

# 國立中央大學物理學系碩、博士班研究生修業辦法

## The Physics Department of National Central University Regulation of Course Requirements for Master and PhD Programs

91.06.18系務會議通過  
Passed in the Department Affairs Meeting on July 18, 2002  
91.10.08教務會議通過  
Passed in the Academic Affairs Meeting on October 8, 2002  
91.11.19系務會議修正通過  
Revised in the Department Affairs Meeting on November 19, 2002  
95.11.14系務會議修正通過  
Revised and Passed in the Department Affairs Meeting on November 14, 2006  
97.06.03系務會議修正通過  
Revised and Passed in the Department Affairs Meeting on June 3, 2008  
97.06.11教務會議通過  
Passed in the Academic Affairs Meeting on June 11, 2008  
97.09.23 物理系系務會議通過  
Revised and Passed in the Academic Affairs Meeting of Physics Dept. on Sep. 23, 2008  
97.10.15 教務會議核備  
Reported to the Academic Affairs Meeting on Oct. 15, 2008  
100.05.03 物理系系務會議通過  
Revised and Passed in the Academic Affairs Meeting of Physics Dept. on May 03, 2011  
100.06.22 教務會議核備  
Reported to the Academic Affairs Meeting on Jun. 22, 2011  
100.10.11 物理系系務會議通過  
Revised and Passed in the Academic Affairs Meeting of Physics Dept. on Oct. 11, 2011  
101.01.11 教務會議核備  
Reported to the Academic Affairs Meeting on Jan. 11, 2012  
103.12.16 物理系系務會議通過  
Revised and Passed in the Academic Affairs Meeting of Physics Dept. on Dec. 16, 2014  
104.01.14 教務會議核備  
Reported to the Academic Affairs Meeting on Jan. 14, 2015  
105.05.31 物理系系務會議通過  
Revised and Passed in the Academic Affairs Meeting of Physics Dept. on May. 31, 2016  
105.06.01 理學院院務會議通過  
Revised and Passed in the Faculty Meeting of College of Science on Jun. 1, 2016  
105.06.15 教務會議核備  
Reported to the Academic Affairs Meeting on Jun. 15, 2016

第一條 碩士班至少須修滿二十四學分；博士班至少須修滿十八學分；逕修讀博士學位研究生至少須修滿三十四學分（內含至少十八個博士班學分）。研究生在本校修業期間至少要修習一學分以上研究所課程（不含抵免課程）。

Article 1 To fulfill the graduation requirement, master students have to earn a minimum of 24 credits and PhD students have to earn a minimum of 18 credits. Graduate students, who are directly pursuing PhD, have to earn a minimum of 34 credits (of which at least 18 must be credit hours earned from doctoral courses). Graduate students have to earn more than 1 graduate credit at National Central University (excluding the waived credits).

第二條 碩士班應通過課號PH5、PH6、PH7、PH8、PHT開頭之非專題之三學分課程至少五門，其中量子力學I、古典力學I、電動力學I和統計力學I應至少通過二門。並應通過必修課程『專題演講I』、『專題演講II』、『物理教學研習I或II』。修課未達此要求者不得畢業。

Article 2 Master students should pass at least five courses on non-special topics and 3-credit, whose course numbers start with PH5, PH6, PH7, PH8 or PHT. They have to pass at least two of the following courses: Quantum Mechanics I, Classical Mechanics I, Classical Electrodynamics I, and Statistical Mechanics I. They also have to pass the following obligatory courses: Colloquium I, Colloquium II, Special Topics on Teaching

Physics I or Special Topics on Teaching Physics II. Students cannot graduate without satisfying this requirement.

第三條 博士班修課課程分A、B、C、D四組（詳附表），學生須擇一修習之。學生申請資格考時，須經指導教授簽名認可其所選之組別。修業期間經指導教授同意得更換組別。達到該組之修課規定及符合本系「博士學位候選人之資格與資格考試辦法」第二條規定，方可提出學位考試申請。修課未達此要求者不得畢業。

Article 3 Course requirements for PhD students are classified into Groups A, B, C, and D (see attached table). The student has to associate himself/herself to one of the groups. When the student applies for the qualifying examination, he/she has to obtain a signed agreement from the thesis advisor about the specified group. During his/her PhD study, the student is allowed to transfer to another group upon the thesis advisor's consent. Only after the student has satisfied the course requirements of the associated group and Article 2 in the "Bylaw of the requirements and the qualifying examination for PhD candidates" of the Department can he/she apply for the thesis defense. Students cannot graduate without satisfying this requirement.

第四條 中央研究院與國立中央大學合作辦理國際研究生學程之修課辦法依照『國立中央大學物理學系與中央研究院合作辦理國際研究生學程碩、博士班學生修課辦法』之規定。

Article 4 For Master or PhD students enrolled in the Taiwan International Graduate Program of Academia Sinica and National Central University, "Regulation of Course Requirements for Master and PhD Students in the Taiwan International Graduate Program of Academia Sinica and Department of Physics, National Central University" of our department applies.

第五條 本辦法如有未盡事宜，依教育部及本校有關規定辦理。

Article 5 If this regulation is incomplete, students should consult with the related regulations set by the University and the Ministry of Education.

第六條 本辦法經系務會議及院務會議通過，並送教務會議核備後實施，修正時亦同。此辦法實施前已入學學生可選擇本辦法。

Article 6 This regulation will be enforced upon approval by the Department & College faculty meeting and being recorded at the Office of Academic Affairs. The same applies to further modifications in the future. PhD students who enter the program before the approval of this bylaw may opt to use it.

# 國立中央大學物理學系博士班學生修業辦法

(Course Requirements for PhD Students of the Department of Physics at National Central University)

## 附表

(Table of Course Requirement)

修課課程組別 (Group)	必修 (Obligatory Courses)	選修 (Optional Courses)	相關專長 (Field)
A	量子力學 I (Quantum Mechanics I) 量子力學 II (Quantum Mechanics II) 電動力學 I (Classical Electrodynamics I) 電動力學 II (Classical Electrodynamics II) 古典力學 I (Classical Mechanics I) 統計力學 I (Statistical Mechanics I) 物理教學研習 I(Special Topics on Teaching Physics I) 物理教學研習 II(Special Topics on Teaching Physics II)	PH5、PH6、PH7、PH8、 PHT 開頭之非專題之三學分 課程至少四門 ( At least four non-special topic 3-credit courses starting with PH5, PH6, PH7, PH8, and PHT )	一般物理 (General physics)
B	量子力學 I (Quantum Mechanics I) 電動力學 I (Classical Electrodynamics I) 固態物理 I (Solid State Physics I) 統計力學 I (Statistical Mechanics I) 物理教學研習 I(Special Topics on Teaching Physics I) 物理教學研習 II(Special Topics on Teaching Physics II)	PH5、PH6、PH7、PH8、 PHT 開頭之非專題之三學分 課程至少四門 ( At least four non-special topic 3-credit courses starting PH5, PH6, PH7, PH8, and PHT )	奈米凝態 (Nano and condensed matter physics)
C	量子力學 I (Quantum Mechanics I) 量子力學 II (Quantum Mechanics II) 電動力學 I (Classical Electrodynamics I) 電動力學 II (Classical Electrodynamics II) 古典力學 I (Classical Mechanics I) 量子場論 (Quantum Field Theory ) 物理教學研習 I(Special Topics on Teaching Physics I) 物理教學研習 II(Special Topics on Teaching Physics II)	PH5、PH6、PH7、PH8、 PHT 開頭之非專題之三學分 課程至少四門 ( At least four non-special topic 3-credit courses starting with PH5, PH6, PH7, PH8, and PHT )	高能與重力 (High-energy and gravitation)
D	物理教學研習 I(Special Topics on Teaching Physics I) 物理教學研習 II(Special Topics on Teaching Physics II)	PH5、PH6、PH7、PH8、PHT 開頭之非專題之三學分課程 10 門 ( At least ten non-special topic 3-credit courses starting with PH5, PH6, PH7, PH8, and PHT )	複雜系統 (Complex systems)

註 1：學生於博士班入學前，所修習上述課程成績達 70 分（含）以上者均可依抵免辦法申請免修。

註 2：如因研究所需，學生經指導教授同意後，由課程委員會審核通過，可修習本校及台聯大博士班(含碩博同修)課程，以減少上述 PH5、PH6、PH7、PH8、PHT 開頭課程之選修要求。(至多 A 組減少 2 門、B 組減少 2 門、C 組減少 2 門、D 組減少 4 門)。

P.S.1: Students can apply for course waiver for courses taken before entering the PhD program with a grade of at least 70 (see Regulation of Credit Transfer for the Doctoral Program).

P.S.2: With agreement from his/her advisor and the approval of the Department Course Committee, a student taking the PhD courses offered by the University System of Taiwan can reduce the requirement of PH5, PH6, PH7, PH8, and PHT optional courses up to two for Groups A, B, and C and up to four for Group D.