

國立東華大學電機工程學系博士班修業要點
Department of Electrical Engineering, National Dong Hwa University
Degree Requirements for the Ph.D. Program

91.01.06	90 學年度第 7 次系務會議通過
91.03.13	90 學年度第 4 次教務會議通過
92.11.27	92 學年度第 4 次系務會議通過
94.03.02	93 學年度第 13 次系務會議通過
94.05.11	93 學年度第 4 次教務會議通過
94.08.10	94 學年度第 1 次系務會議通過
94.10.05	94 學年度第 1 次教務會議通過
95.03.22	94 學年度第 2 學期第 2 次系務會議通過
95.06.07	94 學年度第 4 次教務會議通過
96.04.18	95 學年度第 2 學期第 9 次系務會議通過
96.06.06	95 學年度第 4 次教務會議通過
98.04.22	97 學年度第 12 次系務會議通過
98.06.11	97 學年度第 2 次教務會議通過
99.04.14	98 學年度第 2 學期第 3 次系務會議通過
99.06.09	98 學年度第 2 學期第 2 次教務會議通過
99.10.27	99 學年度第 1 學期第 3 次系務會議通過
100.01.05	99 學年度第 1 學期第 2 次教務會議通過
100.4.19	99 學年度第 2 學期第 3 次系務會議通過
100.06.22	99 學年度第 2 學期第 2 次教務會議通過
101.3.21	100 學年度第 2 學期第 2 次系務會議通過
101.06.13	100 學年度第 2 學期第 2 次教務會議核備
102.12.11	102 學年度第 1 學期第 4 次系務會議通過
104.10.22	104 學年度第 1 學期第 2 次系務會議通過
104.12.23	104 學年度第 1 學期第 2 次教務會議核備
107.09.27	107 學年度第 1 學期第 1 次系務會議通過
107.12.26	107 學年度第 1 學期第 2 次教務會議核備
109.1.3	108 學年度第 1 學期第 2 次系務會議通過
109.04.13	108 學年度第 2 學期第 1 次院務會議通過
109.06.10	108 學年度第 2 學期第 2 次教務會議通過
109.11.27	109 學年度第 1 學期第 3 次系務會議通過
109.12.14	109 學年度第 1 學期第 2 次院務會議修訂通過
109.12.30	109 學年度第 1 學期第 2 次教務會議通過
110.03.30	109 學年度第 2 學期第 2 次系務會議通過
110.05.06	109 學年度第 2 學期第 1 次院務會議通過
110.06.09	109 學年度第 2 學期第 2 次教務會議通過
110.12.14	110 學年度第 1 學期第 2 次系務會議修訂通過
110.12.28	110 學年度第 1 學期第 2 次院務會議修訂通過
111.03.02	110 學年度第 2 學期第 1 次教務會議修正通過
112.12.20	112 學年度第 1 學期第 4 次系務會議修訂通過
113.4.16	112 學年度第 2 學期第 1 次院務會議修訂通過
113.6.5	112 學年度第 2 學期第 2 次教務會議通過

一、法源依據：

國立東華大學電機工程學系為規範博士班研究生修業事項，依據本校「學則」、「博士班、碩士班研究生學位考試辦法」及相關規定，訂定本修業要點。

I. Legal foundation

These requirements have been formulated in accordance with NDHU - Academic Regulations, the guidelines for the exam of degrees for Ph.D. and Master programs and other relevant laws and regulations.

二、入學資格：

- 1、經本校博士班招生考試錄取者(含甄試)。
- 2、外國學生依本校「外國學生申請入學辦法」規定申請者。
- 3、符合本校「學生逕修讀博士學位作業規定」申請者。

II. Admission requirements

- i. Applicants will be admitted to the Ph.D. program of the department after passing the entrance exam for the programs (including a screening test).
- ii. Applications submitted by foreign students are handled in accordance with the regulations stated in Admission Guidelines for Foreign Students.
- iii. Students who meet the criteria of the NDHU's Operating Rules for Direct Admission to Ph.D. Programs

三、修業年限：（包含一般生及在職生之修業年限）

修業以 2 至 7 年為限，但在職研究生，得延長其修業年限 2 年。

III. Program length

The Ph.D. program takes at least two years and up to seven years at most.

The maximum program duration may be extended by 2 years for part-time graduate students.

四、修課規定：

- 1、詳如課程規劃表。
- 2、博士生入學前所修習之理工相關系所碩士班或博士班課程，成績達 B-(或 70 分)以上，且不列入大學部與碩士班畢業學分，經指導教授及課程委員會同意，可抵免博士班畢業學分數上限為 6 學分。
- 3、依「學生逕修讀博士學位作業規定」入學者，原修習本系碩士班課程(含專業必修、專業選修)，成績達 B-(或 70 分)以上或通過，經本系指導教授及課程委員會同意，始得抵免。

IV. Program requirements

- i. Based on the curriculum plans for Ph.D. programs of the department.
- ii. Master- and Ph.D.-level courses related to science and engineering taken before entering Ph.D. program with grades above B- (or 70) and without classifying as the credits for obtaining the bachelor or the master degrees can be admitted, by the consent of the advisors and the course committee, up to 6 credits.
- iii. For students directly admitted to the Ph.D. program from the master program, master-level courses (including the required and the elective ones) taken with grades above B- (or 70) can be admitted by the consent of the advisors and the course committee.

五、論文指導規定：

- 1、指導教授必須為本系助理教授(含)以上之專任教師擔任。若有特殊原因，選非本系專任教師為共同指導教授者，得經系務會議通過。
- 2、指導教授之選定，須於入學後 1 個月內完成，並繳交指導教授同意書。
- 3、變更指導教授需經原指導教授、新指導教授及系主任之書面同意。

V. Regulations regarding the dissertation supervision

- i. Dissertation supervisors have to be selected from the full-time faculty of the department and have to be at least assistant professors. Under special circumstances, joint supervising professors may be selected from the full-time faculty of other departments upon approval by the Department

Affairs Committee.

- ii. Dissertation supervisors have to be selected within one month after enrolment and letters of consent by the professors have to be submitted.
- iii. If dissertation supervisors have to be replaced, written permissions have to be obtained from the original supervisor, the new supervising professor, and the department chairperson.

六、博士學位候選人資格考核規定：（請參考本校博士班、碩士班研究生學位考試辦法）

- 1、博士班研究生入學後須 3 年內完成博士生資格考(不含休學期間)。若未完成資格考者，則通知教務處取消學籍。
- 2、本系每學年舉辦 2 次資格考(3 月及 10 月)，博士班研究生應於每學期開學註冊日起 1 週內提出申請。
- 3、資格考共考 3 科並以筆試方式舉行，經指導教授同意後送交系辦，以後不得修改科目，同一教授命題科目以 2 科為上限。
- 4、資格考試科目為其已修過之碩士班或博士班科目，選考科目應至少 2 科為本系教授之授課科目，且須經指導教授同意。
- 5、每科以 B-(或 70 分)以上為及格。每科可重考 2 次，不必一次 3 科全過。無故缺考者，該科目以不通過 1 次計。
- 6、博士班研究生得選擇入學後已刊登之論文發表抵免資格考，抵免須於入學後 3 年內完成。論文著作除指導教授外該研究生須為第一作者。論文抵免參照以下論文著作發表標準之點數認定，期刊論文著作發表每 2 點可抵 1 科。

VI. Regulations regarding the qualification exams

- i. The qualification exams have to be completed within three years after enrolment. Failure to do so will result in expulsion.
- ii. The qualification exams are held twice per academic year (in March and November). Students willing to take the exams are required to submit the application within one week after the beginning of the registration each semester.
- iii. The qualification exams include 3 courses and are written exams. The courses are selected with the consent of the advisors, submitted to the department office, and cannot be changed. The exams written by the same professor are limited to 2 among the 4 courses.
- iv. The courses of the qualification exams must be the master- or Ph.D.-level courses taken by the students before, and at least 2 courses must be led by professors from EE Dept. with the consent of the advisors.
- v. Each course is passed with a grade above B- (or 70), and can be retaken twice under failure. Students may choose the number of courses each time they take the qualification exams. Absentee without reason in each course will be counted as failure once.
- vi. Journal papers published after entering Ph.D. program may be chosen to waive the qualification exams within three years after enrolment. The name of the student must be the first other than the advisor on the authors' list, and 2 points of the journal papers can waive 1 course of the qualification exams.

七、學位考試之條件：

- 1、指導教授應確認博士班研究生論文題目與內容符合本系所專業領域。
- 2、博士班研究生應提交論文相似度比對報告，有關比對報告須依本系論文相似度比對標準規定辦理。

3、論文著作發表標準

(1) 博士班研究生經指導教授同意，認定其論文成果已達博士學位水準，且由「研究生學術委員會」認定通過本系所訂定之最低論文發表標準點數，始可申請博士學位論文審查及口試。

(2) 論文著作發表最低點數標準(不含列入資格考抵免之論文)：

畢業申請之 在學學期數	4 學期	5、6 學期	7、8、9 學 期	10 學期(含) 以上
最低點數	14	12	10	6

(3) 論文著作發表等級與點數認定標準：

等級	論文著作	點數
A	SCI Impact Factor 排序前 20%之期刊	6
B	IEEE 期刊/Full paper	5
	ACM 期刊//Full paper	
	OSA 期刊/ /Full paper	
	SCI Impact Factor 排序前 50%之期刊	
C	A 級期刊之 Short paper 或 Letter	3
	SCI Impact Factor 排序 50%至 75%之間的期刊	
D	B 級期刊之 Short paper 或 Letter	2
	其他非 A、B、C 級之 SCI 期刊論文	
	八大工業國組織之發明專利證書	
E	EI 期刊論文	1
	具審查制度之國際期刊或國際研討會論文	
	本國之發明專利證書	

(4) 點數計算說明：

- (a) 發表論文著作必須是該研究生在本系博士班就讀期間之研究成果，並以本系全銜刊登。論文著作確實點數審核由「研究生學術委員會」認定。已列入資格考發表之論文，不得列入畢業點數計算。
- (b) 發表論文應與指導老師共同署名。除指導教授外，排序第一者以全部點數計算，第二者以 1/2 點數計算，第三者以 1/4 點數計算，其餘不計點數。
- (c) E 級論文至多採計 2 點。
- (d) 專利申請必須是在博士班就讀期間提出，且是由指導教授指導。多人署名之專利點數計算，與發表論文計算方式相同。
- (e) 6 學期(含)以下畢業者，須至少 A 級論文著作一篇。

- 4、博士班研究生之英文能力，在其修業期間需主動提出符合下列檢測標準之一的證明，方得申請學位考試：

- (1) 通過CEFR EF SET語言能力參考指標B2：Vantage (高階級)，
- (2) 托福iBT測驗成績72分以上、托福ITP測驗成績543分以上，
- (3) 多益測驗成績785分以上，
- (4) 國際英語測試-雅思 (IELTS) 5.5級以上，
- (5) 全民英語能力分級檢定測驗 (簡稱「全民英檢」 GEPT) 中高級測驗之複試通過，
- (6) 修習本校相關英文課程成績達一定門檻以上。本系認定之本校相關英文課程分以下兩種：
 - A. 英美系開設課程，應與聽講、溝通、閱讀、寫作、翻譯與習作、科技英文相關，選修6學分，且成績須達B以上。
 - B. 通識教育中心開設課程，應與聽講、溝通、閱讀、寫作、翻譯與習作、科技英文相關，程度二級以上，選修6學分，且成績須達A-以上。
- (7) 其他相關有效英文檢測成績或修讀他校相關英文課程，須經由「研究生學術委員會」認定。

上述(1)~(5)項英語測驗成績於入學前2年內取得者，皆可視為有效之英文檢測成績。

VII. Requirement of the dissertation defenses

- i. The advisor should confirm that the topic and the content of the dissertation are in line with the professional field of the department.
- ii. Doctoral students should submit a dissertation similarity comparison report, and the relevant comparison report should be handled in accordance with the department regulations on dissertation similarity comparison.
- iii. Publications
 - (1) Students can submit the application of final exams with the consent of the advisors and the Graduate Academic Committee after passing the threshold of publication points.
 - (2) Threshold of publication points (excluding the points to waive the qualification exams):

Semesters at application	4 semesters	5 or 6 semesters	7, 8 or 9 semesters	10 or more semesters
Threshold	14	12	10	6

(3) Publication classification:

Class	Publication	Points
A	Full paper on Journals with SCI Impact Factor among Top 20%	6
B	Full paper on IEEE Journals/Transactions	5
	Full paper on ACM Journals	
	Full paper on OSA Journals	
	Full paper on Journals with SCI Impact Factor from 20% to 50%	
C	Short paper or Letter on Class A Journals	3
	Full paper on Journals with SCI Impact Factor from 50% to 75%	
D	Short paper or Letter on Class B Journals	2
	Full paper on Journals other than Classes A, B and C Journals	
	Patent certificate from G8 countries	
E	Full paper on EI Journals	1
	Full paper on International Journals or Conferences with peer review	
	Patent certificate from ROC	

(4) Point regulation:

- (a) Publications must be fulfilled during the period of Ph.D. study with the full title of EE Dept. on them. The exact points of publications are verified by the Graduate Academic Committee, with the publications used to waive the qualification exams excluded.
 - (b) Publications must bear the name of the advisor. Other than the advisor, the first author may claim full points, the second author 1/2 of the points, the third author 1/4 of the points, and the rest no points.
 - (c) At most 2 points can be counted from Class E publications.
 - (d) Patent applications must be done during the period of Ph.D. study under the supervision of the advisor. The way of claiming points from a multi-inventor patent is the same as that of paper publication.
 - (e) Students trying to obtain Ph.D. degree within 6 semesters must have at least one Class A publication.
- iv. Doctoral students must demonstrate their English proficiency during their study period by meeting one of the following criteria to be eligible to apply for the doctoral degree examination:
- (1) achieving CEFR (Common European Framework of Reference for Languages) EF SET at least level B2 : Vantage,
 - (2) scoring at least 72 in TOEFL iBT or at least 543 in TOEFL ITP,
 - (3) scoring at least 785 in TOEIC,
 - (4) achieving IELTS at least level 5.5,
 - (5) achieving the High-Intermediate Level Second Stage of the GEPT (General English Proficiency Test).
 - (6) taking English courses as an alternative by fitting one of the following two conditions :
 - A. taking courses offered by the Department of English, covering listening, communication, reading, writing, translation and composition, or technical English, with a minimum of 6 credits and a grade at least B ;
 - B. taking courses offered by the General Education Center, covering listening, communication, reading, writing, translation and composition, or technical English, at level 2 or above, with a minimum of 6 credits and a grade at least A-.
 - (7) Other relevant valid English test scores or courses taken at other universities, subject to approval by the 'Graduate Academic Committee of the Dept. of E.E.'
Scores obtained within 2 years before admission in the English tests mentioned in items (1) to (5) are considered valid.

八、學位考試之評定

- (1) 由學位論文考試委員會負責審查及評定。委員會由該生指導教授推薦符合博士學位考試委員資格人選 5 至 9 人，經本系主管提請校長遴聘組成之，其中校外委員應佔 1/3（含）以上，並由委員互推一人擔任召集人（非本系委員擔任為原則），惟指導教授不得擔任之。
- (2) 學位論文考試委員會至少應有委員 5 人出席，出席委員中校外委員應佔 1/3（含）以上始得舉行。學位論文考試成績以 70 分（B-）為及格，並以出席委員評定分數

之平均值決定之；惟出席委員有 1/3（含）以上評定為不及格者，則該次學位論文考試成績以不及格論，評定以一次為限。

VIII. Evaluation of the dissertation defenses:

- i. The committee of final exam is responsible for the supervision and the evaluation of the final exam. It consists of 5 to 9 members recommended by the advisor, submitted by the chairperson of the department and approved by the president of the university, with no less than 1/3 of them other than the faculty members of NDHU. One member other the advisor is elected to take charge of the committee.
- ii. At least 5 members must be present at the final exam with more than 1/3 of them other than the faculty members of NDHU. The grade of the final exam is the average of the grades given by all committee members, and the grade above 70 (or B-) is regarded as the passing threshold. If more than 1/3 of the committee members give the grades below 70 (or B-), then the student fails the final exam.

九、學位論文考試成績不及格，而其修業年限尚未屆滿者，得於次學期或次學年重考，重考以一次為限；重考成績仍不及格者，應令退學。

IX. Students who fail to pass the final exams and who have not reached the maximum program duration can take the final exam only once again in next semester or in next academic year. Failure to pass the final exam again will result in expulsion.

十、本要點未盡事宜依教育部學位考試辦法及本校相關規定辦理。

X. Matters not specified in these guidelines are handled in accordance with relevant Ministry of Education decrees and university regulations and rules.

十一、本要點經系(所)務會議、院務會議通過，並送教務會議審議通過後公告實施。

XI. These guidelines and all amendments are subject to ratification by the Department Faculty Meeting, College Council, and Academic Affairs Council before they are made public and implemente