

## **Study Regulations for the PhD, Dept. of Biomedical Engineering, Chung Yuan Christian University**

Approved at the 1st Academic Affairs Meeting, 2nd semester of the academic year 2020 on March 17, 2021  
 Amended at the 2nd Academic Affairs Meeting, 2nd semester of the academic year of 2020 on June 30, 2021  
 Amended at the 2nd Academic Affairs Meeting, 2nd semester of the academic year 2021 on July 20, 2022

Article 1. These Study Regulations have been established by the Department in accordance with the Regulations Governing Various Degree Titles and Recognition of Substitutes for Thesis of the Master's Degree and Graduate Student Examination Regulations of Chung Yuan Christian University.

Article 2. The titles of the doctoral degrees in Chinese and English after graduation from the Department are as follows:

<b>Full name in Chinese and English of the Department (Institute, Program)</b>	<b>Title of degree</b>	
	<b>Title in Chinese and English</b>	<b>English abbreviation</b>
生物醫學工程學系	工學博士	
Department of Biomedical Engineering	Doctor of Philosophy	Ph.D.

Article 3. The compulsory subjects and credits required in the doctoral program of the Department are detailed in Table 1.

Article 4. Compulsory subjects include: 4 semesters of “Seminar” 18 credits are required for elective courses and 2 credits for general studies. Elective courses must include the following courses:

1. Introduction to Biomedical Engineering (graduate school or above),
2. Physiology (graduate school or above),
3. Engineering Mathematics (university or above);

Students who have taken the above courses with 3 credits gained can apply for an exemption; however, they must make up the number of credits required.

Article 5. Thesis Advisor

- I. PhD students should select an advisor before the end of their first year of study.
  - II. Students who wish to change an advisor for any reason must submit a “Letter of Consent to Change Advisor.”
  - III. Graduate students should first discuss course selection with their advisor. The list of selected courses and transcripts of records must be signed by their advisor. Students must have at least 2 discussions with their advisors, which should be recorded in the “Interaction between Graduate Students and Advisors” or “Brief of Interaction between Graduate Students and Advisors”, to be submitted to the Department for review. Student records of graduate students must be returned to the Department upon graduation.
- I. PhD Candidate Qualifying Exam
  - II. A PhD student may take a qualifying examination after 1 semester into a PhD program. This qualifying exam includes a written exam and a thesis proposal exam. The written exam must be passed within 4 years of enrollment of the PhD program (excluding a gap year). The thesis proposal exam must be passed after passing the written exam and one semester before the application of thesis defense. Students who fail to achieve the above requirements within the prescribed time will be expelled from the program by the Office of Academic Affairs by notification from the

Department.

- III. The Qualifying Examination Committee organized by the Department is responsible for qualifying exams and matters related to the exams, and handled in accordance with the "Implementation Guidelines for the Department's Qualification Exam." The Qualifying Examination Committee is composed of 5 to 7 full-time assistant professors or above of the Department elected at a department affairs meeting, with the chair serving as the ex-officio member and the convener.

#### Article 6. Review of Areas of Expertise

- I. The thesis (proposal) review includes whether or not the student meets the areas of expertise of the Department include biomedical electronics, biomedical information, biomedical imaging, clinical engineering, biomedical materials, biomechanics, tissue engineering and stem cells, or other biomedical engineering-related expertise.
- II. The Review Committee which checks the areas of expertise is composed of at least 3 advisors and scholars who are experts in the students' field of study, inside or outside the university. If a thesis submitted prior to a PhD exam deviates from the original area of expertise, the advisor must reactivate the review mechanism.
- III. In the event of doubt, the Department Chair will convene a review meeting, in which the advisor will be invited to attend. If it is determined that the thesis does not meet the Department's areas of expertise, it must be revised. If students do not agree with the results, they may submit information and a written explanation to their college for further review.

#### Article 7. Degree thesis

- I. A thesis in a PhD program must be written entirely in English.
- II. The main content of a thesis must be completed during a PhD program.
- III. To publish a paper or patent, at least one of the following must be met:
  - ① 2 registered journal articles on SCI
  - ② 1 journal article on SCI and 1 patent for an invention (the content must not be the same)
  - ③ 1 journal article on SCI, with more than 5 journal points or Q1. The student who publishes on SCI must be the substantive first-author with his advisor as the co-author of their work; while patents is the major contributor, other than the advisor.
- IV. An international conference proceeding or a domestic article: The student must be the first-author, with his advisor as the co-author during the study period. The conference proceeding must be published under the name of the Department.
- V. The above documents and "doctoral study records" must be submitted to the Academic Committee for approval a month before the oral exam. The Academic Committee is composed of full-time faculty members at the Assistant Professor level or above, with the Department Chair as the convener.
- VI. A thesis must be checked on the thesis comparison system, with a comparison report provided for the reference of the Oral Exam Committee.

#### Article 8. Degree Exam

- I. After filling in the relevant forms, stating that all requirements, including the duration of study, course credits, qualification examination and review of PhD thesis, have been satisfied, with the advisor's preliminary review passed, PhD students can apply to form a Thesis Exam Committee. The degree examination is an oral exam.
- II. The composition of the PhD Degree Examination Committee is subject to CYCU's regulations.
- III. The first half of a degree examination is a public presentation. The time, location and

thesis topic of the presentation should be displayed in the Department within a week prior to the examination. A presentation is welcome to anyone to attend and ask questions. The second half is a secret examination, attended only by the Examination Committee members.

Article 9. Matters not covered herein shall be subject to CYCU's relevant regulations.

Article 10. The Regulations have been approved by the Academic Affairs Meeting and shall be promulgated. The same shall apply where the Regulations are amended.

These Regulations are applicable to students of PhD programs from the 2022 academic year onward.

Table 1.

Table of Compulsory Subjects and Credits for the <b>PhD, Dept. of Biomedical Engineering,</b> Chung Yuan Christian University (Applicable to students of the PhD programs from the <b>2022</b> academic year)					
Title		Duration	Course credits	Prerequisite subjects and terms for renewal	
				Title	Restriction
Compulsory subjects of the Department	Thesis	Full	12 (6,6)		
	Book and newspaper discussion (1)	Full	2 (1,1)		
	Book and newspaper discussion (2)	Full	2 (1,1)		
	Total (credits for theses are calculated separately)			4	
Graduation credits					
Nature		Course credits	Notes:		
1. Compulsory subjects of the Department		4	<b>I. CYCU-Wide Requirements</b> 1. Foreign graduate students, enrolled from the 2016 academic year onwards, must take Chinese language courses and pass the level 1 exam of the Test of Chinese as a Foreign Language (TOCFL) with a certificate obtained before graduation. 2. For course-taking and grades, please see the School Regulations.		
2. Elective courses of the Department		18			
3. Elective general studies for graduate students		2			
Minimum credits required to graduate (credits for theses are calculated separately)		24			

Approved on July 6, 2022 by the 2021-2-3 school-level Curriculum Committee.

Approved at the 2021-2-3 Academic Affairs Meeting held on July 20, 2022.