

National Cheng Chung University  
Department of Communication Engineering  
Ph.D. Program Requirements

Amended and approved by Department faculty meeting, October 31, 2005  
Amended and approved by Department faculty meeting, September 21, 2007  
Amended and approved by Department faculty meeting, April 11, 2008  
Amended and approved by Department faculty meeting, Jun 12, 2009  
Amended and approved by Department faculty meeting, October 30, 2009  
Amended and approved by Department faculty meeting, October 24, 2014  
Amended and approved by Department faculty meeting, November 28, 2014  
Amended and approved by Department faculty meeting, April 10, 2015  
Amended and approved by Department faculty meeting, June 12, 2015  
Amended and approved by Department faculty meeting, June 17, 2016  
Amended and approved by Department faculty meeting, June 16, 2017  
Amended and approved by Department faculty meeting, Mars, 08, 2019

### **I. & II. Advisor Regulation**

1. There are two groups (**Communication Systems** and **Communication and Networking**) in the Ph.D. program of Department of Communication Engineering of CCU.
2. Graduate students who wish to change advisor or group can submit a petition to the Graduate Affairs Committee in the end of the first academic year.
3. The application for the change advisor or group needs to be approved by the Graduate Affairs Committee and the Chair of department.

### **III. Credit Requirement**

1. Students must complete at least 18 credits. (Excluding Group Discussion, Seminar Lecture, Research Paper Writing, Engineering Ethics, and Patent Writing). Maximum 3 credits are allowed from Specialty Topics or Technical English Writing.
2. Students can take elective courses from other departments with the approval from advisor.
3. Students may take elective courses of other school with the approval from his/her adviser, the Graduate Affairs Committee and the Chair of the department. Maximum 6 credits are allowed.
4. 42 credits must be completed for students of direct admission into the Ph.D. program (including the credits for the master's degree). For the first-year Ph.D. students who received a master's degree less than four years (inclusive) and took courses with score 85 (Master graduate students of Department of EE need to get score 80) or above and the credits were not counted toward their master's degree, they may apply to transfer these credits toward their PhD program credits in the course selection period in the first semester. The application for credit transfer with requested document must be approved by the advisor and the Graduate Affairs Committee. Maximum 6 credits are allowed.

5. 18 credits toward graduation must be approved by advisor and the Graduate Affairs Committee.

#### **IV. Ph.D. Candidate Requirement**

1. Students need to submit the application for Ph.D. qualification examination in two weeks after the start of each semester. (As listed in attachment 2)
2. The application for PhD qualification examination details the common required subjects and the elective professional subjects for each groups. Students have to select two professional subjects according to their group and select one subject from the common required subjects.
3. Students must pass the subjects mentioned above before the end of the 7th semester after their entrance into the Ph.D. program.
4. Students who fail an elective professional subject can be credited by two alternatives: six points of research achievement above Level C (inclusive) or two professional courses.
5. Students who fail the common required subject and had research achievement above Level C (inclusive) can be credited by submitting the application for Ph.D. study plan (as listed in attachment 3) before the eighth semester and also choosing one from the following alternatives.
  - a. Take 1 common course and 6 points of research achievement.
  - b. Take 2 common courses and 3 points of research achievement.
  - c. Take 3 common courses.

The common courses need to be related to the common required subject for the qualification examination or be approved by advisor and the Graduate Affairs Committee and the director of the department. Students need to score 70 or above for the common course and accomplish the study plan within 2 years

6. Student who is qualified for the Ph.D. candidate within a specified period is granted a Ph.D. candidate after getting an approval (the application for Ph.D. candidate qualification should be filled and submitted, as listed in attachment 4)
7. The points of the research works and the credits of the additional course mentioned in item 4 and item 5 are not double counted toward the qualification of Ph.D. degree examination in **rule VI**.
8. Students who fail to satisfy the regulations concerning the qualification exams in the end of the seventh semester and did not submit the application for a Ph.D. candidate qualification in the eighth semester or their study plans are not approved shall be required to withdraw from this Department and Institute. Students whose study plans were approved but not completed within two years shall be required to withdraw from this Department and Institute. Students of direct admission into the Ph.D. program but fails the qualification exams may be admitted into the master's program and may apply for Master's degree examination if they are qualified for the master's degree examination.

- V. The research credits was formulated by "The Research Credit Rule for Ph.D.

student of Department of Electrical Engineering and Department of Communications Engineering”

## **VI. Degree Exam**

1. Students must complete course in academic ethics before the first semester and gain the proof of completion.
2. A Ph.D. student may apply for Ph.D. dissertation defense examination after he/she has accomplished the following tasks: complete course credits, is qualified to be a Ph.D. candidate, and submit the required application form with the signature of his/her advisor, the related documents and the certificate of completion on the academic ethics course one week before the deadline of the application for the degree examination.
3. The research credits should be more than 15 points (inclusive).
4. The credits are calculated with four alternatives:
  - (a) A fully-counted research achievement in Level A :
  - (b) Two fully counted journal papers in Level B or one fully counted journal paper in Level B and one fully counted conference paper in Level B for students in the 7<sup>th</sup> semester and after.
  - (c) One fully counted journal paper in Level B and three fully counted conference paper in Level C for students in the 10<sup>th</sup> semester and after.
  - (d) One fully counted research achievement in Level B and three fully counted research achievement in Level C, or 5 fully counted research achievement in Level C for students in the 14<sup>th</sup> semester. (At least, the student needs to be the first student author in one journal paper)

The research credits will not be double counted and they need to be approved by the advisor and the Graduate Affairs Committee. The total points for patent, soft/hardware awards is limited to a maximum of 7 points.

**VII.** According to the rule of CCU, students who fail the degree exam in the first time are allowed to take the exam again. A Ph.D. degree will be conferred after students pass the degree exam. If the student with direct admission into Ph.D. program fails to pass the oral defense for Ph.D. degree, he/she may be conferred a master's degree if the student meets the requirements of a master's degree.

## **VIII. Duration of Study**

All students are required to complete the program within 2 to 7 years. Part-time students may extend this limit to 8 years. The identification for part-time students depends on the status of the students when they enter the program.

## **IX. The Ph.D. students who restudy for Department of Electrical Engineering or Department of Communications Engineering**

1. Students who did not change the group, may reserve the following:
  - (a) The Ph.D. candidate qualification
  - (b) The passing exam of qualification

- (c) Maximum 3 course credits.
- (d) The research achievement in the previous run and the counted semester by the approval of advisor.

2. Students who have changed the group, may reserve the following:

- (a) The passing exam of qualification
- (e) Maximum 3 course credits.

The research credits in the previous run will not be counted for graduation.

**X.** The regulation shall be applied after the approval of faculty meeting. Any subsequent amendments shall be submitted for review.

## 通訊工程學系博士生更換指導教授或組別申請書

Application form for changing advisor for PhD students

學生姓名 Student name	
年級 / 組別 Grade / Group	
學生學號 Student ID no.	
聯絡電話 Contact phone number	
申請理由* Reason	
原指導教授姓名 Original advisor	
更換後之指導教授簽章 New advisor's signature	
研究所事務委員會審查意見* 及召集人簽章 Review comment from graduate students affairs committee and the convener's signature	
系主任簽章 Department chair's signature	

\* 若表格不敷使用，得另紙書寫。

附件二

## 電機工程學系博士生更換指導教授或組別

Changing advisor or group for PhD students

### 原指導教授意見書

Comment of the original advisor

學生姓名 Student Name	
年級 / 組別 Grade / Group	
學生學號 Student ID no.	
聯絡電話 Contact phone number	
原指導教授姓名及意見 Original advisor's name and comment	

※本表格由研究所事務委員會加會原指導教授。

# 學年度第            學期通訊系博士班資格考申請書

Application for the qualification examination for PhD student

Student Name : \_\_\_\_\_ Group : \_\_\_\_\_

說明事項：

1. 學生須於入學七學期內，資格考須通過學科考試三科，其中一科為共同必考外，另二科為選考。  
Within 7 semesters starting from the first semester of admission into the EE PhD program, students need to pass three subjects for the writing exam: one is from the common subject ; the others are from the elective courses.

2. 共同必考科目為（下列二個單元選一個）：

(1)第一單元：數學【含線性代數、微分方程、機率】【三選二】100分。

(2)第二單元：電子學（必選）佔50分及電路學、電磁學【二選一】佔50分。

Common subject exam: (Choosing one subject)

(1) Mathematics : Linear Algebra (scores 50), Differential Equation (scores 50), and Probability (scores 50) (Choosing two from three)

(2) Electronics (required, scores 50), Electrical Circuitry (scores 50) or Electromagnetism (scores 50) (Choosing one from two)

3. 共同科目於本系網頁上有參考題庫，其中50%乃參考題庫之技術觀念而出，但可能另輔以題型等變化；另外50%則是自由出題。

Sample tests for the Common subject are available on the department's web page. Over 50% of the test, questions might be chosen (or modified) from this sample set.

4. 各組可選考之專業科目為 (Elective exam courses are) :

組 別 Group Name	考 試 科 目 Exam Course	
	Fall semester	Spring semester
Communication Systems	數位通信 Digital Communications	隨機程序 Stochastic Processes
Communication and Networking	排隊理論 (Queueing Theory) 通訊協定 (Communication Protocol)	電腦網路 (Computer Network) 網路最佳化 (Network Optimization)

※請於 年 月 日( )前申請，逾期不予受理。

**Deadline for Application:**

考試科目 Exam Course	科目組別 Group name	考試日期 Exam Date	備註 Notice

指導教授簽名 Advisor's Signature : \_\_\_\_\_

申請日期 Date of Application : \_\_\_\_\_



# 博士班讀書計畫申請書

Application for the study plan for PhD student

(104.04.10 電機系與通訊系聯合系務會議修正通過)

Student Name : \_\_\_\_\_ Group : \_\_\_\_\_

三門共同課程或指導教授指定課程

Three common courses or the appointed course by advisor

二門共同課程或指導教授指定課程加三點研究成果

Two common courses or the appointed course by advisor plus 3 points of research results

一門共同課程或指導教授指定課程加六點研究成果

A common course or the appointed course by advisor plus 6 points of research results

如有指導教授指定課程，請列出課程資訊，若非本系課程，請附上課程大綱。

For the appointed courses by advisor, the information of the course need to be listed. If it is not the course offered by Department of EE, please attach the course syllabus.

課碼 Course Number	課程名稱 Course Name

備註：

1. 請附 C 級 (含) 以上之研究成果證明資料。

Please attach the information of the research results above level C (inclusive).

2. 共同課程(下列擇一單元內之課程來修課，不可跨單元)：

Common courses (choose the following course in each unit. Cross unit is not allowed)

(1) 第一單元：線性代數(課碼：4151011、4301001)、微分方程(課碼：4152018、4302004)、機率(課碼：4153011、4302015)

The first unit : Linear Algebra (4151011, 4301001), Differential Equation (4152018, 4302004), and Probability(4153011, 4302015)

(2)第二單元：電子學(一)(課碼：4152006、4302002)、電子學(二)(課碼：4152007、4302012)、電路學(一)(課碼：4152004、4302001)、電磁學(一)(課碼：4152008、4302014)

The second unit : Electronics I (4152006, 4302002), Electronics II ( 4152007, 4302012), Electrical Circuitry I (4152004, 4302001) and Electromagnetism I (4152008, 4302014)

指導教授簽名：\_\_\_\_\_ 日期：\_\_\_\_\_

Advisor's Signature Date

研究所學業導師簽名：\_\_\_\_\_ 日期：\_\_\_\_\_

Academic Tutor's Signature Date

系主任簽名：\_\_\_\_\_ 日期：\_\_\_\_\_

The director's Signature Date

## 博士候選人資格審查申請表

Application for a PhD candidate qualification

104.04.10 電機系與通訊系聯合系務會議修正通過

Student Name : \_\_\_\_\_

Student ID no. : \_\_\_\_\_

資格審定：博士班研究生依據「博士班修業規定」，於修滿規定學分，配合其通過之學科考試科目情形，須滿足下列條件之一，方得填妥申請表格，並備妥相關證明，經指導教授簽名後，向系辦公室提出博士候選人資格審定之申請。

In accordance with the Ph.D. Program Requirements, the Ph.D. student who has completed the required credits may submit the application for the qualification of a Ph.D. candidate with the signature of his/her advisor and related documents after one of the following conditions is satisfied:

- a. 通過共同必考科目 1 科 + 通過選考專業科目 2 科。

Pass one common required subject and two elective professional subjects

- b. 通過共同必考科目 1 科或完成讀書計畫 + 研究成果發表計點合計在 12 點（含）以上。

Pass one common required subject or accomplish the study plan, plus more than 12 points (inclusive) of research achievement.

- c. 通過共同必考科目 1 科或完成讀書計畫 + 通過選考專業科目 1 科 + 研究成果發表計點合計 6 點（含）以上。

Pass one common required subject or accomplish the study plan, and pass one elective professional subject, plus more than 6 points (inclusive) of research achievement.

- d. 通過共同必考科目 1 科或完成讀書計畫 + 加修 4 專業科目。

Pass one common required subject or accomplish the study plan, and take four additional professional subjects.

- e. 通過共同必考科目 1 科或完成讀書計畫 + 通過選考專業科目 1 科 + 加修 2 專業科目。

Pass one common required subject or accomplish the study plan, and pass one elective professional subject and take two additional professional subjects.

f. 通過共同必考科目 **1** 科或完成讀書計畫+通過選考專業科目 **2** 科。

Pass one common required subject or accomplish the study plan, and pass two elective professional subjects.

備註：如有採用讀書計畫抵免共同必考科目，上述研究成果發表合計點數不包含讀書計畫書內所需之研究成果點數。

Remarks: If the common required subject is waived by accomplishing the study plan, the points accounted in the study plan cannot be double counted for the research achievement mentioned above.

本人擬申請適用條款：

a 條款     b 條款     c 條款     d 條款     e 條款     f 條款

The condition to be chosen is

a     b     c     d     e     f

指導教授簽名： \_\_\_\_\_

日期： \_\_\_\_\_

Advisor's Signature

Date

研究所學業導師簽名： \_\_\_\_\_

日期： \_\_\_\_\_

Academic Tutor's Signature

Date

系主任簽名： \_\_\_\_\_

日期： \_\_\_\_\_

The Chair's Signature

Date

## 博士班學生畢業資格審查表

### Application for a PhD Graduation Qualification

105.06.17 電機系與通訊系聯合系務會議修正通過

Amended and approved by Department faculty meeting, June 17, 2016

**Student Name :** \_\_\_\_\_ **Student ID no. :** \_\_\_\_\_

資格審定：

- 一、 學生於入學第一學期結束前，依據「國立中正大學研究生學術倫理教育實施要點」修習學術倫理教育課程，並取得修課證明。

According to the law of academic ethics education for postgraduate of CCU, students must complete course in academic ethics before the end of the first semester and gain the proof of completion.

- 二、 研究生於在學四學期（含）以上，修滿規定學分，並取得博士候選人資格後，須滿足下列條件之一，方得於學校規定之「研究生學位考試申請截止日」一週前填妥申請表格，並備妥相關資格證明，經指導教授簽名後，檢附學術倫理教育課程修課證明，向本系提出資格審定之申請。審定合格者得安排學位考試。

- 三、 A Ph.D. student may apply for Ph.D. dissertation defense examination after he/she has accomplished the following tasks: complete course credits, is qualified to be a Ph.D. candidate, and submit the required application form with the signature of his/her advisor, the related documents and the certificate of completion on the academic ethics course one week before the deadline of the application for the degree examination.

- a. 通過共同必考科目 **1** 科 + 通過選考專業科目 **2** 科 + 研究成果發表計點合計在 **15** 點（含）以上。

Pass one common required subject and two elective professional subjects, plus more than 15 points (inclusive) of research achievement.

- b. 通過共同必考科目 **1** 科或完成讀書計畫 + 研究成果發表計點合計在 **27** 點（含）以上。

Pass one common required subject or accomplish the study plan, plus more than 27 points (inclusive) of research achievement.

- c. 通過共同必考科目1科或完成讀書計畫+通過選考專業科目1科+研究成果發表計點合計**21**點(含)以上。

Pass one common required subject or accomplish the study plan, and pass one elective professional subject, plus more than 21 points (inclusive) of research achievement.

- d. 通過共同必考科目**1**科或完成讀書計畫+加修**4**專業科目+研究成果發表計點合計在**15**點(含)以上。

Pass one common required subject or accomplish the study plan, and take four additional professional subjects, plus more than 15 points (inclusive) of research achievement.

- e. 通過共同必考科目**1**科或完成讀書計畫+通過選考專業科目**1**科+加修**2**專業科目+研究成果發表計點合計在**15**點(含)以上。

Pass one common required subject or accomplish the study plan, and pass one elective professional subject, and take two additional professional subjects, plus more than 15 points (inclusive) of research achievement.

- f. 通過共同必考科目**1**科或完成讀書計畫+通過選考專業科目**2**科+研究成果發表計點合計在**15**點(含)以上。

Pass one common required subject or accomplish the study plan, and pass two elective professional subjects, plus more than 15 points (inclusive) of research achievement.

備註：如有採用讀書計畫抵免共同必考科目，上述研究成果發表合計點數不包含讀書計畫書內所需之研究成果點數。

Remarks: If the common required subject is waived by accomplishing the study plan, the points accounted in the study plan cannot be double counted for the research achievement mentioned above.

本人適用條款：

a 條款     b 條款     c 條款     d 條款     e 條款     f 條款

The condition to be chosen is

a     b     c     d     e     f

指導教授簽名：\_\_\_\_\_

日期：\_\_\_\_\_

Advisor's Signature

Date

研究所學業導師簽名：\_\_\_\_\_

日期：\_\_\_\_\_

Academic Tutor's Signature

Date

系主任簽名：\_\_\_\_\_

**The Chair's Signature**

日期：\_\_\_\_\_

**Date**