

Department of Electrophysics

Introduction

The Department of Applied Physics was founded in 2000, and was renamed as the Department of Electrophysics in 2010. Since the development of science and technology is closely related with the principles of physics, the education of this department is based on the fundamental training of physics, and also includes the optoelectronic and the semiconductor programs which are used to strengthen the overall understanding of the applied physics. We have also established the graduate program of the optoelectronics and solid state electronics since 2003. The mission of this institute is to train people to have the research ability that is necessary for the rapid development of science and technology, and is to support the optoelectronic and the semiconductor industries around the world. We train the students to have the ability of analysis and the skills of experiments such that they can become the main support for the academic and the industrial worlds in the future.

Curriculum Planning

The education offered by this department not only focuses on the traditional physics training, but also includes the courses of electronics, electronics experiment, experimental physics, experimental physics techniques, and so on. This arrangement will enable the students to combine the theoretical courses with the experimental courses. When the students are in the third grade, they must choose appropriate programs according to their own interests and make further course planning in coordination with the special topic courses lectured by the teachers. Development policies and characteristics: The mission of this department is to train students to have the research ability that is necessary for the rapid development of science and technology, and to support the optoelectronics and the semiconductor industries in Taiwan. Course objectives: (1) Training for intelligence and ability of fundamental physics. (2) Training for intelligence and ability of fundamental optoelectronic science. (3) Training for intelligence and ability of fundamental semiconductor electronics.

Faculty

Most of our faculty members are Ph.D. holders from renowned universities. Department currently has 14 full-time faculty members, all have excellent enthusiasm on both teaching and research. Their expertise covered all the optoelectronics and solid state electronics fields. Department will keep recruiting outstanding researchers and scholars to join our growing program.

The research teams of the department are divided into three categories:

- (A) Optoelectronics Science: Liquid Crystal Optics, Nonlinear Optics, Optical Thin Film, Optical Design, Optoelectronic Device, Fiber Optics, Laser Physics, Biomedical Optics, Solar Cell.
- (B) Solid State Physics: Quantum Device, Surface and Interface Physics, Magnetic Thin Film, Nano Physics, Spintronics.
- (C) Semiconductor: Semiconductor Thin Film, Semiconductor Processing and Device Simulation, TFT Processing and Design.

Facility

The department is located at two modern buildings, including four teaching laboratories for undergraduate courses and individual laboratories for faculties. In addition, four more newly modeled teaching laboratories at the common teaching building near the library are now established for freshman general physics labs. The equipment in our teaching laboratory are more than adequate for undergraduate program. Instruments like, mechanics, waves & sound, light & optics, and simple electric circuits are provided for undergraduate students. All students are able to access these equipments under proper guidance.

Other research equipment, Molecular Beam Epitaxy, magneto-optical effect, Pulsed Laser Deposition, Photoluminescence Spectroscopes, Variable-Temperature Scanning Tunneling Microscope, Atomic Force Microscope, these facilities render our colorful training programs and vigorous research endeavors possible and prosperous.



Future Map

The graduates can engage in the related industries of optoelectronics and semiconductor. They also can pursue the advanced study in the graduate school of physics, optoelectronics, electronic engineering, electric engineering, and materials engineering.

More Infomations

Department welcomes all the students and junior lectures who are interested in pursuing the higher degrees to join the M.S. program. Department home page: https://www.ncyu.edu.tw/phys_en/
<https://admissions.ncyu.edu.tw/fsc/indexfsc.aspx>.

