

# 國立交通大學電子物理系 105 學年度博士班修業規定

National Chiao Tung University

Department of Electrophysics

Academic Regulations for Doctoral Program of Academic Year 2016

本案經由 103 年 1 月 7 日第九次教輔會議修正通過  
本案經由本系 103 年 2 月 19 日第六次系務會議修正通過  
本案經由 103 年 4 月 17 日第三次院課程委員會修正通過  
本案經由 103 年 5 月 20 日第三次校級課程委員會通過  
本案經由本系 104 年 10 月 5 日第四次教輔會議修正通過  
本案經由 104 年 12 月 25 日第二次系務會議修正通過

Amended at the 9th Committee of Teaching and Advisement (7 January 2014)

Amended at the 6th Committee of Department Affairs (19 February 2014)

Amended at the 3rd Curriculum Committee Organization of College of Science (17 April 2014)

Passed at the 3rd Curriculum Committee Organization of National Chiao Tung University (20 May 2014)

Amended at the 4th Committee of Teaching and Advisement (5 October 2015)

Amended at the 2th Committee of Department Affairs (25 December 2015)

## 1. 入學資格：

- (1) 公立或立案之私立大學或獨立學院或經教育部認可之外國大學各學系畢業具有碩士學位，或具有同等學力之資格，經本校博士班研究生入學考試通過者。
- (2) 符合本校學生逕修讀博士學位辦法者，不限本系所學生。
- (3) 符合教育部訂定之「外國學生來華留學辦法」及「國立交通大學接受外國學生修讀學位暨選讀學分辦法」。
- (4) 具有有效保留入學資格者。

### **Article 1. Qualification of Admission:**

- (1) Students who have graduated from domestic public or private universities, colleges, or institutes registered in the Ministry of Education, or overseas universities, colleges, or institutes recognized by the Ministry of Education, who have acquired the master degree or the equivalent education level, and who pass the admission examination of Ph.D. program of NCTU.
- (2) Students who meet requirement of the " National Chiao Tung University Regulations of Direct Admission to Doctoral Program from Master's Program, " NOT necessarily from our Department only.
- (3) International applicants who meet the requirement of the "Regulations Governing Study by Foreign Students in Taiwan" stipulated by the MOE and the "NCTU Regulations for Admission of International Students to Degree and Non-degree Programs."
- (4) Students who have kept valid qualification of admission.

2. 博士班修業期限二至七年為限，在職研究生之修業年限得增加一年。

**Article 2.** The minimum and maximum periods of study for doctoral programs at NCTU must be two to seven years. Part-time students may extend the period of study for one more year.

3. 本系博士班核心課程為：(1)量子力學 (2)電動力學 (3)統計力學 (4)古典力學 (5)高等固態物理 (6)光電子學 (7)半導體物理與元件 (8)雷射導論。上述課程若為二學期(含)以上之課程，皆列入核心課程。

**Article 3.** The core courses of the doctoral programs of Department of Electrophysics are: (1) Quantum Mechanics, (2) Electrodynamics, (3) Statistical Mechanics, (4) Classical Mechanics, (5) Advanced Solid State Physics, (6) Optical Electronics (7) Semiconductor Physics and Devices, and (8) Introduction. to Laser.

If courses aforementioned consist of two or more semesters, they should be included in core courses.

4. 畢業學分規定：

(1) 一般博士生至少需修滿 18 學分，其中應包含在本系所修之 4 門核心課程及 6 學分專題演講。博士生學分數不得抵免。惟博士生修習博士學位前 10 年內在研究所所修之核心課程，若成績經本系審查通過，其學科可予免修。

(2) 碩士逕讀博士生至少需修滿 30 學分，其中應包含在本系所修之 4 門核心課程及 6 學分專題演講。在碩士班期間所修或已抵免本系之所有核心及非核心學科及學分，皆列為其博士班之修業學分。本條文適用於 103 學年度起畢業之同學。

(3) 學士逕讀博士生至少需修滿 30 學分，其中應包含在本系所修之 4 門核心課程及 6 學分專題演講。在學士修業其間所修本系之相同名稱研究所課程，其學科及學分得申請辦理抵免或免修博士生學分，但專題演講及其他不同名稱之課程，不得抵免或免修。抵免課程不得包含原學位之應修最低畢業學分。

(4) 博士生修業年限期滿者，重新考入本系所博士班，其在原博士修業期間內所修學分經原指導老師同意皆可申請抵免，但入學滿二年(不得休學)即須提出畢業申請，並只限此一次抵免

**Article 4. Regulations of Graduation Credits:**

(1) A full-time Ph.D. student should complete at least 18 credits, including 4 core course and 6 credits of special study in the Department of Electrophysics. A Ph.D. student's credits should not be applied for credit transfer. However, the core courses being passed in the Department of Electrophysics within ten years of studying in the doctoral program can be applied for exemption.

(2) A master student admitted to doctoral program directly should complete at least

30 credits, including 4 core course and 6 credits of special study in the Department of Electrophysics. All subjects and credits of core courses and non-core courses being passed or waived in the master program can be calculated in the graduation credits of doctoral program. This article is applicable to all of the students graduated from academic year 2014.

- (3) An undergraduate student admitted to doctoral program directly should complete at least 30 credits, including 4 core course and 6 credits of special study in the Department of Electrophysics. All undergraduate subjects and credits with the same names as the graduate courses of Department of Electrophysics can be applied for credit transfer or exemption of the credits of doctoral program. But the special study and other subjects with different names cannot be applied for credit transfer or exemption. Courses being applied for credit transfer should not include the minimum graduation credits of the original degree.
- (4) For students who reenter the doctoral program of Department of Electrophysics after the expiration of the study period of doctoral program, all of their credits being passed in the original doctoral program can be applied for credit transfer under the original adviser's approval. However, the students should apply for graduation after two academic years since admission (suspension is not approved), and the credit transfer is limited to be once.
5. 申請免修核心課程應於入學後第一學期開學後兩週內辦理。

**Article 5.** Credit transfer of core courses should be applied within two weeks after school beginning in the first semester since admission.

6. 博士研究生入學後，應於第一學期結束前自行選定論文指導教授，並填具申請表，由教學與輔導委員會審查通過。逾期未辦理者將安排至教學與輔導委員會說明理由，必要時得延長一學期。論文指導教授負責指導選修課程，並指定資格考應修之核心課程科目及論文研究事宜。

**Article 6.** A Ph.D. student should invite a dissertation adviser by himself/herself before the end of the first semester since admission. The application form should be filled and submitted to the Committee of Teaching and Advisement for approval. Otherwise, the Ph.D. student should be arranged to the Committee of Teaching and Advisement to describe his/her reasons, and the schedule can be extended for one more academic year when necessary. The dissertation adviser is responsible to advise the course selection, and designate the required core courses of Ph.D. qualification examination and the research of thesis.

7. 博士班研究生資格考，依本系資格考考試細則辦理。惟博士生修業年限期滿者，重新考入本系所博士班，其在原博士修業期間內若已通過資格考，經原指導老師同意可申請抵免，但入學滿二年（不得休學）即須提出畢業申請，並只限此一次抵免。

**Article 7.** The Ph.D. qualification examination should be conducted in accordance with the regulations of the Ph.D. qualification examination of the Department of Electrophysics. For the students who reenter the doctoral program of Department of Electrophysics after the expiration of the study period of doctoral program, they can apply to waive the qualification examination under the original adviser's approval if they have passed it in the original doctoral program. However, the students should apply for graduation after two academic years since admission (suspension is not approved), and the credit transfer is limited to be once.

8. 博士班研究生，具有下列條件者，得為博士學位候選人。
  - (1) 完成博士學位應修課程，並獲得應修學分數。
  - (2) 通過博士學位候選人資格考。

**Article 8.** A PhD student fulfilling the following requirements is eligible for a PhD candidate:

- (1) having completed all required courses and accumulated the minimum graduation credits.
  - (2) having passed the PhD candidate qualification examination (COM) and other evaluations of the department/graduate institute.
9. 博士學位候選人發表與研究計劃相關論文積點達五點以上，其中與畢業論文指導教授所發表之論文達三點以上時，得經論文指導教授書面向教學與輔導委員會推薦申請學位考試。

**Article 9.** A Ph.D. candidate can be recommended to the Committee of Teaching and Advisement for degree defense by the dissertation adviser in written application if his/her accumulative points of published papers related to research proposal reach five or more, including three or more points of the papers published with his/her dissertation adviser.

10. 博士研究生如欲選擇非本系專任教師為論文指導教授，得於每學期第一週提出書面申請，詳述其研究計畫及理由，由教學與輔導委員會召集會議審查議決之。如獲通過，仍須有一名系內專任教師為共同指導教授。

**Article 10.** A PhD student may, but only under the approval of the Committee of Teaching and Advisement, choose a thesis adviser who is a full-time faculty member outside of the Department of Electrophysics. A written application stating the research project and reasons for the choice in detail must be submitted to the above committee, no later than the Seventh School day of each semester. Upon approval, the student should still choose one faculty member with full appointment with the Department of Electrophysics as his/her thesis co-adviser.

11. 博士研究生更換論文指導教授，應填寫申請書，並於第二學年第一學期結束前辦理為原則。逾期未辦理者將安排至教學與輔導委員會說明理由，必要時

得延長。申請書應含更換理由，原、新博士論文研究方向及題目，並具文簽名同意不將原論文指導教授已發表或未發表之研究論文、內容、構想、原創性技術方法作為博士學位論文之一部份。申請案由原、新論文指導教授(及系內共同指導教授)同意，經教學與輔導委員會審查通過始得更換。若原論文指導教授不同意時，該研究生可以向教學與輔導委員會提出申訴，由教學與輔導委員會召集會議審查議決之。資格考期間(含口試至繳交論文研究計劃書)不得更換論文指導教授。

**Article 11.** To change the dissertation adviser, the application form should be filled and submitted before the end of the first semester of the second academic year in principle. Otherwise, the Ph.D. student should be arranged to the Committee of Teaching and Advisement to describe his/her reasons, and the schedule can be extended for one more academic year when necessary. The application form should include reasons of changing dissertation adviser, the research directions and topics of the original and new thesis, and the statement with signature to consent that the original adviser's published or unpublished research thesis, content, concept, and original technology approach should not serve as part of the student's Ph.D. dissertation. After the application being approved by the original and new dissertation advisers (including the co-adviser of Department of Electrophysics) and passed by the examination of the Committee of Teaching and Advisement, the Ph.D. student can change the dissertation adviser. If the original adviser does not approve the application, the Ph.D. student can submit the appeal to the Committee of Teaching and Advisement, and the final decision should be made in the meeting conducted by the Committee of Teaching and Advisement. The application for changing dissertation adviser should not be submitted during the period of Ph.D. qualification examination (from oral defense to the submission of thesis proposal.)

12. 博士生畢業時期刊論文計點方式，比照本系教師升等論文期刊計點表辦理。若有系外論文指導教授時，則系內共同指導教授須為上述論文之作者。在論文計點時，博士生之論文指導教授及具系內共同指導教授之成員不列入作者數；若有更換指導教授時，原發表期刊論文之所有作者皆列入計點作者數。計點論文中，需有一篇代表作與畢業論文有關，且為計點作者數中之第一作者。其點數採計標準如下：計點作者中，第一位佔 100%，第二位佔 70%，第三位佔 50%，第四位以後不採計。

**Article 12.** The points of a Ph.D. student's journal paper for graduation should be calculated in the same way as the calculation table of journal paper for faculty promotion of Department of Electrophysics. If the Ph.D. student invites one dissertation adviser outside of Department of Electrophysics, the co-adviser of Department of Electrophysics should be the author of the aforementioned papers. The dissertation adviser and co-adviser should NOT be accounted for the number of

authors. If the dissertation adviser is changed, all authors of original published journal papers should account for the number of authors. Among point-calculated papers, there should be one representative journal paper related to the Ph.D. student's graduation thesis, and the Ph.D. student should be the first author of all authors able to be listed for calculating points. The points should be calculated according the following criteria: for all authors who can be listed for calculating points, the first author accounts for 100%, the second one 70%, the third one 50%; and the fourth or the rest should not account for any points.

13. 博士學位論文有抄襲、舞弊情事，經學位考試委員會審查確定者，以不及格論。

**Article 13.** A Ph.D. candidate is deemed failed when plagiarism or cheating is discovered in the dissertation and confirmed by the oral defense committee.

14. 博士班研究生之博士學位考試委員會置委員五至七人，指導教授不得為考試委員。系所就校內外學者專家中對研究生所提論文有專門研究，並具備下列資格之一者，向校長推薦，由校長遴聘組成之，校內外委員均各須佔三分之一(含)以上。

(1) 曾任教授、副教授或擔任助理教授者。

(2) 擔任中央研究院院士或曾任中央研究院研究員、副研究員或擔任助理研究員者。

(3) 獲有博士學位，在學術上著有成就，經系教師評審委員會審核通過者。

**Article 14.** The committee of the doctoral degree oral defense consist of five to seven members. The adviser of the candidate cannot serve as one of the members. To form the committee, the Department of Electrophysics recommends scholars and experts, who are from NCTU or other external organizations, who specialize in the area of research or study of the applicant, and who fulfill at least one of the following requirements. The Principal of NCTU selects members from the recommendation. Both the number of members from inside and outside of NCTU must be no less than a third of the total number of committee members:

(1) having held the position of professor, associate professor, or assistant professor at one time.

(2) serving as a research fellow or having been a researcher, associate researcher, or assistant professor at Academia Sinica.

(3) holding a doctoral degree, having outstanding academic achievements, and being approved by Faculty Evaluation Committee of Department of Electrophysics.

15. 博士學位候選人之學位考試，以口試行之，必要時亦得舉行筆試，並應依下列規定辦理：

(1) 口試以公開舉行為原則，須於事前公佈口試時間、地點及論文題目。博士學位論文初稿及已發表期刊論文須於口試前十五天公開閱覽。

- (2) 學位考試委員應親自出席委員會，不得委託他人為代表，博士學位考試委員會至少應有委員五人出席始得舉行。
- (3) 學位考試委員會，由校長指定委員一人為召集人。
- (4) 學位考試成績，以七十分為及格，一百分為滿分，評定以一次為限，並以出席委員評定分數平均決定之，學位考試有二分之一以上出席委員評定不及格者，以不及格論，不予平均。

**Article 15.** The degree defenses for Ph.D. candidates are generally conducted orally but written exams may be administered as necessary. All oral defenses must comply with the following rules:

- (1) All oral defenses must be conducted openly. The time and place of the oral defense and the title of thesis/dissertation must be announced in advance. The draft of thesis and published journal papers should be published 15 days before of the date of oral defense.
- (2) All members of an oral defense committee must attend the oral defense in person; stand-ins are not permitted. An oral defense for the doctoral degree may only take place when attended by at least five committee members.
- (3) The President of NCTU must appoint a committee chairperson from amongst the members.
- (4) The passing grade and full marks of the oral defense are 70 and 100. The results should be produced from a single evaluation based on the average of the scores given by the members present. Nonetheless, a doctoral candidate is deemed failed and no average score should be calculated when the scores given by half or more of the members present are below the passing grade.

16. 凡逕行修讀博士學位之研究生因故終止修讀博士學位，得依國立交通大學學生逕讀博士學位作業辦法申請轉回或轉入碩士班就讀，但進入碩士班後，不得再申請逕讀博士學位。

**Article 16.** Students who transfer into the master program from their direct admission of doctoral program can apply to transfer back to or into the master program in accordance with "National Chiao Tung University Regulations of Direct Admission to Doctoral Program from Master's Program." However, students transferring back to or into the master program should not apply for the direct admission to doctoral program again.

17. 凡逕行修讀博士學位之研究生，通過博士學位候選人資格考，但於修業期間內未通過博士學位考試，其博士學位論文經博士學位考試委員會決定合於碩士學位標準者，得授予碩士學位。

**Article 17.** NCTU will confer a master degree upon a doctoral student who passes the Ph.D. candidate qualification examination but fails the Ph.D. oral defense if the dissertation is approved by the oral defense committee as qualified for a master

degree.

18. 研究生在規定修業期限內未能通過學位考試或未能完成應修課程者，應令退學。

**Article 18.** A graduate student who fails to pass the oral defense or to complete all the required courses within the maximum period of study is required to drop out of NCTU.

19. 博士學位論文(含摘要)須符合「國立交通大學學位論文格式規範」。學位考試通過後一個月內應將論文摘要及全文電子檔上網建檔(依照「國立交通大學圖書館學位論文摘要及全文電子檔建檔規範」辦理)，並繳交論文三冊(一冊精裝本本校圖書館陳列，另一冊由教務處彙轉教育部指定之度藏單位，一冊由系上留存)。

**Article 19.** Doctoral dissertations (including respective abstracts) must comply with the NCTU Format for Thesis/Dissertation. A PhD student is required to post an electronic version of the abstract and dissertation on the university website within one month of passing the oral defense (See NCTU Library Abstract, Thesis and Dissertation Electronization Specification for details). The student is also required to submit three hard copies of the dissertation (one displayed in the library and one submitted to the Office of Academic Affairs for transmission to appropriate archival units as specified by the MOE, and the other was kept by the department.)

20. 本規定由系務會議通過後，經學院課程委員會、校級課程委員會、及教務會議核備後，於次學年度入學新生開始實施，修訂時亦同。

**Article 20.** After the Regulations are passed by the Committee of Department Affairs, and approved by the Curriculum Committee Organization of College of Science, the Curriculum Committee Organization of NCTU, and the Academic Affairs Meetings, they are applicable to students admitted in the next academic year. Subsequent revisions are subject to the same procedure.

21. 本規章未盡事宜，悉依國立交通大學碩士學位及博士學位授予作業規章及有關教育法令辦理之。

**Article 21.** Matters not provided herein must be subject to the "National Chiao Tung University Regulations for Master and Doctoral Degrees Conferment" and other education-related laws and regulations.

22. 本修業規定由系(或所、專班)務會議訂定，經學院課程委員會及校課程委員會審查，再送教務會議核備後實施，修訂時亦同。

**Article 22.** The Regulations are stipulated by the Committee of Department (Institute, or Program) Affairs, examined by the Curriculum Committee Organization of College of Science and the Curriculum Committee Organization of NCTU, and submitted to Academic Affairs Meetings for approval before implementation. Subsequent revisions are subject to the same procedure.