國立交通大學生科系博士班研究生入學與修讀辦法

National Chiao Tung University Department of Biological Science and Technology Policies and Regulations for the Doctoral Degree Program

88年8月3日系務會議制訂 Drafted August 3, 1999 89年12月5日系務會議修訂 Revised December 5, 2000, by the Departmental Affairs Meeting 90年2月20日系務會議修訂 Revised February 20, 2001, by the Departmental Affairs Meeting 90年11月6日系所務會議修訂 Revised November 6, 2001, by the Departmental (Institute) Affairs Meeting 90年12月5日系所務會議修訂 Revised December 5, 2001, by the Departmental (Institute) Affairs Meeting 90年12月18日系所務會議修訂 Revised December 18, 2001, by the Departmental (Institute) Affairs Meeting 91年1月17日系所務會議修訂 Revised January 17, 2002, by the Departmental (Institute) Affairs Meeting 91年6月4日系所務會議修訂 Revised June 4, 2002, by the Departmental (Institute) Affairs Meeting 92年1月14日系所務會議修訂 Revised January 14, 2003, by the Departmental (Institute) Affairs Meeting 92年4月1日系所務會議修訂 Revised April 1, 2003, by the Departmental (Institute) Affairs Meeting 94年3月22日系所務會議修訂 Revised March 22, 2005, by the Departmental (Institute) Affairs Meeting 95年4月11日系所務會議修訂 Revised April 11, 2006, by the Departmental (Institute) Affairs Meeting 96年4月03日系所務會議修訂 Revised April 3, 2007, by the Departmental (Institute) Affairs Meeting 98年4月14日系所務會議修訂 Revised April 14, 2009, by the Departmental (Institute) Affairs Meeting 100年4月12日系務會議修訂 Revised April 12, 2011, by the Departmental (Institute) Affairs Meeting 100年11月08日系務會議修訂 Revised November 8, 2011, by the Departmental (Institute) Affairs Meeting 101年4月10日系務會議修訂 Revised April 10, 2011, by the Departmental (Institute) Affairs Meeting $\,$ 102年4月2日系務會議修訂 Revised April 2, 2013, by the Departmental Affairs Meeting 107年4月3日系所務聯席會議修訂 Latest revised April 3, 2018, by the Jointed Departmental (Institute) Affairs Meeting 107年4月12日院課程委員會會議修訂 Reviewed by the Curriculum Committee of the College on Oct.. 29, 2018 107年10月29院課程會審議 Reviewed by the Curriculum Committee of the College on Apr.. 3, 2019

一、入學方式:依本校博士班研究生招生辦法辦理。

Admission: Abide by the National Chiao Tung University Regulations and Process of Administration for Doctoral Degrees Students.

1. 招生考試:依本校博士班研究生招生辦法辦理。

Entrance Exam: Detailed procedures and requirements should abide by the National Chiao Tung University Regulations and Process of Administration for Doctoral Degrees Students.

2. 逕讀博士學位:依本校學生逕修讀博士學位作業規定辦理。

Direct Pursuit of PhD Degree:

The detailed procedures and requirements should abide by National Chiao Tung University Direct Pursuit of PhD Degree Regulations.

二、選指導教授準則

Regulations for Choosing Dissertation Advisor:

1.每位教師收取最多人數,每學年由系所務聯席會議訂定。

The number of students allotted to each faculty will be determined by the Jointed Departmental (Institute) Affairs Meeting each academic year.

2.入學後第一學年結束前必須選定指導教授(甲組之博士生須選定本院系所專任助理教授以上 之教師為論文指導教授;乙組之醫學士博士生可選定本院系所或本校電機、資訊、理、工、光 電學院系所專任助理教授以上之教師為論文指導教授,但為學生修業事務之服務與管理,選定 本院以外之教師為論文指導教授者,應選定至少一位本院系所專任助理教授以上之教師為其論 文共同指導教授,並於本院系所主管會議中核備通過)。逾期未選定指導教授者由系主任暫代 之。通過博士候選人資格考核後,組成論文研究指導委員會(委員由五位(含)以上學者專家 組成,學者專家之資歷依本校碩士學位及博士學位授予作業規章認定)。在院外進行論文研究 者,共同指導教授為當然委員。委員為無給職。論文研究指導委員會之職責為: Students must choose a Dissertation Advisor before the completion of their first academic year. (Doctoral students from Division A must choose an advisor from any full-time faculty with assistant professorship or higher level within College of Biological Science and Technology, while Ph.D. for M. D. students from Division B may choose a full-time faculty member with assistant professorship or higher level from the following National Chiao Tung University colleges: Biological Science and Technology, Electrical Engineering, Computer Science, Science, Engineering, and Photonics. For those students who choose a Dissertation Advisor outside of College of Biological Science and Technology, there should also be a co-advisor from College of Biological Science and Technology to assist with course-choosing and related issues; this should also be approved by the College Supervisors Meeting.) For those students who have not chosen an advisor by the end of their first year, the Department Chair will temporarily fill that position. After passing the Assessment for Doctoral Candidacy, a student's Dissertation Advisory Committee will be assembled consisting minimally of five experts in the field (whose qualification should abide by National Chiao Tung University Regulations for Master and Doctoral Degrees Conferment). For students conducting dissertation research outside of the College of

(1)協助選定論文題目,輔導課業及研究。

Assisting in choosing a dissertation topic, coursework, and research mentoring

Committee. Committee member is not a paid position and whose duties involve:

Biological Science and Technology, their co-advisors must serve on the Dissertation Advisory

(2)每學年得召開一次會議,聽取論文研究進度,審定是否能於修業年限內獲得博士學位。 審核通過之研究進度報告送課程委員會核備。

May convene one meeting per academic year in order to monitor research progress and decide whether candidates may graduate and obtain degrees in allotted years.

(3)審定博士候選人之研究成果是否已達可撰寫論文初稿之水準。

Assess whether or not candidates' research has reached potential for dissertation drafting to begin.

3.研究生或指導教授任何一方,因故欲取消關係,施行細則如下,並追溯適用本系在學學生:

If a graduate student or a thesis advisor intends to terminate the advisory relationship for any reason, the termination should follow the enforcement rules as below. The enforcement rules shall apply to all enrolled graduate students of the IBT.

(1)研究生於就讀期間,如擬終止論文指導關係或更換論文指導教授,應以書面文件向本系所務聯席會議提出申請,並於通知原指導教授及完成各項交接事務後生效,無須經原指導教授同意。

If a graduate student intends to change his/her thesis advisor during his/her studies, he/she should apply in writing to the Jointed Departmental (Institute) Affairs Meeting and such change of advisor will become effective after notifying the former thesis advisor; also, the consent of the former thesis advisor is not required.

(2)指導教授欲終止指導關係,應以書面文件向本系系所務聯席會議提出申請,審查結果由本系通知研究生。終止指導關係後,本系得協助研究生另覓指導教授。

If a thesis advisor intends to terminate the advisory relationship, he/she should apply in writing to the Jointed Departmental (Institute) Affairs Meeting in accordance with the Eligibility Regulations. The graduate student should be informed of the review results by the Departmental Affairs Meeting. After the termination of the advisory relationship, the Department may provide assistance to graduate students regarding advisor selection.

(3)研究生依本準則申請終止論文指導關係或更換論文指導教授時,在原指導教授提供原始構想、概念或受指導下所獲得之研究成果,皆不可公開發表或作為學位論文。但經原指導教授書面同意者不在此限。

When a graduate student applies for the replacement of a thesis advisor in accordance with the Guidelines, the graduate student may not have the original ideas or concepts provided by the former thesis advisor and the research results obtained under the guidance of the former thesis advisor used for the dissertation without the written consent of the former thesis advisor.

(4) 未盡事宜,悉依【國立交通大學論文指導教授與研究生互動準則】辦理之。 Implementation details not specified herein must all be subject to the "Guidelines for the Interaction Between Thesis Advisors and Graduate Students of NCTU."

三、修業年限:一般生為二至七年;在職生為二至八年。

Term of study: Two to seven years for full-time students; two to eight years for part-time students.

四、博士班必修課程

Required Courses for Doctoral Students:

1. 甲組適用

For Division A Students:

- (1)專題演講(需修滿 4 學分) Departmental Seminar (4 credits)
- (2)博士班書報討論(需修滿 2 學分) Special Topics Seminar (for Ph.D.) (2 credits)
- (3)論文研究(需修滿4學分)

Thesis in Biological Science and Technology (4 credits)

(4)高等生物化學及分子生物學

Advanced Biochemistry & Molecular Biology

2. 乙組適用(醫學士博士)

For Division B Students (Ph.D for M. D.):

(1) 專題演講 (需修滿 4 學分)

Departmental Seminar (4 credits)

(2)博士班書報討論(需修滿2學分)

Special Topics Seminar (for Ph.D.) (2 credits)

五、課程、學分與助教要求:

Requirements for Coursework, Academic Credits, and Teaching Assistantship

1. 甲組適用

For Division A Students:

(1)在規定修業年限內需修滿 15 學分(不含論文研究及專題演講),其中本院課程不得少於 9 學分(即本院以外各系所學分不得多於 6 學分);逕行修讀博士學位者至少應修滿 30 學分(含專題演講與碩士班所修課程學分,但不含碩班論文研究),其中本院課程不得少於 24 學分(不含論文研究及專題演講)。

Students must complete 15 credits of coursework during their term of study (not including credits of Thesis in Biological Science and Technology and Departmental Seminar), with no less than 9 credits from College of Biological Science and Technology (therefore no more than 6 credits from other departments and colleges.) Students in direct-Ph.D. track must complete at least 30 credits (including Departmental Seminar and master's program coursework, but not including Thesis in Biological Science and Technology for master's thesis research), with no less than 24 credits from the College (not including Thesis in Biological Science and Technology and Departmental Seminars .)

(2) 修業期間需完成一門課程及一門實驗課之助教,如有教學經驗者,可提出申請抵免。
A student must have served as a teaching assistant (TA) for both one regular course and one lab course during their term of study. Those with teaching experience may apply for exemption.

2. 乙組適用(醫學士博士)

For Division B Students (Ph. D. for M. D.)

(1)在規定修業年限內需修滿 15 學分(不含論文研究及專題演講)。

Students must complete at least 15 credits (not including Thesis in Biological Science and Technology and Departmental Seminars) during their term of study.

(2)指導教授為生科院教師者,其本院課程不得少於9學分;指導教授為生科院以外教師者,其選修之課程,須於每學期開學後一週內送本系課程委員會審定,而課程委員會應邀請相關之院外教師參與審定。

For students whose Dissertation Advisors are from College of Biological Science and Technology, they

must take no fewer than 9 credits from College of Biological Science and Technology. For students whose Dissertation Advisors are not from College of Biological Science and Technology, their course list must be sent to the Curriculum Committee of the Department for review within one week right after each semester begins. The Committee will invite relevant faculty members from outside of the department to participate in the review process.

六、抵免學分

Credit waiver:

1.抵免學分依本校學生抵免學分辦法辦理,由課程委員會審定之。

Credit waiver will be approved by the Curriculum Committee as per National Chao Tung University Credit waiver regulations.

2. 可抵免學分之課程與總數,由課程委員會審定之。

The credit waiver limit for students will be approved by the Curriculum Committee.

3. 未盡事宜,悉依相關規定辦理。

Items not stated herein are subjected to relevant regulations.

七、博士候選人資格考核:分審查及口試

Assessment for Doctoral Candidacy: Qualification Assessment and Qualification Examination

- 1. 審 查 Qualification Assessment:
- (1)候選人當於考試前修滿 9 學分(含)以上之課程,其成績必需在 70 分以上。 Students must have completed at least 9 credits and have scored 70 or above on all of them.
- (2) 必需已通過二學期博士班書報討論。

All students must have passed two semesters of Special Topics Seminar (for Ph.D.).

(3)經指導教授同意後,繳交博士論文研究計畫及初步成果之書面報告,或加上其他成為候選人值得參考之書面資料。

Student must have gotten the agreement from the Dissertation Advisor and turned in the dissertation research proposal and the writing of preliminary research results, or other relevant materials to support their worth as a candidate.

- 2. 口試 Qualification Examination:
 - (1)時間:一般生於第三學年內完成,在職生於第五學年內完成。

Schedule: full-time students should pass the exam before the end of their third academic year of study, while part-time students must pass the exam by their fifth academic year.

(2)經指導教授同意後,提出研究計畫及初步成果及其他書面資料。

After agreement from Dissertation Advisor, the student should turn in the research proposal, preliminary research results, and other relevant materials.

A. 時間:考前兩週。

Time: Two weeks before the oral qualifying examination.

B.内容:目的、簡介、方法、成果及其他預期成果。

Contents: Must contain the specific aims, abstract, methods, results, and other anticipated results of the research.

C.博士資格考審查委員會應於博士班第二學年結束前組成,並商訂口試日期。 Students must assemble the Doctoral Qualification Examination Committee before the second academic year ends, and set up the date of the Oral Qualifying Examination.

D. 博士資格考審查委員會由五位(含)以上學者專家組成,指導教授不得擔任審查委員,學者專家之資歷依本校碩士學位及博士學位授予作業規章認定。

Doctoral Qualification Examination Committee should be composed of five or more expertise from the field, but excluding the Dissertation Advisor. The eligibility of the Doctoral Qualification Examination Committee follows the rules set forth in National Chiao Tung University Regulations for Master and Doctoral Degrees Conferment.

(3)先由候選人口頭報告,再由博士資格考審查委員審查其論文研究之初步結果、成果,並依所提研究計畫審定其論文研究是否可於修業年限內完成。

The student must first report orally to the Doctoral Qualification Examination Committee, and the Committee members will assess the preliminary research data, results, and research proposal to see whether or not the dissertation research can be completed within the student's term of study.

(4)與研究論文相關之課程基本內容,得於口試中提出。

Basic knowledge of course study relevant to the dissertation research should be mentioned during the oral examination.

(5)資格考核通過者需呈報課程委員會核備,未能通過者,得於年限內再補考一次。
Those who passed the Doctoral Qualification Examination should report to the Curriculum
Committee; those who failed Doctoral Qualification Examination may retake the exam within a year.

八、博士班一般生在入學後三學年內(休學不計入年限),未能通過博士候選人資格考核者,應予退學;在職生入學後五學年內(休學不計入年限),未能通過博士候選人資格考核者,應予退學。

Full-time students who have not passed the Assessment for Doctoral Candidacy within three years of study (not counting leaves of absence) will be expelled; part-time students who have not passed the Assessment for Doctoral Candidacy within five years of study (not counting leaves of absence) will also be expelled.

九、博士候選人欲申請博士學位考試前須通過第一外國語文。下列辦法得任選一種:

English proficiency requirements that must be met before taking Doctoral Degree Examination:

- 1.通過系所認可相關單位舉辦之英文能力測試,包括口試及筆試,並獲頒發英文能力證明。 Obtain a certificate from any English proficiency test (including oral and writing) offered by organizations acknowledged by the Department (Institute).
- 2. 修習科技英文或論文寫作或讀、寫類之英文課程達 2 學分,且成績均達 70 分以上。
 Complete Technical English course, Thesis Writing course, or other related English reading/writing courses for at least 2 credits, with grades of above 70.
- 3.托福成績達以下之一: 紙筆測驗 550 分、電腦化測驗 (CBT) 達 213 分、網路化測驗 (iBT) 達 79 分。

TOEFL grades of one of the following: 550 on paper, 213 on CBT, or 79 on iBT.

4. 多益測驗(TOEIC)成績達 750。

A TOEIC score of 750 or higher.

十、博士學位考試:

Doctoral Degree Examination

1.博士班研究生經其論文研究指導委員一致同意後,得開始撰寫論文。

Doctoral students may start writing their dissertation after unified agreement from the Dissertation Advisory Committee.

2. 甲組適用:論文至少含有二篇已被接受於有評審制度之國際性學術期刊(SCI、SSCI、EI或經論文研究指導委員會與系課程委員會同意認定),並應註明本系為其所屬單位,而且論文總影響因子需達 SCI影響因子 4.0 以上且至少其中有一篇論文為第一作者,其本院之指導教授為該篇共同作者。

Division A students: the dissertation should include at least two academic papers that have been accepted in peer-reviewed, international journals (indexed in SCI, SSCI, EI). The papers should also be published with the affiliation to the Department of Biological Science and Technology and with an accumulated point of 4.0 or above on the SCI impact factor. For at least one of the papers, the student should be the first author with the Dissertation Advisor from College of Biological Science and Technology as co-author.

3. 乙組適用:下列辦法得任選一種:

Division B students can choose from one of the following two options:

(1)論文至少含有三篇已被接受於有評審制度之國際性學術期刊(SCI、SSCI、EI或經論文研究指導委員會與系課程委員會同意認定),並應註明本校之系所為其所屬單位,而且論文 SCI總影響因子,總和需達 4.0 以上且至少其中有一篇論文為第一作者,其本校之指導教授 為該篇共同作者。 The dissertation should include at least three academic papers that have been accepted in peer-reviewed, international journals (indexed in SCI, SSCI, EI). The papers should also be published with the affiliation to the Department of Biological Science and Technology and with an accumulated point of 4.0 or above on the SCI impact factor. For at least one of the papers, the student should be the first author with the Dissertation Advisor from College of Biological Science and Technology as co-author.

(2)SSCI 論文至少二篇,皆為第一作者,其本校之指導教授為該篇共同作者,並應註明本校之系所為其所屬單位。

The dissertation should include at least two academic papers that have been accepted in peer-reviewed, international journals indexed in SSCI. For both papers, the student should be the first author with the Dissertation Advisor from College of Biological Science and Technology as co-author. In addition, both papers shall list College of Biological Science and Technology as the affiliation.

4.博士候選人申請博士學位考試時須將學位考試申請表、論文摘要、歷年成績單、資格考核通 過日期、已發表之論文及第一外國語文能力證明,送交系所辦公室查驗,經系所主管簽核同意 後始得進行博士學位考試。

A doctoral candidate must turn in the abstract of the Dissertation, a complete transcript, the passing date for candidacy assessment, the proofs of published papers, and the proofs of foreign language requirements to the Department Office before applying for a degree examination. Upon the approval from the Department Chair (or Institute Director), students may apply for the degree examination.

5.博士學位考試委員會組成依本校碩士學位及博士學位授予作業規章認定辦理。
The assembly of Doctoral Degree Examination Committee should abide by the regulations set forth in National Chiao Tung University Regulations for Master and Doctoral Degrees Conferment.

6.博士論文考試成績以論文內容及口試(及其他方式之考試)成績綜合評定,以出席委員無記 名評定分數平均決定之,評定以一次為限,以70分為及格。但有三分之一(含)以上委員評定 不及格者,即以不及格論。不及格者,在修業年限未屆滿前,得於次學期或次學年申請重考, 重考以一次為限,仍不及格者,應予退學。

The grades of the Doctoral Degree Examination will be based on the student's dissertation contents and oral defense (and other formats of examination), and will be averaged out by Degree Examination Committee members present. Grades will be given once only, with 70 being the qualifying grade. If 1/3 or more of the Committee members regard the examination as a failure, then the student will have failed the exam. Those who have failed but not reached the maximum of their term of study are eligible to apply for re-examination the second semester or the following academic year, with a limit of one re-examination. Students who still fail will be expelled.

7. 逕行修讀博士學位研究生修業期滿,通過資格考核但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。

Direct Pursuit of PhD Degree students who have passed the Assessment for Ph.D. Candidacy but failed the Ph.D. Degree Examination at the end of their term of study may be conferred a Master's Degree if

the Doctoral Degree Examination Committee agrees the dissertation meets the standard as a master's degree thesis.

十一、本辦法經系所務聯席會議通過後,經所屬學院課程委員會及校級課程委員會審查,再送教務會議核備後實施。

The policies and regulations stated herein have been approved by the Jointed Departmental (Institute) Affairs Meeting, the Curriculum Committee of College of Biological Science and Technology, as well as the Curriculum Committee of National Chiao Tung University.

十二、本辦法未盡事宜,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。

Items not stated herein are subjected to National Chiao Tung University Regulations for Master and Doctoral Degrees Conferment and related education laws.

十三、本文件為中譯英,在文義上如有爭議,以中文原文為準。

The Chinese version of the document shall prevail in case of any discrepancy or inconsistency between Chinese version and its English translation.