

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. The period of study is from two to seven years. Within the **first three years** of enrollment, students must pass the **Doctoral Qualification Examination**.

Article 3. Course requirements

***** Students must complete a minimum of 18 credits.**

(1) Students directly admitted to the doctoral program must complete a minimum of 34 credits. Credits have been taken before the direct-entry scheme, with a maximum credit of 16 credits.

(2) During the study period, students must take the ‘Seminar’ for a total of four semesters.

(3) Students need to select the course from the department (The first two numbers of course numbers are BE, TM, and SB) with at least 6 credits.

Article 4. Selection of Academic Advisor

4.1. 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.

4.2. 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.

4.3. 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 5. Doctoral Qualification Examination

1. The qualification examination is conducted in an oral format, held **once each semester**. The Graduate Affairs Committee should announce the examination order, time, and location seven days before the qualification examination.

2. Students must fill out the application form for the doctoral qualification examination. the examination can be held after having the approval of the advisor and department chairman.

3. The examination time for each student is generally **75 minutes, with a 30-minute oral presentation.**

4. Students must submit the following information before **one month** before the examination:

(a) *Application form for the qualification examination.*

(b) Thesis proposal. The content of the proposal should be relevant to the doctoral thesis topic, including background, research purpose, research direction, research methods, and preliminary research results.

(c) Transcript.

(d) The examination committee member recommended by the advisor.

5. The committee members should conduct oral interviews in person, and should not entrust other representatives. The number of examination committee members is five. At least three committee members should attend, otherwise, the oral defense will not be held. Two of the committee members are invited by the advisor, and the other two of them are assigned by the Graduate Affairs Committee. All of them are checked by the chairman of the department.

6. The committee members determine the scores for each candidate anonymously. The results are categorized as pass or fail. If two-thirds or more of the attending examiners judge a candidate as passing, the pre-oral defense is considered passed.

7. Candidates who do not pass the assessment and have not reached three years of study may re-apply for the examination. ***The re-examination is limited to one attempt.*** If a candidate fails, they should be dismissed from the program.

Article 6. Graduation Application through Thesis Publication

1. Students must complete the requirements stipulated in the preceding articles, obtain the qualification of a doctoral candidate, and conduct a public English presentation within the department on the content of their thesis. After obtaining approval from the advisor and meeting the requirements for the number of thesis articles, they may apply for the doctoral degree examination.

2. Doctoral candidates' published theses must meet the following requirements:

*(a) Publish at least two articles in academic journals listed in SCI (SCIE), with **at least one article** published in an international journal, and the ranking of the journal must be within the top 70% in the field. The ranking of journals is based on the five years before the publication date, and priority is given to the best-ranking journals.*

(b) If the articles listed in (a) are submitted in a short paper format, they must be approved in advance by the Graduate Affairs Committee.

(c) The articles listed in (a) must all be part of the candidate's doctoral thesis. The advising professor and the candidate should co-sign, with the candidate or the advising professor as the first author. At least one article should have the candidate as the first author, and all articles must be published under the affiliation of the department. If two or more doctoral candidates are listed as authors of the same journal article, only one candidate can submit it.

(d) If there is any ambiguity in the above three provisions, it will be submitted to the Graduate Affairs Committee for adjudication.

Article 7. Graduation Application through Industry-Academia Collaboration

According to the Ministry of Education's policy to promote elite development programs or in the interest of establishing collaborations between industry and academia with the approval of the Academic Affairs Committee, the candidates are required to meet the following procedures to graduate as working professional Ph.D students:

1. Students must complete the requirements stipulated in the preceding articles, pass the department's doctoral qualification examination, and obtain the qualification of a doctoral candidate.

2. Pass the Graduate Affairs Committee's review of research achievements:

(a) Graduation requires one of the following honors or achievements, which will undergo a review of research achievements:

** Patent: Obtain at least one domestic or international patent. The patent rights obtained must be applied by the NCU, and the candidate must be one of the inventors.*

** Technology Transfer: The principle is that technology transfer with actual income should be at least NT\$500,000. Exceptions may be considered after deliberation.*

** SCIE (SCI) Journal Paper or Book Publication: If using an SCIE (SCI) journal paper as a research achievement, it must meet the requirements of Article 6; for book publication, it must be published through formal review procedures and have an ISBN. Excluding textbooks and research (technical) reports.*

** Other special contributions or research achievements in industry-academia collaboration, subject to approval by the Graduate Affairs Committee.*

(b) Graduation requires having two oral presentations at international conferences, and the candidate must be the first author among the students (excluding up to two co-advisors). Conference papers must undergo a formal review process. The paper should be published during their study in the institute.

(c) The student's thesis and published work will be sent to the Graduate Affairs Committee for review. The review is included in the course and credit requirements. If necessary, other courses may be required.

Article 8. Oral Defense

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

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

3. Oral defense must be conducted in a public manner. The announcement, which includes time and place, needs to be announced by the Graduate Affairs Committee two weeks before the oral defense.

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

5. The **passing score** of the oral defense is **70 out of 100** which is the average of all committee member's scores. The oral defense score is only finalized once. However, the oral 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 oral defense again. Students who **fail the second time will be expelled from school**.

7. The committee members must attend the oral interview in person and should not entrust other representatives. The number of committee members is 5 to 9 people. One of them is assigned by the Graduate Affairs Committee, others are invited by the advisor. At least five committee members should attend, otherwise, the oral defense shall not be held.

Article 9. School Leaving Procedures

In addition to all the necessary school leaving requirements set by NCU, students who pass the oral 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 10. Any issues not covered by these regulations shall be handled following the relevant regulations of the Ministry of Education and NCU.

Article 11. 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.