

# 國立交通大學物理研究所 109 學年度碩士生修業規章

## 本案業經 2020.4.10 所務會議修正通過

本案業經 2019.5.21 所務會議修正通過  
本案業經 2019.4 所務會議通訊審議修訂通過  
本案業經 2018.5 所務會議通訊審議修訂通過  
本案業經 2018.3.27 所務會議修正通過  
本案業經 2017.11.20 所務會議修正通過  
本案業經 2016.10.26 所務會議修正通過  
本案業經 2016.6.24 所務會議修正通過  
本案業經 2016.3.11 所務會議修正通過  
本案業經 2015.9.9 所務會議修正通過  
本案業經 2015.5.28 所務會議修正通過  
本案業經 2013.4.11 所務會議修正通過  
本案業經 2012.4.26 所務會議修正通過  
本案業經 2011.4.20 所務會議修正通過  
本案業經 2010.4.23 所務會議修正通過  
本案業經 2009.9.23 所務會議修正通過  
本案業經 2004.3.3 所務會議修正通過  
本案業經 2003.3.13 所務會議修正通過  
本案業經 2001.12.4 所務會議修正通過  
本案業經 2001.11.7 所務會議修正通過

## 第一條 入學資格

### 一、碩士班入學考試：〔請依當年度招生簡章之規定〕

凡在公立或已立案之私立大學或獨立學院或教育部認可之國外大學畢業獲有學士學位，或具有同等學歷，經台聯大入學考試錄取者。

(一) 筆試：100%

(二) 科目：近代物理；普通物理；應用數學。

### 二、碩士班推薦甄試：〔請依當年度招生簡章之規定〕

凡大學院校各學系畢業生或應屆畢業生其大學各學期「學業平均成績」之平均在七十五分以上為原則，並備有助理教授以上之推薦函二封，經本所甄試考試錄取者。

(一) 資料審查 50%；面試 50%

(二) 繳交資料：報名表、自傳及讀書計劃各一篇、大學歷年成績單（含名次）正本一份，其他如大學物理學力測驗成績亦可附上。

## 第二條 修業年限、學分

一、碩士班一般生修業年限以一至四年為限，至少應修 24 學分（須在本所開設課程中修滿十九學分）。本所暫不收在職生，如未能於規定修業期限內通過學位考試或未能完成應修課程者，應令退學。

二、抵免學分之規定：抵免學分依「學生抵免辦法」提出申請，繳交申請單、成績單及課程相關資料，經所課程委員會議通過，送教務處複核。抵免上限為 18 學分。

## 第三條 論文指導教授及選課

### 一、論文指導教授

(一) 碩士班研究生隨時可申請「碩士論文研究方向及指導教授」，但最遲必須在入學第二學年開學第一週前提出申請。逾期未敦請者，提交所務會議討論。

(二) 本所學生須由本所專任教師任論文指導老師。若選定講座教授擔任指導教授，必須有本所專任教師共同指導。

(三) 指導關係之變更，依本校「論文指導教授與研究生互動準則」辦理。

(四) 研究生依本校「論文指導教授與研究生互動準則」申請更換指導教授時，

在原指導教授提供原始構想或概念及受指導下所獲得之研究成果，須經原指導教授同意，始得作為學位論文。

本條文**第三款、第四款**追溯適用本所在學學生。

## 二、選課

(一) 研究生選修任何課程均需指導教授同意，新生尚未擇定指導教授者由本所學生事務負責人指導選課。

(二) 必修課程

1. 必修：

量子力學（一）（二）；書報討論 4 次；學術研究倫理教育：依本校「學生學術及研究倫理教育課程實施辦法」規定修課。

2. 必選：

電動力學（一）及統計力學（一）中必選一科。

電動力學（一）（二）、古典力學、統計力學（一）、固態物理（一）（二）、高等固態物理（一）、量子場論（一）或原子分子物理（一）中必選兩科。

備註一：修習書報討論4次並及格。少於4學期畢業者不在此限，但其在學期間每學期必須依規定修習書報討論並及格。

備註二：除非本所當學年度之必修或必選課程未開，或經課程委員會同意，否則不得至外系所修課。

三、研究生選修教育學程應知會指導教授。

## 第四條 碩士學位考試

一、學位考試規定依本校碩士學位授予作業規章之規定，但所內有另行規定者，則依本所之規定。

二、畢業論文口試於每學期學位考試日程內舉行，如需延期，第一學期至遲須於元月三十一日前，第二學期至遲須於七月三十一日前舉行。108 學年度起舉行學位考試之學生應完成「論文原創性比對」，供學位考試委員參考。

三、碩士學位考試委員會置委員三至五人，其資格由所教評會審核之，並由單位主管簽請校長核發考試委員暨召集人聘函，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。

四、口試時本所學位考試委員至少須兩人，學位考試委員應親自出席委員會，不得委託他人為代表，至少應有委員三人出席，始得舉行。

五、碩士論文考試成績以七十分及格，出席委員如有逾二分之一以上委員評定不及格者即以不及格論；論文考試成績以出席口試委員記名評定分數平均決定之。不及格而其延長修業年限尚未屆滿者，得於次學期至修業年限內申請重考，重考以一次為限，重考不及格者，即令退學。

六、四年內無法完成應修課程、規定學分數和通過論文口試者，報請學校予以退學。

七、學位論文(含摘要)以**中文或英文**撰寫為原則，並須符合「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)，並繳交論文四冊(二冊本所收藏，一冊本校圖書館陳列，一冊由教務處彙轉教育部指定之度藏單位收藏)。

## 第五條 畢業成績計算方式

一、學業成績為學位考試及學期考試成績之和（二者各佔 50%）。

二、學期考試成績為修課成績之平均〔修課成績 × 各科學分數〕之和/總學分數。

三、學位考試成績為論文成績。

第六條 本修業規章乃依據本校作業規章第二條，各研究生修業規章，應循序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。

National Chiao Tung University  
Institute of Physics  
Academic Regulations for Master Program of Academic Year 2020

Amended at the Committee of Institute Affairs (10 April 2020)

Amended at the Committee of Institute Affairs (21 May 2019)  
Amended at the Committee of Institute Affairs in April 2019 (11 April 2019)  
Amended at the Committee of Institute Affairs in May 2018 (10 May 2018)  
Amended at the Committee of Institute Affairs (27 March 2018)  
Amended at the Committee of Institute Affairs (20 Nov 2017)  
Amended at the Committee of Institute Affairs (24 June 2016)  
Amended at the Committee of Institute Affairs (11 March 2016)  
Amended at the Committee of Institute Affairs (9 September 2015)  
Amended at the Committee of Institute Affairs (28 May 2015)  
Amended at the Committee of Institute Affairs (11 April 2013)  
Amended at the Committee of Institute Affairs (26 April 2012)  
Amended at the Committee of Institute Affairs (20 April 2011)  
Amended at the Committee of Institute Affairs (23 April 2010)  
Amended at the Committee of Institute Affairs (23 September 2009)  
Amended at the Committee of Institute Affairs (3 March 2004)  
Amended at the Committee of Institute Affairs (13 March 2003)  
Amended at the Committee of Institute Affairs (4 December 2001)  
Amended at the Committee of Institute Affairs (7 November 2001)

Article 1 Admission requirements

1. Admission examination of master program: (Please refer to the admission regulations in the academic year)  
Students having graduated from domestic public or private universities or independent colleges or institutes registered in the Ministry of Education, or overseas universities, colleges, or institutes recognized by the Ministry of Education, and having acquired the Bachelor degree or the equivalent education level, students who is enrolled after passing the the admission examination of the master program offered by University System of Taiwan.
  - A. Written examination: 100%
  - B. Subjects:; Modern Physics; General Physics; Applied Mathematics.
2. Recommendation examination of master program: (Please refer to the admission regulations in the academic year)
  - A. Document review: 50%, interview: 50%
  - B. Documents required to be submitted: application form, one autobiography, one statement of purpose, one original copy of undergraduate transcript record (with ranking), and other useful supporting documents, for example, General Scholastic Ability Test of Physics.

Article 2 Study period and credit requirements

1. The minimum and maximum study periods for master programs must be one to four years, and the minimum graduation credits is 24 (19 credits should be fulfilled by passing the courses offered by Institute of Physics. Part-time student is not admitted to Institute of Physics now. A student who fails to pass the oral defense or to complete all the required courses within the maximum study period is required to drop out of NCTU.
2. Credit transfer regulation of master program: Students who want to transfer credits should follow "Regulations of Credit Transfer." They should submit the application form, transcript for all semesters, and related documents of courses. The applications will be passed by Course Committee of Institute and submitted to the Office of Academic Affairs for examination. 18 credits can be transferred at most.

### Article 3 Thesis adviser and course selection

#### 1. Thesis adviser

- A. Master students could apply “Master theses research direction and thesis advisors” at any time, but they should be submitted before the first week of the second academic year. Otherwise, it will be discussed at the Committee of Institute Affairs.
- B. Master students of Institute of Physics should invite full-time teachers of Institute of Physics to be their thesis advisors. If students would like to invite chair professors to be their thesis advisors, they should be co-instructed by at least one full-time teacher of the Institute.
- C. The procedure for the change of the advisory relationship shall be in accordance with the "Guidelines for the Interaction between Thesis Advisor and Graduate Students".
- D. When a graduate student applies for the replacement of a thesis advisor in accordance with the "Guidelines for the Interaction between Thesis Advisor and Graduate Students", 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 consent of the former thesis advisor.

**The third and fourth subparagraphs** of this article apply retrospectively to the students of Institute of Physics.

#### 2. Course selection:

- A. All course selection should be approved by the advisors. 1st-year students who have not selected advisors are advised by the staff in charge of student affairs to select courses.
- B. Required courses:
  - a. Required courses:

Quantum Mechanics (I)(II); Four Seminar; Academic Research Ethics Education: In accordance with the "Students Research Ethics Education Program Implementation Rules" required by the University.
  - b. Required elective courses:

Choose one from Electrodynamics (I) and Statistical Mechanics (I). Choose two from Electrodynamics (I)(II), Classical Mechanics, Statistical Mechanics (I), Solid State Physics (I)(II), Advanced Solid State Physics (I), Quantum Field Theory (I), or Molecular Physics (I).

Remark 1: Take four seminars, with all grades higher than the passing grade. Students whose study period is shorter than four semesters do not need to follow this regulation, but they should complete and pass the seminar for each semester during the master's program.

Remark 2: Unless the required or required elective courses are not offered by Institute of Physics in the current academic year or under the approval of the Curriculum Committee, students should not select courses outside of Institute of Physics.

#### 3. Graduate students should inform their advisers if they select the Education Program.

#### Article 4 Master degree defense

1. The degree defense should follow the "Regulations for Master and Doctoral Degrees Conferment" of NCTU, unless otherwise prescribed by regulations stipulated by Institute of Physics.
2. Oral defense should be conducted within the degree defense schedule every semester. If there is any extension in need, the oral defense should be conducted before January 31st in the first semester, and before July 31st in the second semester. As of Academic Year 2019, any student who conducts the oral defense shall first complete the "thesis originality check" and submit the result to the members of the oral defense committee.
3. The committee for the master degree oral defense is made up of three to five members. Their qualifications are verified by Institute Teacher Evaluation Committee. The director of the Institute should submit recommendations by petition to the principal of NCTU for approval to issue appointment letters to committee members and the chairperson. All oral defenses must be conducted openly. The time and place of the oral defense and the title of thesis must be announced in advance.
4. In the oral defense, at least two members of Institute of Physics are required to be present. All members of oral defense committee must attend the oral defense in person. Stand-ins are not permitted. An oral defense for master degree should be attended by at least three committee members.
5. The passing score of oral defense is 70. An oral defense is deemed failed when the scores given by more than half of the present members are below the passing score. The score of oral defense is determined by the average signed scores given by present members. Students who fail to pass the oral defense but whose extended study period is still within the limit may apply for the retrial in next semester until the end of their extended study period. Retrial will be limited to be once. Students who fail to pass the retrial should be required to drop out of NCTU.
6. Students who fail to complete all of the required courses and credits, and to pass the oral defense within four years are required to drop out of NCTU.
7. Master theses (including abstracts) must be written primarily in **Chinese or English** and comply with "NCTU Format for Thesis/Dissertation." Students are required to post electronic versions of the abstract and the entire thesis on the university website within one month after passing the oral defense (practiced according to NCTU Library Abstract, Thesis and Dissertation Electronization Specification). Students must also submit four hardcopies of their thesis (two submitted to Institute of Physics, one displayed in the library, and one submitted by the Office of Academic Affairs to the unit of archive appointed by MOE).

#### Article 5 Calculation of graduation grade

1. Graduation grade is the sum of degree defense grade and semester examination grade (both account for 50%).
2. Semester examination grade is the average of course scores, i.e.  
$$\sum(\text{course score} \times \text{course credits}) / \text{total credits}.$$
3. Degree defense grade is the thesis grade.

Article 6 The Regulation is based on the Article 2 of Regulation of NCTU. Regulations of graduate students' study should be reviewed in order by the Curriculum Committee of College and by Curriculum Committee of University, and then submitted to Academic Affairs Meetings for approval before practice.