簡介｜影音簡介

本系成立於民國五十四年，迄今已有一千九百位學士、一千二百位碩士及二百位博士畢業生，目前大學部學生二百九十位、碩士班研究生一百位及博士班研究生一百二十位。彈性的課程設計及學位、學程規劃給予學生寬廣的學習空間，歷屆畢業系友於學術界及工業界皆有極出色的表現。

師資

系上師資陣容堅強 ，現有專任教授三十六位(含天文所五位)，正文科技講座教授一位、榮譽講座教授五位及與中研院、同步輻射合聘教授十八位。研究領域遍及粒子物理與場、重力與天文物理、原子核物理、統計及數學物理、原子分子與光學物理、凝體物理、微波與離子體物理及應用物理。系內研究風氣蓬勃，歷年來獲國科會補助之物理專題研究計劃總金額爲全國第一；榮獲國科會傑出研究獎，教育部學術獎、中山學術獎、教育部講座教授、李遠哲傑出人才基金會講座、中央研究院院士和總統獎之比例亦爲全國最高。每位教授皆擔任導師，對學生的課業及日常生活給予適當輔導，並幫助解決問題。平均每八名學生即有一位導師，師生接觸及溝通之機會多，關係密切且融洽。

特點

物理系所自成立以來，一直是教學與研究並重，在教學方面，本系的特色是課程領域涵蓋廣泛，使大學部學生及研究生能充分地按照個人興趣學到各重要的課程，老師們授課也多以嚴謹著稱 。在研究方面，從基礎物理到應用物理的各種物理研究領域都有涵括。近年來「遠見」及「天下」雜誌對國內物理系作過一系列教學與研究評鑑，本系均名列榜首。

國科會物理研究推動中心於 1965 年設立於清華大學物理系，主要任務爲負責全國物理研究之策劃及推動工作，並成立物理推動中心圖書館，提供完善圖書服務，爲全國物理學界利用。

國家理論科學研究中心於民國八十六年成立於清大，許多教授與研究生積極參與並協助中心之學術活動與交流，促進優良研究風氣，主導國內理論物理研究。

高等理論天文物理研究中心(TIARA) 於民國九十三年設置於清大，成爲世界級天文研究重鎮。

分組

大學部學生分爲物理組與光電物理組，而研究所碩士班學生則分物理組、應用物理組及光電物理組。

課程

物理系在課程設計上，一、二年級課程多屬必修，其中普通物理、普通物理實驗、理論力學、電磁學及實驗物理課程是作爲其他專門課程的知織基礎。三年級起，除量子物理、熱統計物理一及近代物理實驗外，所有課程皆爲選修。物理組畢業學分爲 128 學分、光電物理組畢業學生爲 130 學分，成績優異的學生可以提前在三年內畢業，本系亦設有光電物理、材料物理、計算物理、精算物理及生物物理五個學程，引導學生如何走入應用科學領域，也可經由甄試直升本系碩士班。由於選課極具彈性，導師會針對學生的志趣及過去修課情形，指導學生於本系內或他系的課程中作最佳選擇，以期對畢業後的發展有所助益。

雙學位、輔系

學生成績者達標準，可依規定申請修讀雙學位或輔系，自本辦法實施以來，本系畢業學生已有二十一人獲得數學、資訊或電機之第二學位，四十七人達成以數學、生命科學、電機、材料或經濟爲輔系之標準。

教育學程

學生若於畢業學分外，另修完教育學程二十六學分，且符合實習等其他條件者，可具備中學教師任用資格。

系館

系館爲七層樓高之建築，總面積約三千八百坪。具備完善的多種教學及研究實驗室、軟硬體設備充足的視聽教室、自修室、物理圖書館及計算機室。

視聽教室及專題演講

現代化的物理館大樓內，有兩間專供演講及上課使用的視聽教室，各有一百三十個座位及先進的視聽設備，大爲提升學習的效率，本系並經常邀請國內外著名學者於此演講。

圖書館

除本校總圖書館擁有豐富之典藏外，本系系內另有國科會物理中心設立之圖書館，此館占地兩百一十坪，現有國內外期刊一百八十種，藏書一萬六千冊，採開架式管理，爲全國最完善的物理圖書館。

計算機室

本系設有計算機室，擁有工作站多部，桌上型 個人電腦多部，所有工作站及個人電腦皆可連上網路。

自修室

本系特爲大學部同學設立二十四小時開放的K書房，有六十多個桌位，一百多個私人專用儲書櫃，及完善的照明及空調設備，提供同學充實自己的最佳場所。

畢業後展望

物理是門可應用於各種科學或工程的基礎學問，同時在學習物理的過程中更對思考、推理和解決問題的能力提供絕佳的訓練，因此本系畢業的學生在完善的師資與設備下所奠定的基礎，不僅能繼續在物理、材料、原子科學、電機或生命科學等學術研究領域上作進一步的深造、亦在半導體製造、電子、光電、儀器、資訊等工業有寬廣的發展天地。歷年來畢業的系友，無論於學術界或工業界多有傑出表現，已廣被國內外著名大學聘請爲教授及產業機構延攬爲經理級及研發部門之負責人。

Introduction

The Department of Physics was established in 1965. Since then more than 1,900 Bachelors, 1200 Masters, and 200 Ph.D's have been graduated. Currently, the department has about 290 university, 100 Masters, and 120 Ph.D students. We provide flexible curricula and various streams to facilitate and widen students' choice and aspects of learning. Our graduates perform excellently in academics as well as in the industry.

Faculty

Our faculty is one of the strongest in Taiwan. Currently, we have 36 professors (including full, associate, and assistant), 5 of which is in the Institute of Astronomy. Among the regular faculty we have 1 Cheng-Wen Chair professor, 5 NTHU Natural Science Chair professors. We also have 18 Adjunct professors from Academia Sinica, the National Synchrotron Center. Research areas include particle physics and fields, gravitation and astrophysics, nuclear physics, statistical and mathematical physics, atomic, molecular and optical physics, condensed matters, microwave and plasma physics.

The research atmosphere is very strong. We have been blessed with the largest funding for research projects from the National Science Council. The number of faculty-times of various academic awards is also the highest in Taiwan, including the NSC Outstanding Research Award, Ministry of Education Academic Excellence Award, Chong-Sun Academic Award, Ministry of Education National Chair Professorship, Lee Yun-Chi Outstanding National Chair Professorship, Fellows of Academic Sinica, and Presidential Award. Each professor is also a mentor for students, taking care of their needs in school work and problems in their daily life. On the average, each mentor has about 8 students, so that the opportunity of interactions among students and teachers is abundant.

Features

Ever since the department was established we have emphasized both teaching and research. On the aspects of teaching our curricula covers on broad areas in physics such that both the university and graduate students can choose, according to their own interests, various important subjects in physics. We are well known for being vigorous in teaching. Among the aspects of research our department covers from fundamental theory to applied sciences, from

condensed matter to cosmology, from the smallest to the biggest. In recent years, "XX" and "YY" has placed NTHU Department of Physics the first in a series of teaching and research evaluation.

The Physics Research Promotion Center sponsored by the National ,Science Council was established in NTHU in 1965. The main mission is for the planning and promotion of physics research in the whole nation. The Promotion Center Library was also established, which the most complete collections of books and journals for the whole physics community in Taiwan.

The National Center for Theoretical Sciences was also founded in 1997 and established at NTHU and NCTU. The Physics Division is located in the Physics Building of the department such many professors and students can participate and organize many center activities. Good foundation of exchanging ideas and interactions has significantly improved the research environment and is now taking a leading role in the national theoretical research in various areas.

The Taiwan Institute of Advanced Research in Astrophysics (TIARA) was established in NTHU in 2004, which hopes to be one of the world-class research institute in astronomy.

Divisions

The undergraduates in our department are classified into two divisions: physics and photoelectric divisions, while the Master students are classified into physics, applied physics, and photoelectric divisions.

Curricula

In the design of the curricula in the department, the first two years contain most of the mandatory subjects, including general physics, general physics laboratory, mechanics, electromagnetism, experimental physics. These are the fundamentals for more advanced subjects. In the third year, other than quantum physics, thermal physics and modern physics, all the other classes are elective. A student is required to take at least 130 credits to graduate. The best students should be able to finish in three years. Our department also has special curricula for students intending for applied sciences such photo-electrics, material sciences, computational physics, and biophysics. Students can be admitted to the graduate school after they passed the examination. Since the curricula is quite flexible, the teachers will advise the students, according to their interests and the past grades, to choose the best stream for the students, which is very beneficial for their future after graduation.

Double Majors, Minors

When the students fulfill certain level, they can apply for a double major or a minor. Since the method was introduced, more than 21 graduates have the second major in either mathematics, computer sciences, or electric engineering, and more than 47 have obtained a minor in mathematics, biological sciences, electrical engineering, material sciences, or economics.

Teachers curriculum

If the student satisfies, in addition to all the graduate credits, 26 credits in teachers' education and fulfill other requirements in practice, he/she will be qualified as a secondary school teacher.

Physics Building

The physics building is a seven-story building of about 3,800 "pings" (1 "pings" is about 3.5 sq. meters). We have various well-equipped classrooms and laboratories, audio-video classrooms with well-equipped hardwares and softwares, self-study rooms, a library, and a computer room.

Audio-Video classroom and Colloquium

In the modernized Physics Building, there are two audio-video classrooms for lectures and special needs in teaching. Each one has 130 seats and advanced audio-video equipments, which substantially raise the efficiency in teaching. Our physics often invites well-known scholars from local and abroad to give lectures in these two rooms, e.g., the Honor Chair professor Ta-You Wu hold a lecture series of fundamental physics on each Friday in these rooms.

Library

Besides the excellent collections in the Main Library, our department also includes a departmental library set up by the Physics Research Promotion Center. The Physics Library occupies a space of 210 "pings" and has more than 180 journals from aboard and Taiwan, and 16,000 books. This is the largest physics library in the nation.

Computer Room

The computer room has 14 workstations, a number of personal computers, which are all connected to the internet.

Student Study Room

The department has set up a special "K" room for undergraduate students, which opens 24 hours a day. It has more than 60 desks and 100 lockers with sufficient lighting and air-conditioned.

The future after graduation

Physics is the subject of fundamental sciences that can be applied to various sciences and engineering. At the same time, physics provides excellent training in ability in critical thinking, deduction, and problem solving. Therefore, our physics graduates are well equipped under the excellent teaching and research environment. Not only can they continue their studies in physics, material sciences, atomic sciences, electrical engineering or biological sciences, but also have broad development in various industries like semi-conductor manufacturing, electronics, photo-electrics, instruments, or computer sciences. Our alumni has very well performance in both academics and in industry. A lot of them have been the professors or management directors and research and development managers in industries.