

Regulations for the Master's Program Requirements in Electrophysics at National Yang Ming Chiao Tung University in Academic Year 2024

Amended and passed at dept's 5th teaching counselling meeting Nov 15, 2013
Passed at 4th dept meeting Dec 25, 2013
Amended and passed at 3rd col-level curriculum meeting Apr 17, 2014
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Amended and passed at dept's 8th teaching counselling meeting Mar 10, 2023
Amended and passed at 3rd dept meeting Mar 22, 2023
Amended and passed at 2nd dept meeting Dec 29, 2023

Article 1 Admission Requirements:

1. Candidates must hold a bachelor's degree or an equivalent qualification from any departments at public or accredited private universities, independent colleges, or foreign universities recognized by the Ministry of Education. They must have successfully passed the entrance examination for master's programs at National Yang Ming Chiao Tung University (NYCU).
2. Applicants must be graduates or recent graduates with outstanding academic achievements from relevant departments of the aforementioned universities, colleges, and institutions. They must meet the minimum admission criteria set by the NYCU Admissions Committee through a selection process.
3. Prospective students must comply with both the "Regulations Regarding International Students Undertaking Studies in Taiwan" stipulated by the Ministry of Education and the "Regulations Governing the Admission of International Students to National Yang Ming Chiao Tung University."
4. Candidates pursuing a doctoral degree directly but have temporarily halted their doctoral studies due to unforeseen circumstances.
5. Applicants with valid retention of admission qualifications are eligible for consideration.

Article 2 The duration of the master's program is restricted to one to four years, with an optional extension of one year permitted for students enrolled in the in-service

program.

Article 3 Graduation Requirements: Master's degree candidates are required to fulfill a minimum of 24 credits for graduation, including a minimum of 14 credits from specialized courses offered by the Department. In addition, a minimum of 4 credits must be earned through specialist lectures. For students graduating ahead of schedule or participating in overseas research programs, the credits earned from specialist lectures must correspond to the number of semesters enrolled.

Article 4 The master's program within the Department offers four distinct tracks: Electrophysics, Optoelectronics and Nanoscience, Theoretical Physics, and Quantum Science and Technology (conducted entirely in English). Students are required to select one of these tracks for their academic pursuits.

Core Curriculum:

1. Electrophysics Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Semiconductor Physics and Devices, (5) Classical Mechanics, (6) Statistical Mechanics.
2. Optoelectronics and Nanoscience Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Semiconductor Physics and Devices, (5) Optoelectronics, (6) Introduction to Lasers, (7) Laser Physics.
3. Theoretical Physics Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Classical Mechanics, (5) Statistical Mechanics.
4. Quantum Science and Technology Track: (1) Quantum Mechanics, (2) Electrodynamics, (3) Advanced Solid-State Physics, (4) Statistical Mechanics, (5) Quantum Physics and Devices.

All courses mentioned above, spanning two or more semesters, shall count towards the core curriculum.

Article 5 Credit Requirements:

1. Master's degree students within the Department are required to complete a minimum of three core courses within their chosen track offered by the Department.
2. Courses with identical titles offered by external departments may be eligible for up to 9 credits transfer, while departmental courses may be eligible for up to 21 credits. Applicants must submit an application form in accordance with the Department's credit transfer regulations and obtain approval from the Teaching and Counseling Committee.

3. Courses offered by external departments with similar content may be requested for subject and credit transfer, excluding specialist lectures. Exempted courses must not be included in the minimum graduation requirements for the original degree.
4. Core courses completed within the Department within the past 10 years, prior to pursuing their master's degree, with credits included in the minimum graduation requirements for the original degree, may be exempted from retaking upon review of academic performance and approval by the Department. However, credit transfer is not allowed.
5. Following enrollment, a maximum of 6 credits from courses offered by external departments may be applied, with credits from educational programs excluded.
6. Throughout the initial two years of the master's program, students are required to enroll in specialist lecture courses with credit value each semester.
7. After enrollment, requests for credit exemption must be submitted within two weeks prior to the University's specified deadline.
8. Prior to the conclusion of the first semester of enrollment, students must complete an academic research ethics education course. Those who fail the comprehensive examination are ineligible to apply for the degree examination.
9. If a student is unable to attend a course for six weeks or more during the semester due to reasons such as overseas exchange, internships, research, etc., as stipulated by the course instructor, the student must withdraw from the course.

Article 6 Advisor:

1. Graduate students are obligated to select an advisor and submit an application form for approval by the Teaching and Counseling Committee before the end of their first semester of enrollment. Failure to comply will necessitate an explanation to the Committee, with the possibility of a one-semester extension if deemed necessary.
2. In order to change their advisor, students must submit an application form detailing the reasons and fulfill their obligations. Upon approval by the Teaching and Counseling Committee and the Department chair, and after notifying the original advisor, the change will take effect. Should an advisor wish to terminate the advisory relationship, they must submit a written request to the Committee. The Committee will then communicate the

results of the review to the graduate student.

3. If graduate students select a full-time faculty member from outside the Department as their advisor, they must also have a full-time faculty member from within the Department serve as a co-advisor. The reasons for this choice, along with the research topic and content, must be specified in the application form, which will undergo review and approval by the Teaching and Counseling Committee.

Article 7 Thesis defenses must be completed by the end of July each year, in compliance with the conditions and procedures set forth in the Department's master's graduate thesis defense guidelines.

Article 8 The master's degree examination committee for graduate students shall comprise three to five members, including at least one member from within the Department and one from outside. The thesis advisor is ineligible to serve on the examination committee. The Department shall nominate academics and experts both from within and outside the University, specializing in the research topic of the graduate student, who meet one of the following qualifications. These nominations are submitted to the University president for appointment and committee formation:

1. Current or former professors, associate professors, or assistant professors.
2. Academicians of the Academia Sinica, current or former research fellows, associate research fellows, or assistant research fellows of the Academia Sinica.
3. Individuals holding a doctoral degree with significant academic accomplishments, as endorsed by the faculty review committee.
4. Experts in rare or distinctive academic fields, with notable academic or professional achievements, reviewed and endorsed by the departmental affairs meeting.
5. Spouses of graduate students, blood relatives within the third degree of kinship, and in-laws are disqualified from serving as degree examination committee members.

Article 9 The master's degree examination shall be conducted orally and shall adhere to the following rules:

1. As a principle, thesis defenses are held publicly. The date, time, and location of the defense, along with the thesis topic, must be announced at least 14 days in advance.
2. Members of the degree examination committee must attend the committee

meeting in person and are not permitted to delegate representation to others. The examination committee must have a minimum of three members in attendance for the examination to proceed.

3. The Department director shall appoint one member of the examination committee to serve as the convener.
4. Examination results shall be graded on a scale from B- (70 points on a 100-point scale) as a passing grade to A+ (100 points) as full marks. Only one evaluation is permitted, and the final score is determined by averaging the scores provided by attending committee members. If more than one-half of the attending committee members assess the examination as failing, it shall be deemed a fail, and no averaging shall occur.
5. Prior to the thesis examination, an originality comparison report of the thesis must be completed and provided to the examination committee for reference. Following the conclusion of the thesis examination, it must be confirmed and signed on the degree examination results form by the thesis advisor.
6. If any fabrication, falsification, plagiarism, outsourcing of writing to others, or other fraudulent activities are detected in the thesis and confirmed by the degree examination committee, the examination result will be recorded as zero points, and no re-examination will be permitted.
7. Upon successful completion of the oral defense, the oral examination committee will provide guidance on the direction and key aspects of thesis revision, serving as the basis for the student's thesis modification. After the student revises the thesis, it must be submitted for thesis review. The thesis review process requires the approval of at least two-thirds of the examination committee for it to pass. The final draft of the revised thesis must undergo an originality comparison report and receive confirmation from the thesis advisor. The thesis review process does not involve additional grading. Upon passing the thesis review, the attending members of the thesis examination committee shall sign the "Thesis Oral Examination Committee Approval Form." Once the thesis review is concluded, the thesis examination result will be considered as the degree examination result.

Article 10 Graduate students who fail to pass the degree examination within the prescribed period of study or fail to complete the required courses shall be required to withdraw from the program.

Article 11 The master's thesis (including the abstract) must conform to the "National Yang Ming Chiao Tung University Thesis Format Regulations." Upon passing the degree examination, the student is required to submit an originality

comparison report for the thesis, along with an academic ethics and originality comparison declaration. Furthermore, the abstract and full-text thesis must be electronically uploaded in accordance with the "National Yang Ming Chiao Tung University Library Thesis Abstract and Full-Text Electronic File Archiving Regulations." Additionally, two hard copies of the thesis (one for display in the University library and another forwarded by the Office of Academic Affairs to the unit designated by the Ministry of Education for collection) must be submitted. In cases where the thesis involves confidential or patent matters, or is legally restricted from disclosure, it shall be handled in accordance with the University's regulations concerning the delayed public disclosure of theses.

Article 12 Matters not addressed by these Regulations shall be governed by the operational regulations for the conferral of graduate degrees at NYCU and relevant educational laws and regulations.

Article 13 These Regulations shall be established by the departmental affairs meeting and implemented after review and approval by the College of Science's Curriculum Committee and the University-level Curriculum Committee. Any subsequent amendments shall follow the same procedure.