

NATIONAL SUN YAT-SEN UNIVERSITY

Department of Electrical Engineering Regulations of Qualification and Degree Examinations for Graduate Students of Doctoral Program

Applicable for Students Enrolled in Academic Year 2021

Amended and approved by the Department General Meeting on October 4, 2002.
Amended and approved by the College General Meeting on January 7, 2003.
Amended and approved by the College General Meeting on March 25, 2003.
Amended and approved by the Department General Meeting on October 23, 2003.
Amended and approved by the College General Meeting on March 25, 2004.
Amended and approved by the Department General Meeting on December 3, 2004.
Amended and approved by the Department General Meeting on January 7, 2005.
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Approved by the College General Meeting on March 22, 2005.
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Amended and approved by the Department General Meeting on March 14, 2008.
Approved by the College General Meeting on June 10, 2008.
Amended and approved by the Department General Meeting on May 28, 2010.
Approved by the 5th College General Meeting on June 28, 2010.
Amended and approved by the Department General Meeting on September 24, 2010.
Approved by the 2nd College General Meeting on December 15, 2010.
Amended and approved by the Department General Meeting on March 25, 2011.
Amended and approved by the Department General Meeting on June 27, 2011.
Amended and approved by the 5th College General Meeting on June 23, 2011.
Amended and approved by the 2nd College General Meeting on January 11, 2012.
Amended and approved by the 6th Joint Departmental (with the Institute of Communications) Meeting on March 25, 2016.
Amended and approved by the 4th College General Meeting on June 23, 2016.
Amended and approved by the 2nd Joint Departmental (with the Institute of Communications) Meeting on December 7, 2018.
Amended and approved by the 3rd College General Meeting on March 28, 2019.
Amended and approved by the 6th the Department General Meeting on March 5, 2020.
Amended and approved by the 3rd College General Meeting on May 25, 2020.
Amended and approved by the 9th the Department General Meeting on April 30, 2021.
Amended and approved by the 10th the Department General Meeting on May 28, 2021.
Amended and approved by the 2nd College General Meeting on July, 19 2020.

I. This set of regulations is issued based on the Ministry of Education Degree Conferral Law and its enforcement rules, as well as “Academic Regulations,” “Enforcement Rules of Postgraduate Students Degree Examinations,” “Implementation Guidelines for the Qualifying Examination of Ph. D. Candidates,” and “Regulations of Direct Pursuit of Doctoral Programs for Students” of National Sun Yat-Sen University.

II. Relevant items during study periods:

- i. Study period: The study period of each student is two to seven years (periods of retaining student status and temporary leave are not included).
- ii. Crediting and course criteria:

Advisors and the department chair shall approve courses selected by students. Courses with minimum graduating credits for the department’s doctoral program must be completed within the study period and before dissertation proposal. A

maximum of six credits of elective special topics may be included in the minimum graduating credits.

If an addition of 6 course credits in an external group within the department is required, the 6 credits shall also be completed within the period described above. The department's graduating bachelor students of the year and master's students who have completed at least one year that are applying for direct pursuit of doctoral programs, shall complete a minimum of 42 graduating credits (for undergraduate students of direct-pursuit: graduate courses studied in the bachelor program are included; for master's degree students: courses studied in master's program are included. Both have a limit of 21 credits, not including seminar courses).

iii. Limits for changing groups:

1. Students may apply for a group change two years (of essential study semesters) after entry.
2. Group changes may happen once approved by the dissertation advisor. If the advisor does not approve of a group change, faculty members of the group shall hold a meeting, and with agreements from two-thirds or more of the group's faculty members, the group change may proceed. After the group change procedure has been completed for transferring out of the original group, a student may immediately join a desired group if there is a faculty member willing to advise the student in the new group. Otherwise, faculty members of the new group shall hold a meeting, and a group change may only happen if two-thirds or more of the faculty members in the new group agree with the group change.
3. Qualification examinations must be completed within one year after changing groups.
4. Papers submitted for publication prior to an approval of a group change cannot be counted towards graduation dissertation points.
5. Minimum graduation criteria must comply with regulations of the new group.
6. Only one group change application is allowed.
7. A dissertation proposal must be approved again after a group change.

iv. Assignments of advisors:

Graduate students shall select a dissertation advisor from faculty members of the department within the first school year. In cases of students having to change advisors due to certain reasons, they may only do so once obtaining written agreements from their original and new advisors, who are faculty members of the university. If advisors resign or retire, joint-supervision shall be carried out.

v. In order to enhance language proficiency of the department's doctoral students, PhD doctoral students of the department who enrolled in the university in Fall 2005 (School Year 94) and after must obtain one of the following English proficiency certifications prior to making a dissertation defense:

1. A TOEIC score of 700 or above, or an equivalent standard established by another language test organization approved by the Ministry of Education; please enclose a credible certificate and give consent to the department chair for recognition of the certificate.
2. During doctoral study periods, at least 3 credits of level-three English courses offered by the Department of Foreign Languages and Literature of the university **or** 3 credits of one English Technical Writing course offered by the engineering college must be completed. A student must obtain a grade of at least 70 points for either of the aforementioned courses.

vi. International academic exchange:

The department's domestic doctoral student needs to go abroad for an exchange program before graduation. Only after completing one of the following conditions can the student apply for the degree examination.

1. Apply for an overseas exchange program, or participate in a foreign training courses or program for 3 months or more.
2. Obtain a dual degree program from an overseas university collaborating with the University.
3. If there are other reasons that student cannot go abroad for a long period of time (e.g., working status, pregnancy, childcare), the student must attend and give oral presentations of international seminars at least three times.

vii. Others:

Doctoral candidates who require joint-supervision from faculty members outside the department must obtain approvals from their original advisors, followed by making applications to the department before submitting dissertation proposals for examinations for the department's admission committee to review.

III. Qualification examination of doctoral candidates:

Definitions of semesters: The fall semester starts on August 1 of each year and ends on January 31 of the year after, and the spring semester starts on February 1 of each year and ends on July 31 of the same year.

i. Qualification examination:

Students must pass one of the following qualification examinations within four semesters (temporary leave not included) after entry to the program. Students may face expulsion if they fail the examinations.

1. Examination subjects:

- (A) Semiconductor Physics and Devices. (Electronic Group)
- (B) Control System. (Control Group)
- (C) Discrete Mathematics. (Multimedia Group)
- (D) Electric Power Engineering. (Power Group)
- (E) Electromagnetic Wave. (EM Wave Group)
- (F) Digital Logics (SOC Group)
- (G) Signals and Systems (Biomed Group)
- (H) Digital Signal Process (Communication Group)
- (I) Communication Theory (Communication Group)
- (J) Random process (Communication Group)

Two subjects must be selected from the above ten subjects, with the subject of study being compulsory. Examinations are conducted in written form and are conducted once at the end of each semester (the examination day is announced during the midterm exam). Students may sit for each subject exam twice at most. If a student fails both subject exams (absence in a subject exam is regarded as a fail), student may choose to sit for an external group subject exam.

2. Course requirement involves completion of two graduate core courses of the internal group and a graduate core course of the external group. (The above courses offered by the department of Electrical Engineering and the institute of Communication Engineering.) Students shall meet score requirements: three elective courses grades shall be reached 30% of the class or grades A- (inclusive)

or above (the core courses of an internal group) 、 shall be reached 50% of the class or grades B+ (inclusive) or above (the core courses of an external group).

Failure of a compulsory subject exam results in a requirement of an additional 50% of graduation dissertation points. If an external subject exam is failed, an addition of 25% of graduation dissertation points is required. The aforementioned additions of points are not limited to journal papers.

ii. Dissertation proposal review:

1. Within 5 years of admission (excluding temporary leave), doctoral students must submit a dissertation proposal review after passing qualification examinations and being approved by their advisor. The review is conducted orally and the student will obtain doctoral candidate qualifications via approval of the review. If a doctoral student fails to submit a dissertation proposal within 5 years of admission, the student will be withdrawn from the program in accordance with Article 3 of the University's Doctoral Program Candidate Performance Evaluation Requirements.
2. Three to six dissertation proposal reviewers of faculty members academically ranked as assistant professors or above in or outside the department shall be nominated by advisors and appointed following approval of the department chair.
3. For a student whose dissertation proposal is not approved, the dissertation proposal shall be amended, and approved by the student advisor before re-submitting for a second review. If the dissertation proposal is not approved the second time, the student shall face expulsion in accordance with academic regulations of the university.
4. If doctoral students have had their doctoral dissertation proposal approved and received doctoral candidate qualifications before changing their advisor, the doctoral dissertation proposal review must be redone after revision.

iii. Doctoral program regulations for dissertation/article publications:

1. Regulations for dissertation/article publications of each group are as follows:
 - a) Electronics Group: as shown in Attachment 1
 - b) Control Group: as shown in Attachment 2
 - c) Computer Group: as shown in Attachment 3
 - d) Power Group: as shown in Attachment 4
 - e) EM Wave Group: as shown in Attachment 5
 - f) SOC Group: as shown in Attachment 6
 - g) Biomed Group: as shown in Attachment 7Regulations for each aforementioned group shall be approved in department general meetings.
2. Research outcomes published before enrolling in the doctoral program or research outcomes of the doctoral program that are irrelevant to the program specialties shall not be accounted.
3. Works published by doctoral students that are accounted for must meet the following regulations:
 - a) When a doctoral student indicates an affiliated unit, the department shall be the only specified unit. If there are other listed units, the respective paper will not be counted towards the student's graduation dissertation points.
 - b) A doctoral student publication without the department listed as the lead unit

will not be counted towards the student's graduation dissertation points.

c) Each paper/publication may only be used as an application reference for one graduate student, and student shall be the lead author among all listed students. Also, the lead student's advisor shall be the lead author among none-student authors listed on the publication.

4. If a graduate student has changed his/her advisor, papers published with the original advisor shall not be counted towards graduation points unless the original advisor approves in writing for such works to be counted as graduation points. If other disputes are present, the department chair shall take actions to coordinate or shall convene an academic examination committee for discussions and decision-makings.
5. The above regulation applies to joint-appointed or retired professors. The listing order of retired professors and joint advisors on a paper shall be coordinated among professors and advisors in accordance with actual supervising situations.
6. The aforementioned regulations are compulsory criteria. Advisors reserve rights to issue further detailed requirements.

iv. Doctoral degree examinations:

1. Graduate students who have passed doctoral candidate qualification examinations, met relevant regulations of dissertation publications, been recommended by advisors, and submitted applications for university degree examinations by the specified deadline, may enter doctoral candidate degree examinations.
2. Examiner candidates of doctoral candidate degree examinations shall be nominated by advisors in accordance with "Enforcement Rules of Postgraduate Students Degree Examinations" of the university, approved by the department chair, and forwarded to the president for authorization and appointment issuance.
3. **The dissertation shall be completed through the National Sun Yat-Sen University Plagiarism Check System and hand in the dissertation draft and Plagiarism Detection Checker report to examiners one week before the examination.**
4. Students who fail the degree examinations and have not yet completed study periods may re-sit the exams in the semester or the school year after. A student may only re-sit the exams once. Students who fail the re-sits will face expulsion in accordance with regulations of the university.

IV. Graduation:

- i. Doctoral students, when presenting their final copy of their dissertation, must present proof of a plagiarism check on their dissertation.
- ii. **It is suggested that the plagiarism check be completed through the National Sun Yat-Sen University Plagiarism Check Software in the same year.** A score of the Plagiarism Detection Checker report, excluding citations, references, table of contents, attachments, etc., must be 12% or less to pass. Those whose numbers exceed 12% must be signed by the advisor to confirm that there is no suspicion of plagiarism before they are approved.
- iii. Students are required to submit the statement of academic ethics and a report of Plagiarism Detection Checker which will be signed by the advisor. Students are allowed to leave the University after approved by the department.

Students who meet all requirements described above may apply for degree conferral.

- V. This set of regulations has been implemented after approval by the department, the engineering college, and after authorization by the president. The same procedure shall be carried out when amendments are made.