

## Regulations for Undergraduate Program Study in the Department of Physics, National Taiwan Normal University

In accordance with the directions for degree awarding and related examinations at National Taiwan Normal University, the regulations were approved in the second departmental meeting of the 2019 academic year on January 8, 2020 and the faculty course committee meeting for the College of Science on March 19, 2020 and were then reviewed and approved in the meeting of the Academic Affairs Office on April 22, 2020. The compulsory courses were reviewed and approved in the meeting of the Academic Affairs Office of the 2020 academic year on April 28, 2021

### I. Chinese and English degree title

	Department (Chinese and English names)	Degree		Applicable to
		Chinese and English degree title	Abbreviation	
Bachelor	物理學系 Department of Physics	理學學士 Bachelor of Science	BS	Students admitted to the Department for the 2021 academic year
Notes				

### II. Regulations for undergraduate program study

Item	Regulations
(1)	Minimum number of credits for graduation: 128 Minimum number of credits for graduation: 140 (for international students and those from Hong Kong and Macao who hold a school diploma and have qualifications equivalent to the second year of senior high school in Taiwan)
(2)	Compulsory subjects: 32 credits (Appendix A)
(3)	Specialized subjects in the Department of Physics (75 credits) 1. Compulsory subjects in the department: at least 60 credits (Appendix B) 2. Electives in the department: at least 15 credits Electives in the department are limited to specialized subjects in physics (with course codes of PHU**** or PHC****), excluding PHU0253 (Fundamental Physics), PHU0254 (Experiments for Fundamental Physics), PHU0251 (general physics B (I)), and PHU0252 (general physics B (II)).
(4)	Electives: 21 credits
(5)	Service learning courses In accordance with the implementation directions for service learning courses, Elementary Service Learning is a compulsory course at the university (0 credits). Students must take at least one service learning course prior to graduation. According to the implementation

	<p>rules for service learning courses at the university, students who have taken an advanced service learning course, Service Learning (III), or Service Learning (II) and passed the assessment are exempt from taking Elementary Service Learning.</p>
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### Explanations

1. Credits that students obtain from other departments or universities (including compulsory subjects, electives, and general courses) may be counted toward graduation credits.
2. When a student repeats a course from which credits are earned, the credits can be counted toward graduation credits, and related academic performance is included in the calculation of the student's average performance. However, after credits are removed, the remaining credits the student has earned may not be less than the minimum number of credits required for graduation.
3. According to Regulation 17, international students and those from Hong Kong or Macao who have qualifications equivalent to the second year of senior high school in Taiwan, hold a school diploma, and are admitted to the Department of Physics must obtain 12 more graduation credits (from electives in the department) and obtain approval from the second departmental meeting of the department in the 2017 academic year on January 10, 2018.
4. The compulsory courses and minimum number of electives for students in the department are limited to specialized subjects and electives in physics taught by faculty in the department.
5. Prerequisite courses and practical training in the department are prescribed as follows:
  - (1) Students who pass General Physics A (I) or (II) may take Electromagnetism (I) and (II) and Modern Physics (I) and (II).
  - (2) Those who have not taken Teaching Methods for Physics may not take Teaching Practices in Physics (I) or (II).
  - (3) Students must take one of the following courses: Teaching Practices in Physics, Research Practices, Business Practices, or Overseas Practical Training, and they must pass the course to meet the requirements for graduation.
6. General courses provided by the department (except for Introduction to the University) are not counted toward graduation credits.
7. Undergraduate students must take courses equivalent to at least 16 credits but no more than 27 credits each year except for their final year, during which the students must take courses equivalent to at least 9 credits but no more than 27 credits. Students who extend their study period must take at least one course; however, for special cases with the departmental chair's approval, this limitation does not apply.
8. Students who intend to apply credits obtained from specialized teaching courses to their elective graduation credits must apply to relinquish eligibility to take the courses or partially relinquish credits for specialized teaching courses. If students take teaching courses again at the university, the credits for previous courses may not be counted. Credits obtained from specialized teaching courses and transferred for graduation credits may not be counted as credits for specialized teaching courses.

9. Undergraduate students in their third or fourth year may take courses offered by Master's programs; however, students must comply with the rules stipulated by the teachers responsible for the courses. Students may decide whether to take Master's-level courses during the course add and withdrawal period. Credits for Master's-level courses taken by undergraduate students may count as credits for electives in the department and for graduation. However, if students are later admitted into the Master's program, the credits cannot be counted toward their Master's study. If the credits are not counted as graduation credits for their Bachelor's degree, they can be counted toward their Master's study after students are admitted into the Master's program. Graduate students may apply for credit transfer and exemption according to the regulations for credit transfer and exemption at National Taiwan Normal University.

A. Compulsory courses for the university (effective from the 2021 academic year; approved in the second meeting of the Academic Affairs Office of the 2020 academic year, April 28, 2021)

Course type		Field/Subject	Credits
Basic courses		Chinese Reading and Thinking; Chinese Writing and Expression	4 credits (compulsory)
		English (I), (II), and (III)	6 credits (compulsory)
		Physical education	At least 4 credits (compulsory; counted toward graduation credits)
General education (at least 18 credits)	Arts and science	Humanities and arts	At least 2 credits
		Social sciences	At least 2 credits
		Natural sciences	At least 2 credits
		Logical computation	At least 2 credits
	Cross-domain exploration	Common courses	At least 4 credits
		Cross-domain courses	
		Introduction to the University	
	Independent learning	Special projects	No more than 4 credits (elective)
		Massive open online courses (MOOCs) (MOOCs, Coursera, Udacity, and edX at the university)	

Notes:

1. Students must take at least 18 credits of general courses. Students can earn 6 credits from arts and science courses, cross-domain exploratory courses, or independent learning courses in addition to earning at least 8 credits from arts and science courses and at least 4 credits from cross-domain exploratory courses.

2. Details of common and cross-domain courses can be found in the table of general course frameworks and the table of general courses for National Taiwan Normal University.

Courses indicated by “※” are offered to only undergraduate students from other departments, and credits obtained from these courses count as credits for general education.

B. Compulsory courses in the department

Course type	Subject	Course code	Credits	Subject	Course code	Credits	
Compulsory courses in the department	General Physics A (I)	PHU0249	3	Mathematical Physics (I)	PHU0011	3	
	General Physics A (II)	PHU0250	3	Mathematical Physics (II)	PHU0012	3	
	Experiments for General Physics (I)	PHU0224	1	Thermophysics	PHU0008	3	
	Experiments for General Physics (II)	PHU0225	1	Mechanics (I)	PHU0230	3	
	General Chemistry A (I)	CMU0176	3	Mechanics (II)	PHU0231	3	
	General Chemistry A (II)	CMU0177	3	Electromagnetism (I)	PHU0215	3	
	Experiments for General Chemistry (I)	CMU0131	1	Electromagnetism (II)	PHU0216	3	
	Experiments for General Chemistry (II)	CMU0132	1	Experimental Physics (I)	PHU0165	3	
	Calculus B (I)	MAU0180	3	Experimental Physics (II)	PHU0166	3	
	Calculus B (II)	MAU0181	3	Experimental Physics (III)	PHU0214	3	
	Computer Applications in Physics (I)	PHU0029	2	Modern Physics (I)	PHU0236	3	
				Modern Physics (II)	PHU0237	3	
	Total (60 credits required)						