into four categories: GQ-The Creator, EQ-Humanity, KQ-The Entire Creation, and IQ-The Individual Self. At least two credits must be taken in each category, with a total of 12 credits required to fulfill the requirement.
- C. The Computer Information Related courses, which must have a minimum of 2 credits, should include instructional content on programming design or programming language application. Additionally, at least one-third of the total teaching hours should be devoted to this topic. The courses aim to cultivate students' abilities in logical thinking, logical operation, and the use of technology for innovative learning.
- D. From the 101 academic years, undergraduate students are required to pass the English proficiency test recognized by the school to be eligible for graduation.
- E. From the academic year of 2014 onwards, fifth-year high school students are required to take an additional 6 credits both for general education courses and professional courses.
- F. Students enrolled in bachelor's degree programs are required to take 2 EMI courses before graduation. **【Excluding English (I)&(II), English Listening and Speaking in Lab (I)&(II), Practical English (I)&(II) and Business School Business English Conversation (I)&(II), Skills for English Language Testing (except for ALLS students)】**
- G. The scope of other elective courses includes minor, double major, Interdisciplinary Course Program, Employment Program, Micro Program (including from other departments), PBL courses, MOOCs micro-credit courses (1 credit per course, up to a maximum of 6 credits), and Profession Self-Directed Learning (up to 2 credits).
- H. For the courses and grades issues, please consult the related regulations according to "CYCU Academic Policies".

II. Graduation Regulations of the Department :

- A. Students must complete the designated extensive general education course, Engineering Ethics, to satisfy college requirements before graduation.
- B. This department consists of three-course groups, and students must complete one or two courses within each of the three-course groups for at least 28 credits. Please refer to the regulations outlined in the course requirement and the academic guidelines of this department.
- C. Students are required to complete 14 credits of elective courses, including the courses within the Interdisciplinary Credit Programs, Career-oriented programs, and PBL Program offered by the department.
- D. The course must comply with the engineering and technology education certification regulations of IEET (Institute of Engineering Education Taiwan).

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July/20th, 2022. Passed by the 2nd Academic Affairs Meeting, spring semester, Academic Year 2021-2022.