

National Central University
Department of Biomedical Science and Engineering
Regulations and Procedures for Master's Program in Biomedical
Engineering

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Article 1. These regulations are established following the “Academic Regulations” and the “Regulations for Doctoral and Master's Degree Examinations” of National Central University (NCU).

Article 2. Curriculum Requirement for Students

**** Students must complete a **minimum of 24 credits** from enrollment to obtain the Master's degree.*

The 24 credits include the following courses:

- (1) Pass at least **one** core-required course. (details in the attached table).
- (2) Pass at least **three** core-selective courses. (details in the attached table).
- (3) During the study time, students must take the “Seminar” (no credit) for a total of three semesters. However, students who have obtained the department's 'Approval for Five-Year Study or Master's Degree Study' may take the Seminar course for only two semesters during the Master's program.

Article 3. Selection of Academic Advisor

3.1. Application for an Academic Professor

(1) The advisor application form must be *applied and confirmed* by the advisor with signature. Completed forms with the advisor’s signature are required to be returned to the department office to finalize the advisor application.

(2) Students must determine the advising professor within **one month** of enrollment, based on the date of confirmation in the advising professor signature form.

3.2. Determination of Co-Advisor (Optional)

(1) The advisor application form must be applied and confirmed by the advisor and co-advisor with signature. Completed forms with the advisor's signature are required to be returned to the department office to finalize the co-advisor application.

(2) Students must determine the co-advisor (if applied) before the **beginning of the second year** (i.e., the 3rd semester), based on the date of confirmation in the advising professor signature form.

3.3. The Advising Professor change

(1) The agreement of the former advisor and the department chairman is required to change advisors.

(2) In order to proceed, the **former advisor**, the **department chairman**, and the **newly-appointed advisor** must all sign the advisor application form. To complete the advisor change application, the form must be signed by three people and returned to the department office.

(3) Students who changed advisors are required to be guided by the new advisor for at **least six months** before taking the oral defense exam.

(4) The efforts obtained through the former advisor's guidance cannot be included in the student's thesis guided by the new advisor unless agreed upon by the previous advisor.

Article 4. Pre-Oral Examination

The pre-oral examination of the Master degree is conducted publicly.

1. Each Master student must take the pre-oral examination in the third semester of Master Degree Procedure. At least three committee members from the Department of Biomedical Sciences and Engineering/Graduate Program of Biomedical Engineering must host the pre-oral examination.

2. Committee members anonymously determine the score of each student. Students who pass the pre-oral examination *must take Agree-for-Pass from \geq two-thirds of the committee members who attended.*

3. Students who fail the pre-oral examination can apply for the second one in the next semester. Students who fail the second pre-oral examination cannot apply for the oral defense for graduation during the semester.

Article 5. Thesis Defense

1. All the thesis defense application documents must be approved by the student's advisor, chairman of the department, and the NCU academic affairs office before conducting the thesis defense.

2. The thesis draft must be provided to all of the thesis defense committee members 7 days before the conduction of the thesis defense.

3. The thesis defense must be conducted in a public manner.

4. The format of the thesis must follow the NCU Regulations of Thesis Format.

5. The **passing score** of the thesis defense is **70 out of 100** which is the average of all committee member's scores. The thesis defense score is only finalized once. However, the thesis defense is judged as "Fail" when 1) *half of the committee members give a score of < 70*, or 2) *the thesis is certainly found to be plagiarism or fraud in all or a portion of the content*.

6. Students, who do not receive the pass score from half of the committee members and are still within the regulated study period, can apply the second thesis defense. One student can only apply thesis defense twice throughout the study period. Students who **fail the second thesis defense will be expelled from school**.

7. The committee members must attend the thesis defense in person. Thesis defense can be held when at least three committee members attend the examination. Otherwise, the thesis defense is canceled.

Article 6. School Leaving Procedures

In addition to all the necessary school leaving requirements set by NCU, students who pass the Thesis defense also need to fulfill the department requirements to finish the whole School Leaving Procedures that include: 1) *students must submit a hard copy and a digital file of the thesis, as well as a letter of thesis authority to the department office*; 2) *students must return all the books/goods belonging to the department before leaving*.

Article 7. Any issues not covered by these regulations shall be handled following the relevant regulations of the Ministry of Education and NCU.

Article 8. These regulations are implemented by the department and college staff meeting, and recorded by the Office of Academic Affairs for further amendments, if any. Students who have already enrolled should follow these established regulations.

Graduate Program of Biomedical Engineering
Regulations and Procedures for Students Pursuing Master Degree
Credits table

A. The core-required courses: Select 1 of 2 courses

Course Name	Credits
Statistics and Experimental Design (BE5013)	3
Biostatistics (SB7058)- <i>(from Master Program in Systems Biology and Bioinformatics)</i>	3

B. The core-selective courses: Select 3 of 7 type courses

Type	Course Name	Credits
1	Anatomy, Physiology, and Medical Engineering (BE5036) or Principle of Translational Medicine (TM7017)- <i>(from Institute of Translational and Interdisciplinary Medicine)</i>	3
2	Biotechnology medical design and development (BE5041) or Research and Development of Biomedical (ME5100) or Overview of Commercialization and Regulations in Biomedical Research (BE5047)	3
3	Drug Delivery Systems (BE5020)	3
4	Surface characterization and Engineering (BE5026)	3
5	Computer-Aided Diagnosis (BE5029) or Computer-Aided Diagnosis (TM7010)- <i>(from Institute of Translational and Interdisciplinary Medicine)</i>	3
6	Systems Neuroscience (BE5018)	3
7	Workshop on Deep Learning (TM7040)- <i>(from Institute of Translational and Interdisciplinary Medicine)</i>	3