

National Chiao Tung University Department of Mechanical Engineering Doctoral Program Time to Degree Regulations

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Amended and approved by department faculty meeting, February 23, 2005
Amended and approved by department faculty meeting, March 15, 2006
Amended and approved by department faculty meeting, April 11, 2007
Amended and approved by department faculty meeting, December 12, 2007
Amended and approved by department faculty meeting, January 2, 2008
Amended and approved by department faculty meeting, March 18, 2009
Amended and approved by department faculty meeting, October 14, 2009
Amended and approved by department faculty meeting, March 10, 2010
Amended and approved by department faculty meeting, October 13, 2010
Amended and approved by department faculty meeting, April 13, 2011

- I. These regulations are intended for National Chiao Tung University Master's degree and PhD degree.
- II. The time to degree for doctoral program is between 2-7 years, and transfer to another department, institute or group is not allowed. Employed students are allowed one additional year.
- III. Doctorate students in the department must complete at least 18 credits of course work before graduating (not including credits from English courses or transfer credits, but students taking electives before entering the program may be approved for credit transfer by the Teaching Committee), and at least 4 semesters of course reports (including at least one report per report discussion course). In addition, students must pass the doctoral student candidacy exam and doctorate exam.
- IV. Doctoral students in the department must confirm their choice of advisor within 2 weeks after the beginning of the first semester. The deadline for choosing an advisor is before the beginning of the second semester. Advisors must be full-time professors in the department. If a joint advisor is needed from another department, recommendation must be forwarded by the advisor from this department, approval must also be obtained from the Teaching and Curriculum Committee, and a joint thesis advisor agreement drawn up before the oral defense proposal. To change advisor, approval must be obtained from the current advisor, the new advisor and the department chair. Change of advisor is permitted once, and limited to at least one year before graduation. If both parties are unable to reach a consensus, the convener of the Teaching and Curriculum Committee will call a meeting for resolution.
- V. Candidacy exams for the department's doctoral degree qualification exam comprise basic course work exam, thesis proposal and thesis presentation:

(1) Basic course work exam

(A) For students with masters degree

Test subjects:

1. Heat Transfer and Fluid Mechanics Group: Both Advanced Applied Math and Viscous Fluid Mechanics are required; select one of four from Heat Convection, Heat Transfer, Thermal Radiation and Introduction to Turbulence; and at least one professional graduate course offered outside this group.
2. Solid Mechanics and Control Group: Either Elasticity, Advanced Dynamics and Finite Element Method; or, Linear System, Advanced Dynamics and Digital Control System are required, and at least one professional graduate course offered outside this group.

3. Design and Fabrication Group: Core courses are divided into two categories:

- (1) Courses in this group: Optimum Design, Introduction to Microelectromechanics, Applied Biomechanics, Robotics, Precision Welding Technique, Applied Plasticity, Engineering Rheology, Mechanical and Electrical System Design and Utilization, Engineering Design Method, Human Neuromechanics and MEMS Fabrication Lab.
- (2) At least one professional graduate course offered outside this group.
Each doctoral student must select at least 3 courses from category (1) and at least 1 course from (2).

If a student has already completed a required course, the student may apply for waiver within one month after the beginning of the first semester of the first year and substitute with another course provided that the required credits for graduation is not affected (18 credits). The substitute course must be designated by the advisor. Application to waive a certain course must be approved by the instructors of that course.

Passing grade: Heat Transfer and Fluid Mechanics Group 70 points; Design and Fabrication Group 80 points.

(B) For students with medical undergraduate degree

Advisors will designate 4 graduate courses according to the research needs. Passing grade: 70 points.

(2) Thesis Proposal Plan

1. After passing the basic course work exam, doctoral students must organize the first committee meeting at least 10 months before the doctoral oral defense, and submit thesis proposal plan.
2. Committee must comprise at least 3 members (including advisor); the advisor is the convener.
3. The committee mainly functions in an advisory capacity, making recommendations to the advisor regarding the student's learning and thesis proposal during committee meetings.

(3) Thesis Presentation

(A) For students with masters degree

1. Students enrolled before August 2011: Doctoral candidates must be in the country before the exam, and have published in non-campus academic journals according to one of the following:
 - (1) 2 published papers in foreign academic journal.
 - (2) 1 published paper in foreign academic journal and 2 published papers in domestic academic journal.

Note: Brief thesis published in a foreign academic journal, thesis presented in both foreign and domestic international academic conferences and patented invention related to the thesis are equivalent to thesis published in domestic academic journal. Only a maximum of two such papers are accepted.

2. Students enrolled after August 2011: Must have at least two thesis accepted or published by EI or SCI journals. At least one of the papers must be published by a SCI journal. Content of the thesis must be written by doctoral level authors, of which the candidate must be the first author.

(B) For students with medical undergraduate degree

Before the doctoral exam, one of the following two qualifications must be met:

- (1) At least 3 papers must have been accepted by international academic journal that has a review structure. In addition, SCI Impact Factor of the paper must be more than 4. The candidate must be the first author in at least one of the papers.
- (2) At least 2 published SSCI papers in which the candidate must be the first author.

Note for publishing papers: General students and employed students must list the name and department of this university in their papers. This requirement pertains to papers submitted beginning August 1, 2006 or published beginning January 1, 2007, and is not retroactive.

VI. Doctoral students fulfilling the following requirements qualify for candidacy:

- (1) Completed required doctoral course work, and obtained required credits (18 credits). The same applies to combined masters-PhD students.
- (2) Beginning the current semester, fulfilled the two-year time to degree for full-time students, and three-year time to degree for part-time students. For combined masters-PhD students, time to degree for the master program is 1 year, and for the doctoral program, 2 years, totaling 3 years from the current semester.
- (3) Passed evaluations according to Article V.
- (4) Passed thesis reviews for the various groups.
- (5) Gave public doctoral thesis lecture.

One week before oral defense, the doctoral candidate must present a copy of the thesis proposal to the professor lounge for reading. Upon recommendation by the advisor and approval by the department faculty meeting, the candidate may apply for the doctorate exam.

VII. The doctorate testing committee for the department's doctoral program student comprises 5-9 members from the department's on-campus and off-campus scholars and experts whose area of specialty corresponds to the graduate student's thesis. In addition, they must have the qualifications stated below, and recommended to the university president for engagement. The ratio of on-campus and off-campus committee members must be one-third or more. The university president will designate a committee member as convener, but the convener cannot be the advisor.

- (1) Had previously served as professor
- (2) A member of the Academia Sinica or had previously been a researcher at the Academia Sinica.
- (3) Had previously served as associate professor or as assistant researcher at the Academia Sinica, and attained academic achievements.
- (4) Attained PhD, academic achievement, or assistant professorship.
- (5) Qualify in a rare or unique field, and attained academic or professional achievements.

Qualification for (3), (4) and (5) are determined by the Academic Committee.

VIII. Candidacy exams for the department's doctorate include thesis evaluation and thesis review.

- (1) Thesis exam: Conducted orally, and written if necessary. Exam is conducted accordingly:
 1. Oral defense is public. The time, place and thesis subject must be announced in advance.
 2. Members of the Degree Testing Committee must be personally present; substitutes are not permitted. At least 5 members of the doctorate testing committee must be present to implement the test.

3. The total score for the degree exam is 100, and passing grade is 70. There is only one evaluation, the final score being the average of the scores given by the committee members present. If more than one-third of the committee members present give a failing grade, then the final score is a failing grade, and an average score will not be taken.
4. If the Degree Testing Committee finds any plagiarism or cheating on the thesis, a failing grade is given.

Doctoral candidates who pass the testing committee evaluation should apply to the university for their doctorate.

- (2) Thesis review: For candidates passing the oral defense, the oral defense committee will indicate the direction and areas where the students need to make corrections. After making the necessary corrections, students are to submit the thesis for review. At least two-thirds of the thesis review committee must approve the thesis to pass it. Thesis review is not graded. Candidates passing the review must have the review committee sign the Thesis Oral Defense Committee Approval Form. Upon completing the thesis review, the thesis grade will be the degree exam grade.

- IX. Students passing their thesis exams before January 31 or July 31, but are unable to complete their thesis review and submit the Thesis Oral Defense Committee Approval Form by the second week of the following semester must register for that semester. Those who fail to submit their thesis after the time to degree period will be given a failing grade for the degree exam, and dropped out from the program according to regulations.
- X. Except for students approved by the Center for Teacher Education to continue taking educational courses, candidates who have passed their thesis exam and completed their thesis review must submit a copy of their thesis grade and Thesis Oral Defense Committee Approval Form for registration at the Office of Academic Affairs. For students who have obtained their thesis grade and submitted the Thesis Oral Defense Committee Approval Form, but have not applied for graduation by the next semester will be regarded as having graduated.
- XI. Students in the combined master's-PhD program must complete 36 credits before graduation (including master's program credits). If students fail their doctorate exam but satisfy master's degree qualifications, the doctoral testing committee may make the decision to confer a master's degree.
- XII. XII. Doctoral program graduate students who fail to pass the degree exam or complete course work within the required time to degree will be dropped-out.
- XIII. Doctoral thesis (including abstract) are written in Chinese, and formatted according to National Chiao Tung University Thesis Formatting Requirements. Within one month of passing the degree exam, abstract and full-text of the thesis must be uploaded to the Internet (according to National Chiao Tung University Library Electronic Filing Regulations for Thesis Abstract and Full-Text). In addition, submit two copies of the thesis (one copy to the library, one copy to the Office of Academic Affairs to be sent for storage at an archive designated by the Ministry of Education). The department stores CD version of the full-text thesis.
- XIV. Matters not noted in these regulations will be dealt with according to relevant statutes and regulations.
- XV. These regulations are established by the department faculty meetings, and implemented following review and approval by the curriculum committees of the institute and university, and approval by the Academic Affairs meeting; the same shall be done for amendments.