Study Semiconductor in Taiwan

Compiled by Taipei Representative Office in Singapore
Date: November 2025

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CONTENTS

■ Programmes and Scholarship information

TW Semiconductor Talent
Cultivation for SG
WhatsApp group

Join the community "TW Semiconductor Talent Cultivation for SG" on WhatsApp to receive information of Taiwan semicoductor talent cultivation.

You may join the channel by clicking the following link or scanning the QR-code on the right side.

Short url: https://ppt.cc/ftno4x

■ General Information on Taiwan's Government Scholarship

Taiwan scholarship offered by the Ministry of Education will be prioritized to students who apply for semiconductor related departments or programmes.

Here is the detail:
- ✧ Duration: Undergraduate (Max. 4 years),
  Master's Degree (Max. 2 years),
  Ph.D. (Max. 4 years)
- ✧ Tuition and miscellaneous expenses up to NT$ 40,000 (US$ 1,284)
- ✧ Monthly stipend:
  NT$ 15,000 (US$ 482) for undergraduate
  NT$ 20,000 (US$ 642) for master's or Ph.D.
- ✧ Application timeline: from 1 February to 31 March
- ✧ More Information
  http://taiwanscholarship.moe.gov.tw

Note:

🖉 Taiwan's Education System

In Taiwan, students can pursue higher learning at two-year and four-year colleges, and universities. University undergraduate programmes usually require 4 years of study; graduate programmes leading to a master's degree require 1 to 4 years; and doctorate programmes

require 5 to 7 years. Some programmes require an internship that can be as short as one or two months or as long as two years.

For most institutions of higher education, the academic year begins in August or September and ends in August the following year. The academic year has two semesters: the first semester is from August to early the following year, usually January (depending on the date of Lunar New Year), and the second semester usually begins in February, and ends in July.

Expense to Study in Taiwan

Taiwan is well-known as a country where you can enjoy high quality education and modern living at affordable costs. Typical costs for studying in Taiwan are set out below:

Tuition and miscellaneous academic fees	Meals	Accommodation
Universities: around US$ 1,929 - US$ 3,612 per academic year	Around US$ 180 - US$ 270 per month	On campus: around US$ 35 - US$ 100 per month
Technological Universities & Colleges: around US$ 1,615 - US$ 3,249 per academic year		Off campus: around US$ 200 - US$ 600 per month (not including utilities)

■ Reasons for Singaporean Students to Study Semiconductor in Taiwan

1. Advanced Technology with Industrial-Academic Cooperation

Under the rapid changes in the international situation and environment in recent years, the cutting-edge technology industry has become the focus of development in many countries around the world. The electronics and information communication industries based on semiconductor technology are the foundation for future technological breakthroughs and sustainable development of civilization. With the input of a large number of domestic science and technology professionals,

Semiconductor Industry Clusters in Taiwan

Yilan Science Park
Longtan Science Park
Hsinchu Biomedical Science Park
Hsinchu Science Park
Chunan Science Park
Tongluo Science Park
Houli Science Park
Taichung Science Park
Erlin Science Park
Chung-Hsin New Village Higher Level Research Park
Huwei Area
Tainan Area
Kaohsiung Area

187 IC Manufacturers in Hsinchu Science Park

12 IC Manufacturers in Taichung Science Park

35 IC Manufacturers in Southern Taiwan Science Park

● In operation
○ Under development or planning

Note: Only the numbers of semiconductor manufacturers located in the three major science parks are shown.
Source: Compiled the data from the Science Park Administration.

the semiconductor industry is constantly booming in Taiwan. The semiconductor industry has become one of the most important economic pillars of Taiwan, which leads the world's most advanced semiconductor technology and becomes the world's high-end chip manufacturer.

Taiwan owns the most complete supply chain of semiconductor products, for example, TSMC is the world-famous in semiconductor manufacturing. The universities in Taiwan have the most complete semiconductor course list, which leads to comprehensive education and training of semiconductor skills.

Taiwan's semiconductor industry holds a dominant position in the global semiconductor market, thanks to its technological leadership, vertical integration capabilities, outstanding manufacturing capacity, robust supply chain, and extensive international cooperation network. In particular, Taiwan's semiconductor foundry, and packaging and testing industries consistently maintain the top position in the global market, demonstrating the significant influence of Taiwan's semiconductor industry on the global market.

Taiwan's semiconductor industry has leading technology, excellent manufacturing capabilities, and the ability to vertically integrate upstream, midstream and downstream supply chains, so it occupies a dominant position in the global semiconductor market. Taiwan is known for its high-tech industry, and its semiconductor industry is a significant contributor to the country's economy. Taiwan has a strong focus on research and development, and there are many research institutions and labs dedicated to semiconductor. Taiwan is also the home to many of the world's leading semiconductor companies, such as TSMC, UMC, MediaTek, and so on.

Taiwan is a pivotal hub in the semiconductor industry, boasting a comprehensive supply chain that covers the upstream, midstream, and downstream sectors. This well-established ecosystem makes Taiwan an attractive destination for international talent seeking to gain valuable experience in the semiconductor field.

The global semiconductor market is projected to surpass US$ 1 trillion by 2030, driven by the increasing demand for technologies such as AI, IoT, 5G, EV, and high-efficiency components. However, Global semiconductor industry is currently facing a significant talent imbalance.

To address this significant workforce gap in the semiconductor industry, semiconductor manufacturers must focus on strengthening ties with academia to cultivate a greater number of semiconductor technology talents. Collaborative efforts between industry and academia should be pursued to enhance competitiveness in terms of faculty, academic programmes, and industry-university partnerships. By doing so, the next generation of high-level R&D experts and multinational leaders can be nurtured, creating a mutually beneficial environment for talent, enterprises, and academia. This concerted approach will ultimately enhance the supply of skilled workers and improve the overall competitiveness of the semiconductor industry.

2. Affordable Tuition and Enormous Scholarships

Taiwan's universities offer top-quality education in semiconductor while their tuition is inexpensive and affordable. Generally speaking, tuition for undergraduate programme is around US$ 1,800 per semester or US$ 3,600 a year while tuition for graduate programme is around US$ 2,000 per semester or US$ 4,000 a year.

In addition, Taiwan's government and universities provide various scholarships to attract global excellent students, including Ministry of Education (MOE) Taiwan Scholarship Programme.

3. Improving Chinese Skills / Learning Chinese

Living and studying is the best way to learn Chinese, as you will constantly be experiencing it in daily life. If you study in Taiwan, semiconductor in particular, you are empowered with advanced skills and learn Chinese, or maintain your Chinese proficiency at the same time

4. Democracy and Freedom

Taiwan is rated 1st in Asia and 10th globally among the 167 countries and territories in the Democracy Index 2023 released by London-based the Economist Intelligence Unit. According to the 2024 Freedom in the World Report made by Freedom House, 83 of 195 nations around the world were classified as free. Taiwan was amongst these free nations, receiving a score of 94 out of 100 and scored especially high in the areas of political rights and civil liberties, second to Japan in Asia. Reporters without Borders' 2024 World Press Freedom Index Report ranked Taiwanese press freedom No. 4 in Asia-Pacific. The Taiwanese government continues to promote freedom of speech as the driving force of Taiwanese democratic transformation, which is the critical foundation for academic research and innovation.

5. Most Welcoming Country with Top-Quality Life for Expats

According to the Expat Insider of the Inter-Nations, one of the world's largest and most comprehensive surveys on life abroad, Taiwan is one of the most welcoming countries with the best quality of life for expats. For instance, in 2023, 12,000 expats living in 172 countries or territories took part in the survey. Out of 53 destinations that meet the minimum requirement of sample size of 50 respondents, Taiwan ranks No. 5. In particular, Taiwan ranks No. 2 for quality of life, No. 3 for travel and transport, No. 1 for health and well-being, and No. 8 for safety and security.

6. Stay Healthy and Happy -- Various Outdoor Activities and Affordable Medical Expense

Loving outdoor activities? Taiwan, mountainous while surrounded by sea, offers various mountain and water sports. For most places, it can only take 2 hours to reach mountain or sea.

According to a documentary film of the National Geographic channel, Taiwan's medical service is ranked as No. 3, next to the USA and Germany. According to the Numbeo Health Care Index by country 2024 mid-year, Taiwan has retained the top spot for successive six years. In addition, Taiwan is highly praised for its outstanding National Health Insurance System. Overseas students have the access to the insurance scheme and can visit any specialist in Taiwan if needed.

■ Semiconductor Talent Cultivation Programmes in Taiwan

Taiwan has several universities that are renowned for their semiconductor-related programmes. Here are eight selected ones: (listed in alphabetic order with public university first)

(1) National Cheng Kung University (NCKU)
(2) National Sun Yat-sen University (NSYSU)
(3) National Taipei University of Technology (NTUT)
(4) National Taiwan University (NTU)
(5) National Taiwan University of Science and Technology (Taiwan Tech)
(6) National Tsing Hua University (NTHU)
(7) National Yang Ming Chiao Tung University (NYCU)
(8) Lunghwa University of Science and Technology (LHU)
(9) Minghsin University of Science and Technology (MUST)

■ Consultation information

University	Contact
National Cheng Kung University (NCKU)	**AISSM Facebook**: https://www.facebook.com/ncku.ais2m/ **AISSM Website**: https://ais2m.ncku.edu.tw/ **AISSM EMAIL**: ncku_ais2m@mail.ncku.edu.tw Contact (Office of Academic and Student Affairs): 　1. Deputy Director, Ms. Weili Teng, wlteng@ncku.edu.tw 　2. Project Officer, Chih-Ching Liu (Kacie), kacieliu@gs.ncku.edu.tw **OIA Facebook**: https://www.facebook.com/funatncku/?epa=SEARCH_BOX **OIA Website**: https://oia.ncku.edu.tw/?Lang=en **OIA EMAIL**: 　(1) Admission Application (reserved for International Students): 　　overseas@ncku.edu.tw 　(2) Overseas Recruitment and Admission (Official Email): 　　em50951@email.ncku.edu.tw

National Sun Yat-Sen University (NSYSU)	NSYSU website: https://www.nsysu.edu.tw/?Lang=en NSYSU Facebook: https://www.facebook.com/www.nsysu.edu.tw Office of Admission Strategy: Office Email: nsysu-shss@mail.nsysu.edu.tw Office Tel: +886-7-5252000 #2149 Office of International Affairs: (1) +886-7-5252634 (for Partnership/Exchange) (2) +886-7-5252632 (for Degree Programs)
National Taipei University of Technology (NTUT)	Professor TAN-HSU TAN thtan@ntut.edu.tw
National Taiwan University (NTU)	⊘ No. 1, Section 4, Roosevelt Road, Taipei 106319, Taiwan ✉ NTU email: intadmission@ntu.edu.tw ☏ +886-2-3366 2007
National Taiwan University of Science and Technology (Taiwan Tech)	https://www.ntust.edu.tw/ https://innc.ntust.edu.tw/ College of Industry-Academia Innovation (INNC) Phone: +886-2-27301163 Email: innc@mail.ntust.edu.tw https://www.youtube.com/watch?v=-NdLjVFagdc
National Tsing Hua University (NTHU)	Email: drs@my.nthu.edu.tw Phone: +886-3-5162464 Address: No. 101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan
National Yang Ming Chiao Tung University (NYCU)	**National Yang Ming Chiao Tung University** https://en.nycu.edu.tw **NYCU Facebook** https://www.facebook.com/YangMingChiaoTung **NYCU Email** sec@nycu.edu.tw **NYCU Instagram** https://www.instagram.com/yangmingchiaotung/ **NYCU Youtube** https://www.youtube.com/channel/UCzMQXhrCiDHdnEOQfasVA7g/featured **NYCU Linkedin** https://www.linkedin.com/school/nycu/ **NYCU Twitter** https://twitter.com/i/flow/login?redirect_after_login=%2FNYCU_official

	College of Electrical and Computer Engineering (ECE) https://ece.nycu.edu.tw/eng/latestevent/index.aspx?Parser=9,11,98,90 Contact ECE jmhsu@nycu.edu.tw Nano Facility Center https://nanofc2.web.nycu.edu.tw Contact Nano Facility Center nanofc@nycu.edu.tw
Lunghwa University of Science and Technology (LHU)	LHU Department of Electrical Engineering Email: ee@mail.lhu.edu.tw
Minghsin University of Science and Technology (MUST)	Dr Ruoh-Huei Liarng Email: liarng@must.edu.tw Telegram MUST's Technician Cultivation in the Semiconductor Industry https://t.me/MUST_Telegram

■ National Cheng Kung University (NCKU)

➢ Why NCKU?

Studying at NCKU offers advantages such as the university's reputable standing in a comprehensive environment. NCKU's Academy of Innovative Semiconductor and Sustainable Manufacturing is the first to launch at a university to address the nation's high-tech talent constraints and the imperative for advancing semiconductor technology during the AI era based on the National Cheng Kung University's well-established re-search foundation in science and engineering; The Academy is also the only one that has the advantage of cooperating with non-semiconductor manufacturers and provide the opportunity to be part of Taiwan's semiconductor hub in Southern Taiwan Science Park (STSP).

RANKING & PERFORMANCE

#25 Worldwide

2024 Impact Ranking
in Taiwan **Top One**

ESI, Engineering
- **#1 Taiwan**

#215
2024 QS World Ranking
#41 in Asia

- **NCKU ranked first in the Global Vision Magazine Survey (2025) on Best University for Employability in Taiwan, 11 years in a row.**

With more than 220,000 living alumni, NCKU graduates have reached various notable and influential positions in business, politics, and academics. NCKU has been affiliated with 1 Nobel laureate, 15 Academia Sinica academicians, and many CEOs of listed companies in Taiwan and around the world.

Has a total of more than 20,000 students, 1853 international students and boasts a diverse faculty with 115 international faculty members. The majority of these interna-tional students hail predominantly from South East Asia.
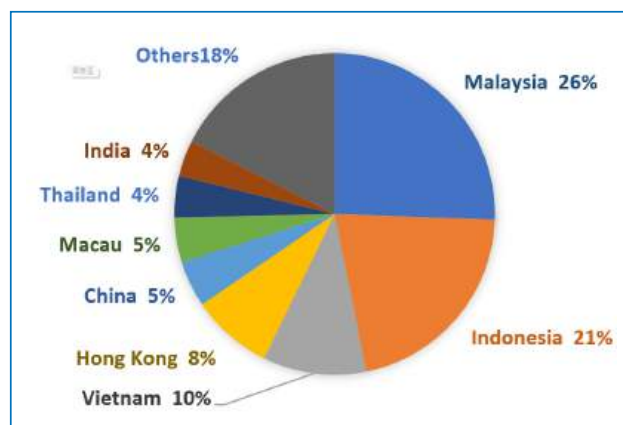
➢ **What semiconductor talents cultivation program does NCKU have?**

∧ISП
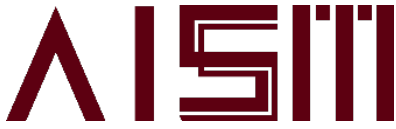
NCKU has excelled in the Higher Education Impacts Ranking 2022 and launched the first semiconductor academy purposed-built with the support of industry and the government in top Taiwanese universities in 2021.

*The Academy offers 70 courses in English. Some programs have sufficient courses offered in English for students to satisfy graduation requirements. Nevertheless, the students can take courses from other departments in NCKU related to their speciali-zations, it also can be recognized as graduation credits according to each program's reg-ulation.

5 MS and PhD programs in Critical Technology equipped with core competences in Artificial Intelligence and Sustainability

Integrated Circuit Design

Semiconductor Manufacturing Technology

Semiconductor Packaging and Testing

Key Materials

Smart and Sustainable Manufacturing

CORE COMPETENCE	
AI-centric: AI / Big Data / Cloud Computing	
Subject	Course Title
Artificial Intelligence (must choose one)	Introduction to Artificial Intelligence Big Data and Cloud ComputingIntelligent Manufacturing Systems
Energy-driven:Smart Manufacturing / Energy Efficient / Carbon Net Zero	
Subject	Course Title
Sustainability (must choose one)	Introduction to Sustainable Energy Materials And Devices For Sustainable Energy

183 Faculty Members

246 Enrolled Students (20% doctoral; 80% master)

100+ Academia-Industry Projects with 18 Industry Partners (In alphabetic order)

Advanced Semiconductor Engineering Inc. (ASE)
Product/Service - semiconductor assembly, testing & packaging

China Petrochemical Development Corporation (CPDC)
Product/Service - specialty chemicals; polymerization; engineering plastic

China Steel Corporation (CSC)
Product/Service - steel plates; steel Bar and wire rods; hot-rolled coils & sheets; cold-rolled coils

Delta Electronics
Product/Service - power electronics; automation; ICT, energy infrastructure

Diodes Incorporated
Product/Service - application specific standard products within the broad discrete, logic, and analog semiconductor markets

Himax Technologies
Product/Service - integrated circuits

LARGAN Precision Co.,Ltd.
Product/Service - opto-mechanics, lens assembly, precision optical lens

LCY Chemical Corp.
Product/Service - petrochemical products

Macronix
Product/Service - serial NOR flash; parallel NOR flash; octabus memory; wide range vcc flash

Novatek Microelectronics Corp
Product/Service - display driver IC; SoC

Powerchip Semiconductor Manufacturing Corp. (PSMC)
Product/Service - DRAM, flash memory, foundry services

TAYA Group
Product/Service - energy & telecom cable; magnet wire; investment and copper management; construction

Transcom, Inc.
Product/Service - PA MMIC; FET transistor; amplifier, SSPA

TSMC
Product/Service - semiconductor contract manufacturing and design

United Microelectronics Corporation (UMC)
Product/Service - semiconductor foundry

WIN Semiconductors
Product/Service - GaAs MMIC

Windbond
Product/Service - mobile DRAM; specialty DRAM; flash memory

YAGEO
Product/Service - passive component

Industry Partners Link:

- **Program on Integrated Circuit Design**

Supported with the professional and well-experienced teachers, this program on integrated circuit design, which emphasizes the perspective of "issues in the industry and problem-solving in the school," will provide the students various kinds of IC design courses to breed their basic capability and advanced skills for the IC chip designs.

The courses we will offer include Smart Security Internet of Things / Artificial In-telligence, Bio-medical/Bio-Sensing, Memory Integrated Circuits Design / Computing in Memory, Advanced Mix-signal IC Designs, RF Communications / mm-Wave Sensor Technologies etc..

We hope what the students will learn can be well joined to the industry and we al-so hope to cultivate the knowledge for the students, in both the Master and PhD degrees, to meet the needs of the industry.

- **Program on Semiconductor Manufacturing Technology**

This industry-sponsored program cultivates students' professional capability in the areas of semiconductor devices and process technology. The curriculum is jointly planned and offered by the industry experts. The students should learn the most practi-cal and state-of-the-art skills in dealing with the device miniaturization and power scal-ing for future technology nodes. The program conducts extensive research into the de-sign and technology development of nano-electronic and photonics devices, green elec-tronic devices, and semiconductor sensors.

- **Program on Semiconductor Packaging and Testing**

Semiconductor packaging and testing is the key to manufacturing a fully function-alized and durable electronic device. Our program integrates the relevant courses of-fered at National Cheng Kung University, Taiwan and cooperates with the industry to achieve the goal of cultivating semiconductor packaging and testing professionals. The curriculum covers the three major areas: packaging processes, packaging and testing smart manufacturing, and packaging and testing materials. Industrial professionals are also hired to offer practical courses so that students have both academic foundations and practical experience. In terms of thesis research, it is implemented based on the concept of industry proposition and academic problem-solving. Graduates from this program are expected to have a higher priority in recruitment in related industries after graduation.
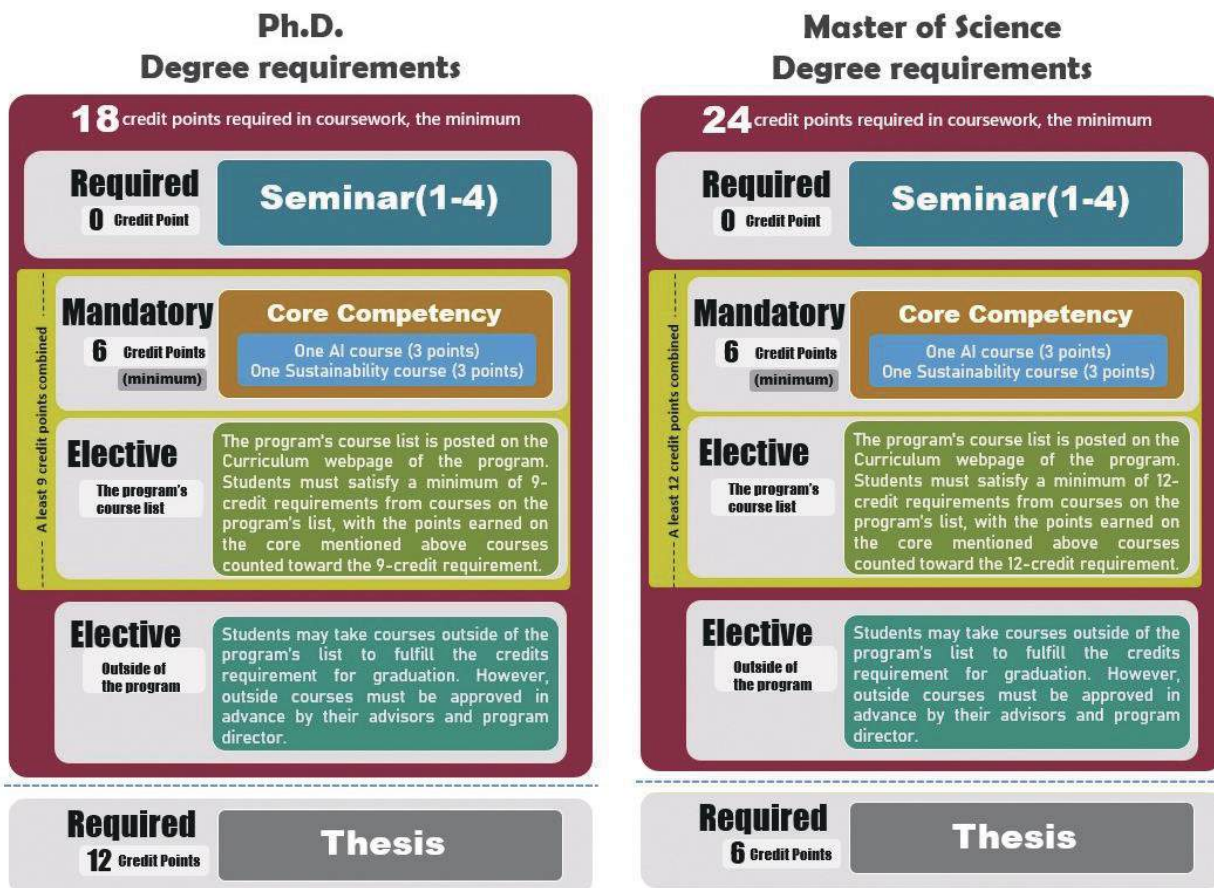
- **Program on Key Materials**

The program on key materials offers material-related courses and research topics, targeting on two categories of advanced materials. The first is the semiconducting mate-rials including the

start-of-the-art technology in the wide-band gap semiconductors as well as the emergent two-dimensional materials. The second is the so-called functional materials which contain the novel materials with promising potential for the application in various fields such as the clean energy, memory, devices, catalysis, sensing, and quantum computing.

- ● **Program on Smart and Sustainable Manufacturing**

With the emerging challenge of climate changes, sustainable manufacturing tech-nologies are required for enterprises to achieve the goal of carbon neutrality. The pro-gram on Smart and Sustainable Manufacturing welcomes students with engineering or scientific backgrounds who are interested in advanced high-efficient manufacturing technologies, e.g., simulation-assisted process design, additive manufacturing, and arti-ficial intelligence, as well as sustainable manufacturing technologies, e.g., hydro-gen-based metallurgy, CO_2 capture, usage and storage, and circular economics.

➢ Degree Requirements

Ph.D. Degree requirements

18 credit points required in coursework, the minimum

Required **0** Credit Point — **Seminar(1-4)**

A least 9 credit points combined

Mandatory **6** Credit Points (minimum) — **Core Competency** — One AI course (3 points) / One Sustainability course (3 points)

Elective The program's course list — The program's course list is posted on the Curriculum webpage of the program. Students must satisfy a minimum of 9-credit requirements from courses on the program's list, with the points earned on the core mentioned above courses counted toward the 9-credit requirement.

Elective Outside of the program — Students may take courses outside of the program's list to fulfill the credits requirement for graduation. However, outside courses must be approved in advance by their advisors and program director.

Required **12** Credit Points — **Thesis**

Master of Science Degree requirements

24 credit points required in coursework, the minimum

Required **0** Credit Point — **Seminar(1-4)**

A least 12 credit points combined

Mandatory **6** Credit Points (minimum) — **Core Competency** — One AI course (3 points) / One Sustainability course (3 points)

Elective The program's course list — The program's course list is posted on the Curriculum webpage of the program. Students must satisfy a minimum of 12-credit requirements from courses on the program's list, with the points earned on the core mentioned above courses counted toward the 12-credit requirement.

Elective Outside of the program — Students may take courses outside of the program's list to fulfill the credits requirement for graduation. However, outside courses must be approved in advance by their advisors and program director.

Required **6** Credit Points — **Thesis**

➤ Application Information

Foreign Students

National Cheng Kung University foreign students admission application schedule		
quarter class	fall class	spring class
Application period	Mid-January ~ March 30	Early July ~ September 30
Application for Admission Deadline	March 30	September 30
Announcement of Admission List & Scholarship Information	May 30	November 15
Send review results and admission notice	June 20	December 05

Exchange Students

1. Nomination by sister school	Autumn semes-ter (September-January) admission, The deadline for nomi-nations is **April 1**. For spring semes-ter (February-June) en-rollment, The deadline for nomi-nations is **October 1**.	Kindly invite the teachers of the sister school to fill in the online nomination form (website will be sent separately) and submit the nomination list of your school. According to the nomination list and the number of exchange stu-dents agreed upon in the contract be-tween the two schools, our school will receive the application and review it.
2. Online appli-cation for ex-change stu-dents	Autumn semes-ter (September-January) admission , The application deadline is **April 10**. For spring semes-ter (February-June) en-rollment , The application deadline is **October 15**.	Nominated students should prepare all the necessary documents before the application deadline and upload them to the NCKU Exchange Student Online Application System. Go to the homepage and register a new account with your usual email address to start the application process. (Non-nominated students) Self-funded students please email to em50961@email.ncku.edu.tw first.
3. Review and admission	4-6 weeks after the application deadline for each period, the de-partment can complete the review. The admission result will be notified by email. After the student confirms the enrollment, the admission documents and registration information will be sent separately.	

※Partner universities in Singapore: National University of Singapore, Nanyang Techno-logical, University, Singapore Management University, and Singapore University of Technology and Design.

➢ **Scholarship information**

Master's students
◆ Monthly Stipend: ~USD 490 for 12 months per year
◆ Duration: up to two years
◆ Awardees are selected during ap-plication for admission.
◆ An annual evaluation on the awardee's academic achievement applies to be qualified for continu-ation in the second year.

PhD students
◆ Monthly Stipend:~USD 920 for 12 months per year
◆ Duration: up to four years
◆ Awardees are selected during ap-plication for admission.
◆ An annual evaluation on the awardee's academic achievement applies to be qualified for con-tinuation in the later years.

* For Overseas Chinese students, they can also apply for the scholarship from the Office of International Affairs

■ National Sun Yat-Sen University (NSYSU)

➢ Why NSYSU?

Established in 1980 in Kaohsiung, National Sun Yat-sen University (NSYSU) is a top comprehensive research university in Taiwan, with 10 colleges offering 27 undergraduate, 55 master's, and 36 PhD programmes. Key research areas include aerosol science, business data analysis, crystal growth, ocean current power generation, 6G, cybersecurity, and underwater vehicles. With its outstanding research performances, NSYSU has become a top research-oriented university with a balanced emphasis on both humanities and technology.

★ **World Rankings**: 60 NSYSU Scholars recognized in 2025 World's Top 2% Scientists;
THE World University Rankings 2025— 601-800th
QS World University Rankings 2026 — #**439** in the world;

★ **International Accreditation**: AACSB ACCREDITED IEET

★ **Benchmark bilingual university granted by the Ministry of Education**: NSYSU has established **13** undergraduates, **6** master's, and **3** PhD English programmes in.

In recent years, the announcement of investments in Kaohsiung by international technology giants such as TSMC has greatly contributed to the development of the semiconductor S-Corridor in the southern region. The S-Corridor, centered around the Nanzih Industrial Park, extends north to Ciaotou, Lujhu, and the Southern Taiwan Science Park in Tainan. It also reaches south to Renwu, Daliao, Linyuan, and the Siaogang industrial areas, along with the Kaohsiung Software Technology Park, forming a comprehensive cluster of supply chain covering semiconductor materials, wafer manufacturing, and packaging and testing.

Taking advantage of its geographical position, NSYSU, located in the heart of the growing semiconductor S-Corridor, has established itself as a prominent talent hub for the semiconductor industry in southern Taiwan. NSYSU's objective is to nurture semiconductor professionals in the region through the integration of its College of Science, Engineering, Medicine, and Semiconductor and Advanced Technology Research. Related research in these colleges includes macromolecular materials, IC
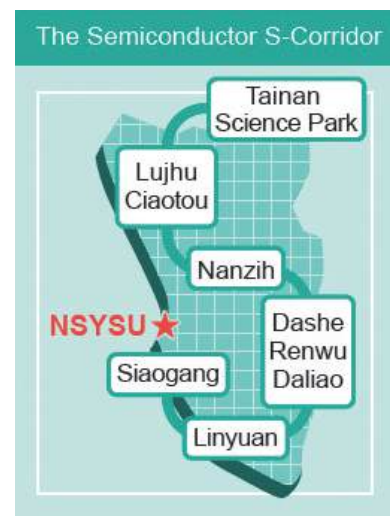
design, nanodevice development and fabrication, process integration, advanced equipment and technology, and packaging and testing. NSYSU collaborates closely with local semiconductor industry clusters to promote the flow and integration of resources and talents between industry and academia.

NSYSU's newly inaugurated "Southern Taiwan Semiconductor Joint Laboratory" aims to address the long-standing lack of large-scale laboratory resources in southern Taiwan. The initiative, funded with hundreds of millions of NT dollars, will see the installation of approximately 60 R&D equipment units over the next five years. With its focus on semiconductor manufacturing, packaging and testing, electronic components, materials, and analysis, the laboratory is set to provide over 5,000 R&D and foundry services annually for industry, academia, and research institutions. This will significantly boost Taiwan's global leadership in the semiconductor industry and contribute to Kaohsiung's urban development.

➤ **What semiconductor talents cultivation programme does NSYSU have?**

● **Colleges and departments related to the semiconductor industry**

College of Science
● Dept. of Chemistry ● Dept. of Physics

College of Medicine
● Institute of Medical Science and Technology

College of Engineering
● Dept. of Electrical Engineering ● Dept. of Computer Science and Engineering ● Dept. of Photonics ● Dept. of Mechanical and Electro-Mechanical Engineering ● Dept. of Materials and Optoelectronic Science ● Institute of Communications Engineering ● Institute of Environmental Engineering

College of Semiconductor and Advanced Technology Research
● Institute of Advanced Semiconductor Packaging and Testing ● Institute of Precision Electronic Components ● Institute of Innovative Semiconductor Manufacturing
Features ★In partnership with key enterprises such as ASE Group, TSMC, YAGEO Group, WinWay Technology, OSE, Laser Tek, TAIFLEX Scientific, Thinking Electronic, FLEXium, and E&R Engineering Corp. ★1 year of university course + 2 years of internship and research ★Nearly NT\$1 million of scholarships ★Work opportunities

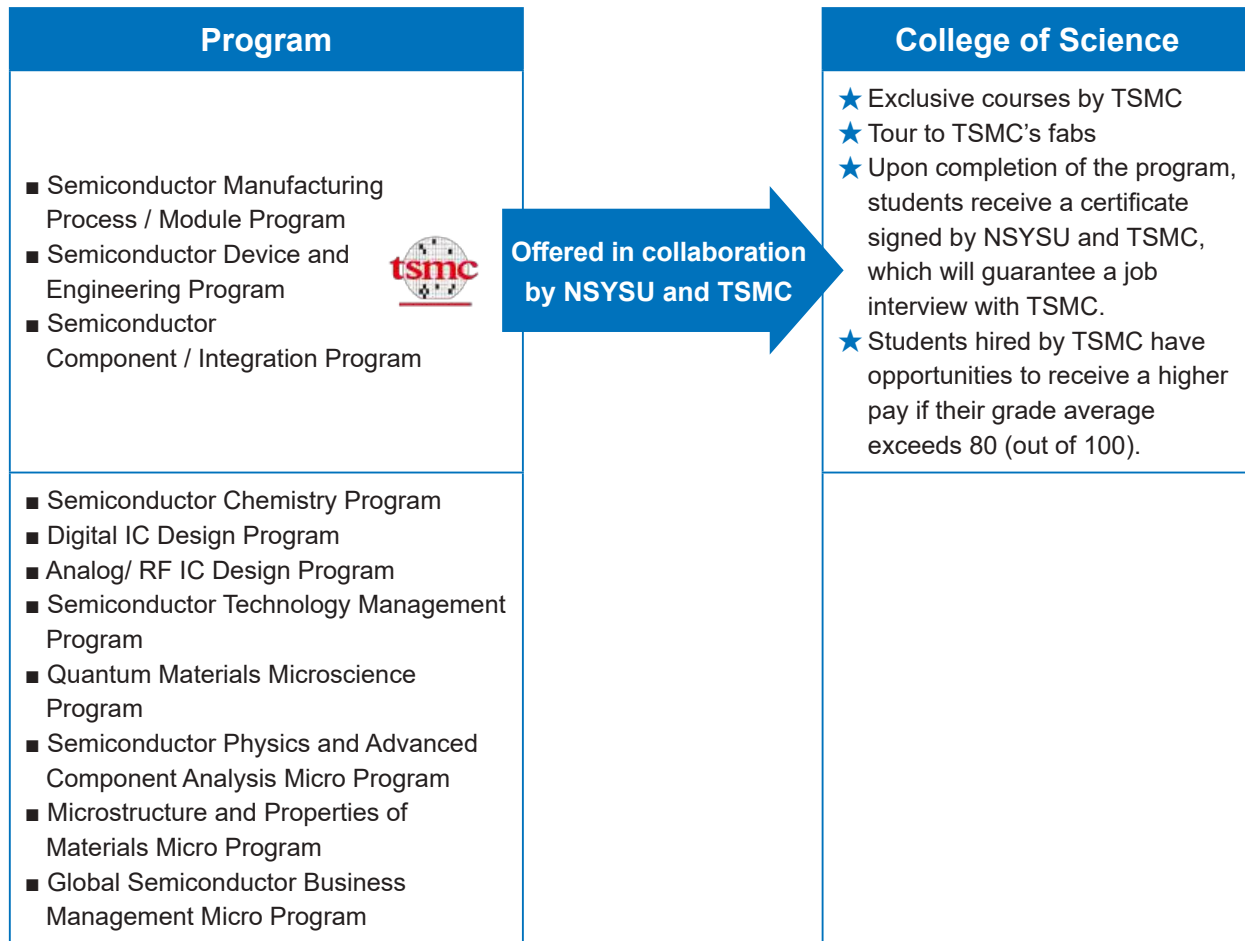| **Features** |
| --- |
| ★NSYSU has conducted various projects related to semiconductor technology, covering topics in semiconductor physics, nano-electronics, solid-state electronics, silicon photonics, integrated circuits, system design, etc.
★The university also collaborates with the Institute for Information Industry for the cultivation of information security talents for the semiconductor industry.
★Faculties act as important research partners for both government agencies and well-known semiconductor manufacturers. |

Programs

- ### Departments and Institutes

	Undergraduate programs		Master / PhD
English programs	**College of Science** ● Chemistry ● Applied Mathematics ● Biological Sciences ● Physics	**College of Engineering** ● Electrical Engineering ● Photonics ● Computer Science and Engineering ● Mechanical and Electro-Mechanical Engineering ● Materials and Optoelectronic Science	**College of Science** ● Chemistry ● Physics
	College of Management International Business Bachelor Program	**College of Marine Science** Marine Biotechnology and Resources	**College of Medicine** ● Medical Science and Technology
Program in Interdisciplinary Studies	● Students may choose their academic areas of expertise based on their own interests and take courses accordingly. ● Areas of expertise in the programme will be recorded on the graduation certificate.		**College of Engineering** ● Electrical Engineering ● Photonics ● Computer Science and Engineering ● Mechanical and Electro-Mechanical Engineering ● Materials and Optoelectronic Science ● Mechanical and Electro-Mechanical Engineering ● Communications Engineering ● Environmental Engineering

- ### Add-on Certificate Program
  - ◆ **Semiconductor Program**

    NSYSU collaborates with TSMC to offer a Semiconductor Program, which aims to cultivate semiconductor talents. Upon meeting the program's course and credit requirements, students will have the programme name listed on the graduation diploma.

Program	College of Science
■ Semiconductor Manufacturing Process / Module Program ■ Semiconductor Device and Engineering Program ■ Semiconductor Component / Integration Program	★ Exclusive courses by TSMC ★ Tour to TSMC's fabs ★ Upon completion of the program, students receive a certificate signed by NSYSU and TSMC, which will guarantee a job interview with TSMC. ★ Students hired by TSMC have opportunities to receive a higher pay if their grade average exceeds 80 (out of 100).
■ Semiconductor Chemistry Program ■ Digital IC Design Program ■ Analog/ RF IC Design Program ■ Semiconductor Technology Management Program ■ Quantum Materials Microscience Program ■ Semiconductor Physics and Advanced Component Analysis Micro Program ■ Microstructure and Properties of Materials Micro Program ■ Global Semiconductor Business Management Micro Program	

Offered in collaboration by NSYSU and TSMC

International Exchange Student

✧ **326** partner universities from **45** countries around the world, including National University of Singapore, Nanyang Technological University and Singapore Management University.

✧ **Student exchange** agreements with **232** partner universities, including Nanyang Technological University and Singapore Management University.

✧ Students can take professional courses from different colleges and select courses from the Semiconductor Program.

✧ The International Student Class for Semiconductor Program will be established when the minimum number of student requirement is met.

★ Upon completion of the required courses and meeting credit requirements, students will receive a certificate for the Semiconductor Program.

✧ Buddy Program

✧ Cultural Immersion Activities

✧ Free Chinese Language Courses

Application Information

Semester Period

Fall: Early September to early January | Spring: Mid-February to late June

✧ **International Degree Students**

	Fall Admission	**Spring Admission**
Application Period	January 15 to March 15	August 1 to September 30
Admission Notification	Early June	Early December
Application	Please refer to the website for online application details.	

✧ **Incoming Exchange Students**

	Fall Admission	**Spring Admission**
Nomination Deadline	April 20	November 20
Application Period	March 15 to April 30	October 15 to November 30
Application	Please refer to the website for online application details.	

✧ **Overseas Chinese students**

	Apply directly to NSYSU	**Apply through Taiwan University Entrance Committee**
Application Period (Fall Admission only)	**First Application Period:** October to November **Second Application Period:** May to June	**Individual Application:** November to mid-December **Joint Application-based Admission:** Mid-December to late February
Application	Please refer to the website of "Office of Academic Affairs-Admission and Testing Information" for online application details.	Subject to announcement by Taiwan University Entrance Committee for Overseas Chinese Students

★ Overseas Chinese students who meet the qualification defined by the Overseas Community Affairs Council may apply through this channel. For relevant regulations, please refer to https://www.ocac.gov.tw/OCAC/

➢ Scholarship Information

● **Scholarships and grants for International Degree Students**
  - Undergraduate Students: NT$ **6,000**/month
  - Master Students: Tuition Waiver
  - Doctoral Students: Tuition Waiver + NT$ **15,000**/month

● **Scholarships and grants for Overseas Chinese students**
  - NSYSU and the Overseas Community Affairs Council Joint Scholarship: from NT$ **150,000** to NT$ **390,000**/year, maximum duration is **4** years.
  - Top and Outstanding Overseas Compatriot Students for Studying AI Related Department: from NT$ **100,000** to NT$ **260,000**/year, maximum duration is **4** years.
  - NSYSU Siwan Overseas Chinese, Hong Kong and Macao Student Scholarship: Undergraduate Students: NT$ 30,000/student.

● **Corporate Scholarships, The College of Semiconductor and Advanced Technology Research**
  - Up to NT$ **1,000,000**/student

Exchange Programmes and summer camps between NSYSU and Singaporean universities

Partner universities in Singapore: National University of Singapore, Nanyang Technological University and Singapore Management University; student exchange agreements in place with Nanyang Technological University and Singapore Management University.

■ National Taipei University of Technology (NTUT)

➢ Why NTUT?

National Taipei University of Technology (NTUT), also known as Taipei Tech, was established in 1912, in response to the rapid growth of Taiwan industry. With over a century of long-standing history and experience in education, Taipei Tech has nurtured numerous technical professionals. Taipei Tech graduates are the top favorites of Taiwan's top 1,000 enterprises by Cheers and other career magazines. We have put great efforts to cultivate many elites for Taiwan's technological and industrial development. Due to the accumulated experience from long-term industrial cooperation, NTUT has the ability to forward-looking more innovative and deeper industrial-based research.

NTUT at a Glance - Quick Facts

- Year Founded: 1912
- School Type: Public, Urban
- 7 Colleges: 19 Departments
  - ✧ 34 Master's programmes
  - ✧ 22 Ph.D. programmes
- Student Enrollment: 13,666s
  (B: 6,393s /M: 3,558s /D: 754s /C.E.: 2,808)
- Int. Student: 991 (66 countries)
- Faculty & Staff: 1,687
- Int. Faculty Ratio: 10.5%

- **95%** Employment rate
- **360** licensing-and production-ready patents
- **No. 1** in High Rise Building of UI Green Metric World University Rankings (2024)
- **One** of the six governmental supported Institutes (iFIRST) aims for National Core Strategic Industries Transformation launched in 2022 (in AI, Cyber Security and Semiconductors)

World Rankings: QS World University Rankings 2026 — #**420** in the world;

QS World University Rankings by Engineering & Technology 2025 — #**244** (**4th** in TW)

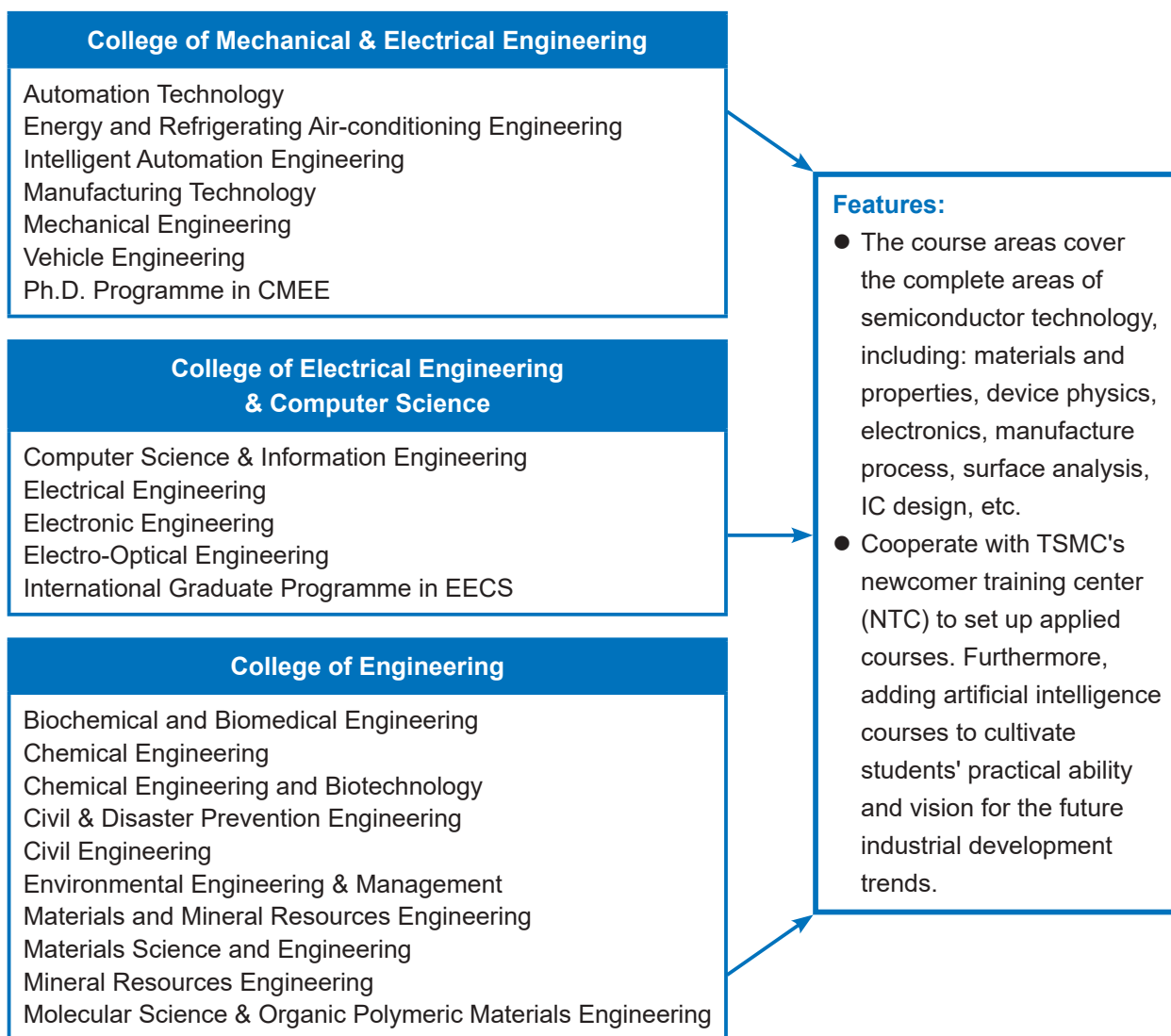International Accreditation: **IEET** and **AACSB**

Advantages of Semiconductor Talent Cultivation at NTUT

NTUT is the Number One Paradigm Technological University for its research and academic excellence. NTUT alumni have contributed considerably to the economic development of Taiwan, and have won wide praise from businesses of all industries. Taipei Tech graduates are the top favorite employees among Taiwan's top 1000 enterprises. About 10% of founders, board directors, and CEO of Taiwan's listed stock companies are NTUT alumni. Studying at NTUT would allow one to learn about the latest technologies and trends in this industry and potentially network with industry professionals. NTUT's campus is located at the center of Taipei Metro System. With convenient access to the MRT, it is easy to reach many technology and/or science parks around Taipei, New Taipei City, and Hsinchu City. For example, many IC design companies, and semiconductor manufacturers are located in the area of NanKang Software Park, Neihu Science Park, the Great Neihu Technology Park, and the Science Park in Hsinchu. NTUT students or graduates thus have great opportunities to do their intern training.

NTUT helps PI to establish close collaborations with semiconductor industry and has been recognized as a leading position in contamination control for semiconductor wafer fabrication as well as cleanroom and high-tech facility technology. The most notable collaborations were with Taiwan Semiconductor Manufacturing Company (TSMC) on a solution of controlling wafer micro-contamination. The newly developed manufacturing process based on NTUT technology has been adopted by Intel and Micron, and further implemented in TSMC's new factory in Arizona. NTUT provides the complete sets of semiconductor curriculum, including undergraduate Semiconductor Micro Program, undergraduate Semiconductor Program, undergraduate Semiconductor Advanced Program, and Master Program in Semiconductor Technology (see below for details). Study at NTUT not only can receive the primary background in semiconductor technology, but also can benefit the research accomplishments from multifold aspects in semiconductor research. Through the great connection with alumni and from semiconductor industry-academic cooperation, the NTUT graduates will easily get jobs and be recognized in the semiconductor companies.

➢ **What semiconductor talents cultivation programme does NTUT have?**

Colleges and departments related to the semiconductor industry

College of Mechanical & Electrical Engineering

Automation Technology
Energy and Refrigerating Air-conditioning Engineering
Intelligent Automation Engineering
Manufacturing Technology
Mechanical Engineering
Vehicle Engineering
Ph.D. Programme in CMEE

College of Electrical Engineering & Computer Science

Computer Science & Information Engineering
Electrical Engineering
Electronic Engineering
Electro-Optical Engineering
International Graduate Programme in EECS

College of Engineering

Biochemical and Biomedical Engineering
Chemical Engineering
Chemical Engineering and Biotechnology
Civil & Disaster Prevention Engineering
Civil Engineering
Environmental Engineering & Management
Materials and Mineral Resources Engineering
Materials Science and Engineering
Mineral Resources Engineering
Molecular Science & Organic Polymeric Materials Engineering

Features:
- The course areas cover the complete areas of semiconductor technology, including: materials and properties, device physics, electronics, manufacture process, surface analysis, IC design, etc.
- Cooperate with TSMC's newcomer training center (NTC) to set up applied courses. Furthermore, adding artificial intelligence courses to cultivate students' practical ability and vision for the future industrial development trends.

Facts & Figures

36 faculty members with a background in semiconductor research.

341 international students from a total of 85 partner universities in 20 different countries.

1,076 students in College of Electric Engineering and Computer Science.

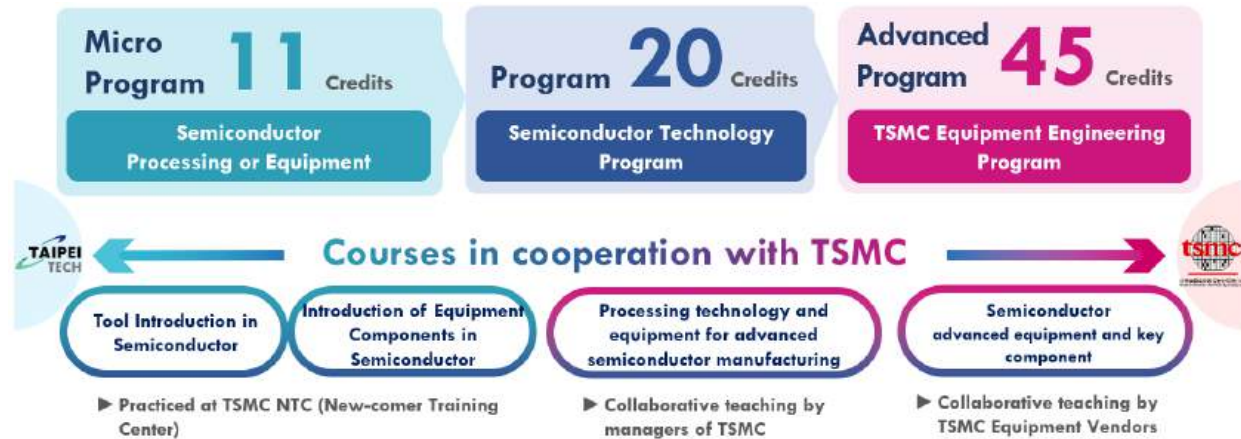1,013 students in College of Engineering.

785 students in College of Mechanical and Electrical Engineering.

146 students in Innovation Frontier Institute of Research for Science and Technology (past 2 years).

Above data from the past 5 years. (Data collected from 2019-23.)

Programmes

Undergraduate Semiconductor Credit Programmes

Semiconductor Micro Program: 11 credits			
Subject I: Semiconductor Processing		**Subject II: Semiconductor Equipment**	
Course Name	**C**	**Course Name**	**C**
Characterization of Materials	3	Adaptive Controls	3
Concept of Nanotechnology	3	Applications of Industrial Automation Controller	3
Electronic Solid-State Device	3	Artificial intelligent and machine learning	3
Fabrication Technology of Semiconductor Devices	3	Automatic Control	3
Introduction of Equipment Components in Semiconductor	2	Automatic Mechanism Design	3
Introduction to Nano-materials	3	Control System	3
Introduction to Semiconductor Device	3	Electron Microscopy	3
Introduction to Semiconductor Manufacturing Technology	3	Experiments and Design for Automatic Systems	3
Introduction to Semiconductor Processing	3	Integrated Circuit Fabrication Process	3
Introduction to Thin Film Science & Engineering	3	Introduction of Equipment Components in Semiconductor	2
Materials and Surface Analysis	3	Introduction to Automation System	3
Materials Synthesis	3	Kinematic Synthesis of Mechanisms	3
Nano Materials and Technology	3	Measurement and Signal Processing	3
Nanomaterials	2	Mechanism Design	3
Physics of Semiconductor Device	3	Mechatronics	3
Physics of Semiconductor Device with Practices	3	Nontraditional Machining Processes	3
Processing technology and equipment for advanced semiconductor manufacturing	3	Precision Electro- mechanical System	3
Properties and Fabrication Techniques of Semiconductor Thin	3	Precision Machinery Dynamics and Control	3
Semiconductor Device Physics	3	Processing technology & equipment for advanced semiconductor manufacturing	3

Course Name	C	Course Name	C
Semiconductor Fabrication Technologies	3	Technology of Laser Material Processing	3
Semiconductor Fabrication Technology	3	Tool Introduction in Semiconductor	2
Semiconductor Materials	3	Vacuum Facilities	3
Semiconductor Materials and Devices	3	Vacuum System Theory and Practice	3
Semiconductor Molecular Materials and Fabrication Testing	2	Vacuum Technology	3
Semiconductor Process Integration	3		
Semiconductor Processing	3		
Silicon Nanometer Devices and Physics	3		
Special Topics in VLSI Processing Technology	3		
Special Topics on Advanced Materials Chemistry	3		
Surface Analysis for Materials	2		
Surface Analysis Techniques & Application	3		
Tool Introduction in Semiconductor	2		

Semiconductor Program: 20 credits			
Semiconductor Device and Design			
Course Name	**C**	**Course Name**	**C**
Analog Integrated Circuit Design	3	Introduction to VLSI Design	3
Applied Electronics	3	Machine Learning	3
Artificial Intelligence	3	Materials and Surface Analysis	3
Artificial Intelligence & Machine Learning	3	Optoelectronic Semiconductor Device Technology and Application	3
Artificial intelligent and machine learning	3	Physics of Semiconductor Device with Practices	3
Building Deep Learning Applications	3	Processing Technology and Equipment for Advanced Semiconductor Manufacturing	3
Characterization Methods for Semiconductor Materials	3	Properties and Fabrication Techniques of Semiconductor Thin	3
Characterization of Materials	3	Radio Frequency IC Design	3
Deep Learning and Internet of Things	3	RF IC Design	3
Deep Learning for Digital Image Analysis	3	Semiconductor Device and Physics	3
Design and Practice of Integrated Circuit Layout	3	Semiconductor Device Physics	3
Digital Logic Design	3	Semiconductor Fabrication Technologies	3
Electron Microscopy	3	Semiconductor Materials	3
Electronic Materials	3	Semiconductor Packaging Technology	3
Electronic Solid-State Device	3	Semiconductor Process Integration	3
Electronics	6	Semiconductor Processing	3
Fabrication of Photoelectronic Materials and Device	3	Soft Electronic Materials and Device Applications	3
Introduction of Equipment Components in Semiconductor	2	Special Topics in VLSI Processing Technology	3
Introduction to Semiconductor Device	3	Surface Analysis for Materials	2
Introduction to Semiconductor Manufacturing Technology	3	Surface Analysis Techniques and Application	3
Introduction to Semiconductor Processing	3	Tool Introduction in Semiconductor	2
Introduction to Solid State Physics	3	VLSI Design	3

| Semiconductor Advanced Program: 45 credits		
Subject: TSMC Equipment Engineering		
Course Classification	**Course Name**	**C**
Semiconductor Processing	Semiconductor Processing	3
	Semiconductor Process Integration	3
	Introduction to Semiconductor Manufacturing Technology	3
	Fabrication of Photoelectronic Materials and Device	3
	Semiconductor Materials	3
	Special Topics in VLSI Processing Technology	3
	Electronic Solid-State Device	3
	Semiconductor Fabrication Technologies	3
Semiconductor Manufacturing Equipment and Technology	Processing Technology and Equipment for Advanced Semiconductor Manufacturing	3
Semiconductor Device	Introduction to Semiconductor Device	3
	Semiconductor Device Physics	3
	Optoelectronic Semiconductor Device Technology and Application	3
	Soft Electronic Materials and Device Applications	3
	Physics of Semiconductor Device with Practices	3
Electric Machinery and Circuit Theory	Circuit Theory	3
	Electrical Engineering Principles and Lab.	3
	Electrical Engineering	3
	Electric Machinery	3
	High-Frequency Electronic Circuit Lab.	3
Mechatronics and Automation Application	Precision Electro- mechanical System	3
	Micro- and Nano-Mechanical System	3
	Mechatronics	3
	Automatic Control	3
	Control System	3
	Applications of Industrial Automation Controller	3
	Automation Concept	3
	Introduction to Automatic System	3
	Applied Technology of Digital Signal Processor	3
	Computerized Motion Control	3
	Experiments and Design for Automatic Systems	3
	Precision Machinery Dynamics and Control	3
Fundamentals of Sensors	Fundamentals of Sensors	3
	Introduction to Sensor Application	3
	Fiber Optic Sensors	3
	The Integrated System Design of Multiple Precision Sensor	3
Vacuum Technology	Vacuum System Theory and Practice	3

Thermodynamics	Thermodynamics	3
	Thermal Engineering	3
	Chemical Engineering Thermodynamics	3
	Metallurgical Thermodynamics	3
	Advanced Metallurgical Thermodynamics	3
Mechanism Design and Processing	Mechanism Design	3
	Automatic Mechanism Design	3
	Nontraditional Machining Processes	3
	Technology of Laser Material Processing	3
Chemical Engineering	Chemistry	3
	Organic Chemistry	3
	Physical Chemistry	3
Fluid Mechanics	Fluid Mechanics	3
	Advanced Fluid Mechanics	3
Intelligent Manufacturing Technology	Intelligent Manufacturing Technology	3
	Internet of Things and Sensor Networks	3
	Smart Manufacturing and Lean Production	3
	Deep Learning and Internet of Things	3
Robotics and Automation Applications	Robotics and Automation Applications	3
	Industrial Robot	3
	Robotic Integrated Manufacturing	3
Measurement Principle	Measurement and Signal Processing	3
	Opto-electronic Methods in Precision Measurement	3
	Electron Microscopy	3
	Characterization Methods for Semiconductor Materials	3
	Radio Frequency Measurement Techniques	3
	RF Measurement Techniques	3
	Electro-Optical Measurement	3
Basic of Semiconductor Equipment	Tool Introduction in Semiconductor	2
	Introduction of Equipment Components in Semiconductor	2
	Semiconductor advanced equipment and key components	3
Materials Science	Introduction to Materials Science	3
	Special Topics of Materials Science and Engineering	3
	Material Science and Engineering	3
	Engineering Materials	3
	Ceramics Materials	3
	Mechanics of Materials	3
	Advanced Mechanics of Material	3
	Nano Materials and Technology	3
	Special Topics in Electronic Materials and Devices	3
	Electronic Materials	3
	Introduction to Nano-materials	3

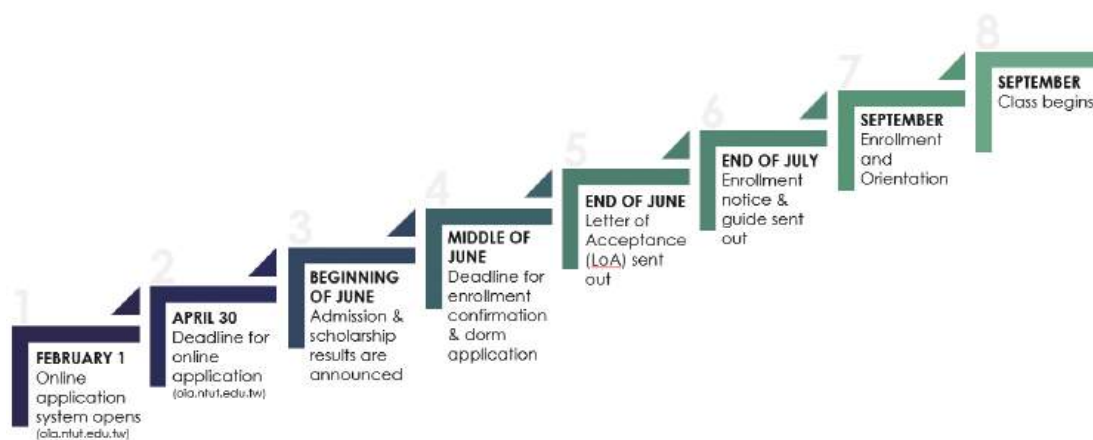|		
	Thin Films Technology	3
	Physical Properties of Materials	3
	Characterization of Materials	3
	Dielectrical Materials	3
Electronics	Applied Electronics	3
	Electronics	3
Programming	Object-Oriented Programming	3
	Computer Programming Applications	3
	Computer Programming	2
	Programming and Lab	3
	Programming (*:1/2/3)	*
	Digital Image Processing	3
	Application and Design of Engineering Software	3
	Artificial Intelligent and Machine Learning	3
	Evolutionary Computing	3
	Microprocessor	3
	Application Programming for Mobile Devices	3
Statistics	Statistics	3
	Probability	3
	Engineering Statistics	3
	Statistical Analysis and Methods	3
Thin Film Engineering	Introduction to Thin Film Science and Engineering	3
	Properties and Fabrication Techniques of Semiconductor Thin	3
Inorganic Chemistry	Inorganic Chemistry	3
	Special Topics of Inorganic Chemistry	3

C: Credit

Master Program in Semiconductor Technology
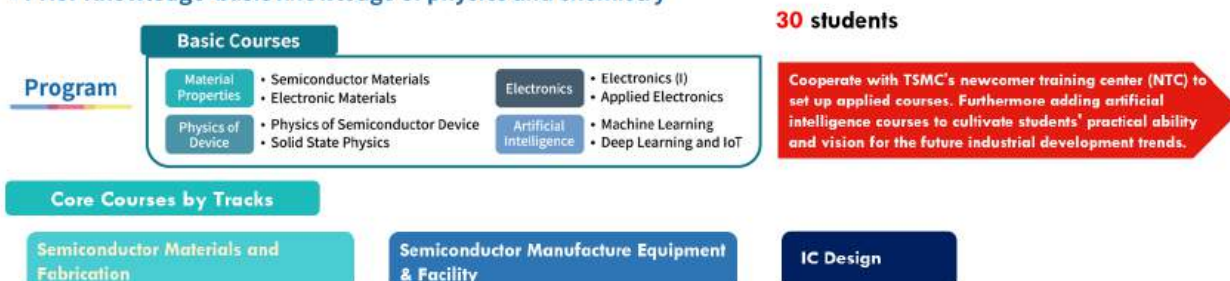
Master Program in Semiconductor Technology (all English courses)			
Subject I: Semiconductor Materials and Fabrication			
Course Name	**C**	**Course Name**	**C**
Special Topics in Electronic Materials and Devices	3	Soft Electronic Materials and Device Applications	3
Introduction to Semiconductor Manufacturing Technology	3	Special Topics in VLSI Processing Technology	3
Characterization Methods for Semiconductor Materials	3	Silicon Nanometer Devices and Physics	3
Semiconductor Packaging Technology	3	Electronic Solid-State Device	3
Optoelectronic Semiconductor Device Technology and Application	3	Epitaxy Technology and Measurement	3
Subject II: Semiconductor Manufacture Equipment & Facility			
High-tech Factory System	3	Autonomous Mobile Robot	3
Clean Room Design	3	Digital Image Processing	3
Tool Introduction in Semiconductor	3	Introduction to Automatic System	3
Processing Technology and Equipment for Advanced Semiconductor Manufacturing	3	Semiconductor Advanced Equipment and Key Components	3
Introduction to Optical Electromechanical System and Manufacturing Technology	3	Advanced Robotics and Automation Applications	3
Subject III: IC Design			
VLSI Design	3	RF IC Design	3
Advanced Analog IC Design	3	Computer-Aided VLSI System Design and Practice	3
Mixed-Signal Integrated Circuit Design	3	VLSI Digital Signal Processing	3
Mixed-mode IC Design	3	Wireless Communication ICs	3
Low-Power Specialist RFIC and mmWave IC	3	Digital Multimedia IC Design	3
Note: Required courses: Master's Thesis (C: 6) and Engineering Seminar (C: 2)			

C: Credit

International Students Application Procedures

1. **VERIFY THE STUDENT STATUS ELIGIBILITY**

2. **ENSURE THE AVAILABILITY OF ACADEMIC DEGREE PROGRAMS**

3. **PREPARE ALL DOCUMENTS**
   1. Diploma certificate
   2. Transcripts
   3. Curriculum vitae
   4. Proof of language proficiency
   5. Passport
   6. Letter of recommendation
   7. Statement of purpose*
   8. Research plan*
   9. Design portfolio*
   10. Master thesis abstract*

4. **SUBMITTED BY DEADLINE** (oia.ntut.edu.tw)

5. **RECEIVE A CONFIRMATION LETTER** *by email within 1 week

International Students Admission Timeline (Fall)

1. **FEBRUARY 1** Online application system opens (oia.ntut.edu.tw)

2. **APRIL 30** Deadline for online application (oia.ntut.edu.tw)

3. **BEGINNING OF JUNE** Admission & scholarship results are announced

4. **MIDDLE OF JUNE** Deadline for enrollment confirmation & dorm application

5. **END OF JUNE** Letter of Acceptance (LoA) sent out

6. **END OF JULY** Enrollment notice & guide sent out

7. **SEPTEMBER** Enrollment and Orientation

8. **SEPTEMBER** Class begins!

➢ Scholarship information

	TAIPEI TECH SCHOLARSHIP		TAIWAN SCHOLARSHIP		
	Hua Yu	**International Graduate Student**	**MOFA**	**MOE**	**NSTC**
Target	Bachelor program	Master program	Doctoral program	Students from countries that have official diplomatic relations with Taiwan	Students from countries that don't have official diplomatic relations with Taiwan	Postgraduate students from countries that don't have official diplomatic relations with Taiwan
Reward	Tuition Fee 50% off	Tuition Waiver (2 years) + Monthly Stipend NT$ 6,000/ month (1 year)	Tuition Waiver (4 years) + Monthly Stipend NT$ 12,000/ month (4 years)	Tuition Fee 50% off + Monthly Stipend NT$ 30,000	Tuition Waiver + Monthly Stipend NT$ 15,000-20,000	Monthly Stipend NT$ 30,000
How to Apply	Directly submit application to NTUT (Taipei Tech)	Directly submit application to NTUT (Taipei Tech)	Directly submit application to NTUT (Taipei Tech)	Taipei Economic and Cultural Office (TECO) or Taipei Economic and Trade Office (TETO) in your country	Taipei Economic and Cultural Office (TECO) or Taipei Economic and Trade Office (TETO) in your country	Taipei Economic and Cultural Office (TECO) or Taipei Economic and Trade Office (TETO) in your country

■ National Taiwan University (NTU)

➢ **Why NTU?**

3 facts about National Taiwan University (NTU)

FIRST Institution of Higher Education
LARGEST University
MOST Comprehensive

Established in 1928, NTU stands as Taiwan's premier university, consistently ranked among the world's top 100 institutions. Rooted in a culture of independent thought and pioneering enterprise, NTU fosters a dynamic learning environment where students immerse themselves in a wealth of knowledge. Our curriculum is built upon forefront research and robust collaboration between academia and industry. With comprehensive career support, abundant professional prospects, and a thriving entrepreneurship ecosystem, NTU offers students an enriching educational journey.

➢ **What semiconductor talents cultivation program does NTU have?**

NTU Colleges and departments related to the semiconductor industry

Graduate School of Advanced Technology ntugsat@ntu.edu.tw	
Integrated Circuits Design and Automation	https://gsat.ntu.edu.tw/en/home/
Devices, Materials, Hetero. Integration	https://gsat.ntu.edu.tw/en/home/
Nanoengineering and Nanoscience	https://gsat.ntu.edu.tw/en/home/
Precision Health and Intelligent Medicine	https://gsat.ntu.edu.tw/en/phim/
College of Electrical Engineering & Computer Science eecs@ntu.edu.tw	
Department of Electrical Engineering	https://web.ee.ntu.edu.tw/eng/index.php
Institute of Photonics & Optoelectronics	https://gipo.ntu.edu.tw/?locale=en
Institute of Electronics Engineering	https://giee.ntu.edu.tw/en/

College of Engineering ntucoe@ntu.edu.tw	
Department of Mechanical Engineering	http://www.me.ntu.edu.tw/main.php?site_id=1
Department of Chemical Engineering	https://che.ntu.edu.tw/che/en/Default.html
Department of Materials Science & Engineering	http://www.mse.ntu.edu.tw/index.php?lang=en
Department of Engineering Science & Ocean Engineering	https://homepage.ntu.edu.tw/~ntuesoe/en/Default.html
Institute of Applied Mechanics	https://www.iam.ntu.edu.tw/en/
College of Sciences cos@ntu.edu.tw	
Department of Physics	https://www.phys.ntu.edu.tw/enphysics/Default.html
Department of Chemistry	https://www.ch.ntu.edu.tw/en/Default.html

NTU boasts an expansive academic landscape, encompassing 16 colleges, 60 departments, 152 graduate institutes, and over 100 research centers. Recently, three new colleges have been introduced, including the Graduate School of Advanced Technology (GSAT), inaugurated in 2021 to bolster pivotal industry advancements.

At GSAT, we lead the charge in academic and intellectual exploration, offering four core fields and eight programs: Integrated Circuit Design and Automation (MS, Ph.D.), Semiconductor Devices, Materials, and Hetero-integration (MS, Ph.D.), Nanoengineering and Nanoscience (MS, Ph.D.), and Precision Health and Intelligent Medicine (MS, Ph.D.).

4 facts about Graduate School of Advanced Technology (GSAT)

83 Jointly-appointed professors in Electrical Engineering & Computer Science, College of Engineering, College of Science, and College of Medicine

- 23 NSTC Research Excellence Awards
- 21 WTY Awards
- 10 NTU Teaching Excellence Awards (top 1%)
- 12 IEEE Fellow
- 5 full-time professors

R&D internships in international top-notch companies and institutions

- For students: They can improve their employability, gain early workplace experience, streamline career exploration, and broaden job prospects.
- For GSAT: It is efficient to utilize corporate resources, expand practical teaching materials, and strengthen industry connections.
- For industries: They have increased opportunities to nurture talent and recruit individuals before graduation.

Industry professionals to participate in co-teaching and guidance

- We invited distinguished Senior Directors from industry giants such as MediaTek, Intel, and TSMC to join us as visiting professors.
- We partnered with industry leaders like Intel, Realtek, and TSMC to launch courses showcasing topics such as Introduction to Automotive Electronics and Introduction to Semiconductor Intelligent Manufacturing, among others.

English as a medium of instruction (EMI) courses

- To enhance the English proficiency and international perspectives of our faculty and students, we encourage professors to teach courses exclusively in English.
- All aspects of the course, including content delivery, teacher-student interactions, learning materials, demonstration of learning, and evaluation, are conducted entirely in English.

Application Timeline
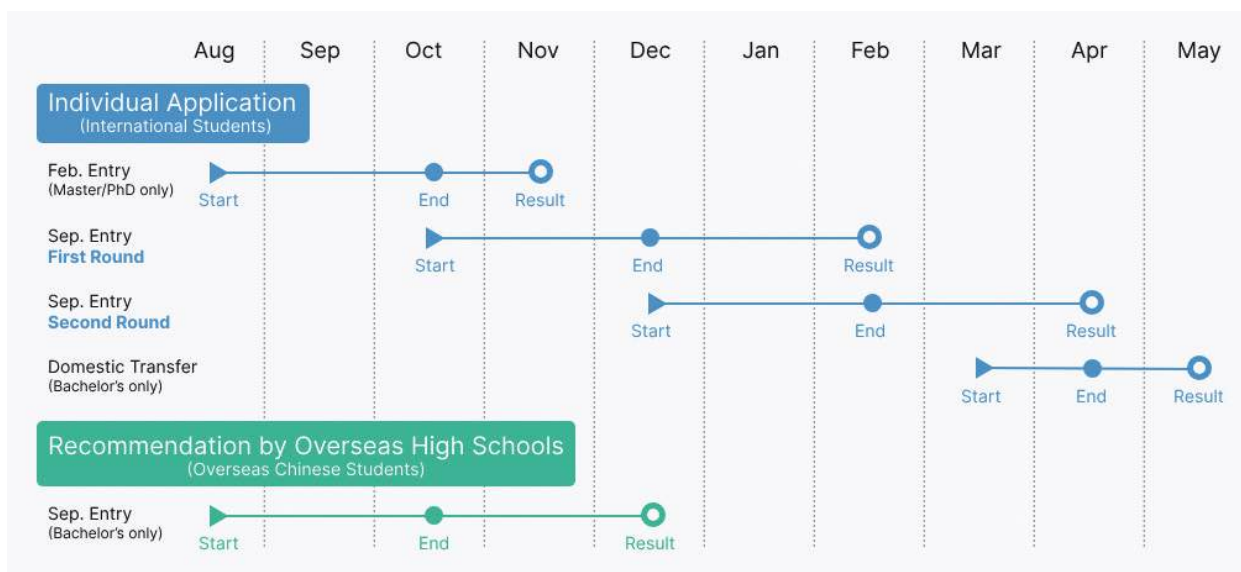
Scholarships

NTU Scholarships and Awards	Outstanding International Graduate Student Scholarship
	NTU Doctoral Student Scholarship
	NTU- Scholarship for Latin America and Caribbean Project
	NTU- Scholarship for Central and Eastern European Countries
	Scholarship for the British Virgin Islands
	NTU Loyalty Award for Overseas Degree Students
	NTU GSAT- Elite Ph.D. Student Scholarship (USD 1,562/ month)
	NTU GSAT- Elite MS Student Scholarship (USD 625/ month)
More information	https://admissions.ntu.edu.tw/apply/scholarships/

臺科大校徽　　產學創新學院院徽

Exchange programs and summer camps

Exchange Programs	- Available for students enrolled in a university with which NTU has a valid student exchange agreement - Please consult your home university for nomination procedures - For one semester or a full academic year
Visiting Programs	- NTU credits available - For one semester or a full academic year
Research Visiting Programs	- For students enrolled in overseas academic institutions - Conducting short-term research or internship at NTU - Program duration ranging from 2 weeks to 6 months
NTU Plus Academy	- Short-term Programs - Chinese language and English conducted Programs - Various topic based
NTU GSAT Summer Camp	- Summer School on Semiconductor and Photonics - Cooperation with NCKU, NYCU, Eindhoven University of Technology, and other industrial partners

■ National Taiwan University of Science and Technology (Taiwan Tech)

➢ **Why Taiwan Tech?**

❙ Facts about National Taiwan University of Science and Technology (NTUST)

The first technological and vocational higher education institution.

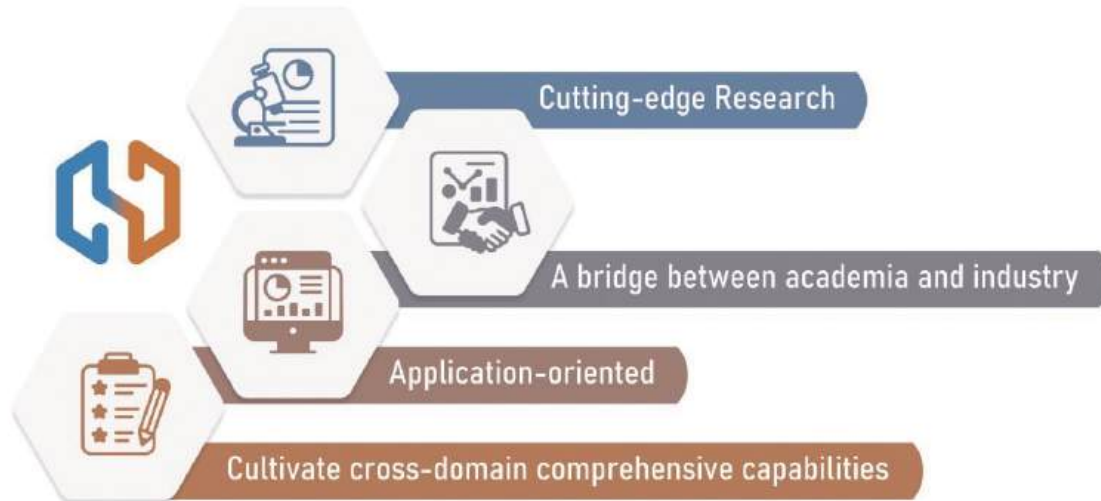The main training base for advanced vocational talents.

The most sought-after university graduates for enterprises.

National Taiwan University of Science and Technology was established to meet the demands of Taiwan rapidly growing economy and industrial development with the goal of cultivating advanced engineering and management professionals. It aimed to found a comprehensive technical and vocational education system. Each academic year, there are approximately 5,500+ undergraduate students, 6,000+ graduate students, and about 600 full-time (including project-based) faculty members. Students can enjoy the campus life and engage in the training system with theory and practice at NTUST.

➢ **What semiconductor talents cultivation programme does Taiwan Tech have?**

With the goal of strengthening the collaboration between industry and academia in technological innovations as well as talent cultivations, Industry-Academia Innovation College o (INNC) was founded at NTUST. INNC has four graduate-level institutes, Graduate Institute of Intelligent Manufacturing Technology, Graduate Institute of Artificial Intelligence Cross-disciplinary Technology, Graduate Institute of Energy and Sustainability Technology, and Graduate Institute of Semiconductor Technology, enabling cross-field technical talents to enhance industrial R&D capabilities and national competitiveness.

College of Industry-Academia Innovation

- Cutting-edge Research
- A bridge between academia and industry
- Application-oriented
- Cultivate cross-domain comprehensive capabilities

Graduate Institute of Advanced Semiconductor Technology focuses on research, industry collaboration, and talent cultivation in areas such as "silicon photonics technology," "integrated circuit design and electronic-design automation," "advanced manufacturing processes and packaging technology," and "compound semiconductor materials," contributing to the development of national strategic industries. With MS and PhD programs, one can have expertise in the key areas, and the graduates we cultivate are well-trained in the fundamental science and equipped with analytical engineering skills leading to success in many possible technology careers.

➤ Leading the World in Silicon Photonics Excellence
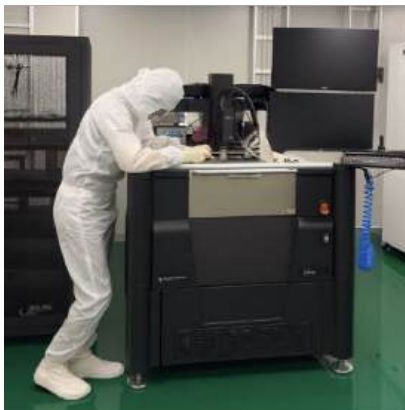
Wafer Testing System, a sophisticated platform designed for high-throughput and precision characterization of silicon photonic integrated circuits (PICs) directly on the wafer.
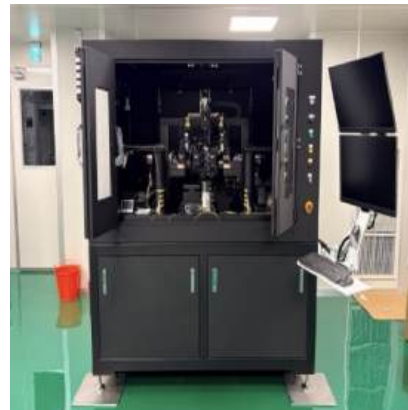
High-Speed Co-Packaged Optics Engine Module and Fiber Array Lens Assembly System, representing a state-of-the-art integration platform designed to meet the exploding bandwidth demands of modern data centers and high-performance computing.

College of Industry-Academia Innovation, NTUST
innc@ntust.edu.tw

GRADUATE INSTITUTE OF
ADVANCED SEMICONDUCTOR TECHNOLOGY
https://innc.ntust.edu.tw/p/412-1111-11825.php?Lang=en

GRADUATE INSTITUTE OF
ARTIFICIAL INTELLIGENCE CROSS-DISCIPLINARY TECHNOLOGY
https://innc.ntust.edu.tw/p/412-1111-11482.php?Lang=en

GRADUATE INSTITUTE OF
ENERGY AND SUSTAINABILITY TECHNOLOGY
https://innc.ntust.edu.tw/p/412-1111-11485.php?Lang=en

GRADUATE INSTITUTE OF
INTELLIGENT MANUFACTURING TECHNOLOGY
https://innc.ntust.edu.tw/p/412-1111-11523.php?Lang=en

Except the academic faculty, the semiconductor research and Industry Collaboration at NTUST is outstanding, too.

01 Highlights of Silicon Photonics Research:

The silicon photonics is to integrate photonic systems, such as lasers and modulators, into silicon microchips. This research is critical because it enables faster, more efficient data transmission and processing, essential for the next generation of communication systems, data centers, and computing technologies.

Advanced photonic integrated circuits (PIC, especially silicon photonics) are famous for applications like next-generation communication, artificial intelligence (AI), and high-performance sensing. Advantages, including capabilities of miniaturized devices, energy efficiency, and potential for massive production, make PICs especially attractive for the rapidly developed ICT (Information and Communications Technology) industry. Giant companies like Intel and Nvidia have all performed tremendous work in developing critical technologies for PICs for their ultra-high-speed inter-chip/module signal transportation.

Integration among PICs fabricated by different material platforms, each with specific characteristics, is currently a significant option to balance the performance and cost under the increasingly stringent demand for signal bandwidth and energy efficiency. The Heterogeneously Integrated Silicon Photonic Integration Center (HiSiPIC) in NTUST is dedicated to solving the corresponding challenges, training, and cultivating the essential local experts to support industrial development. The research works in HiSiPIC can be categorized into four major topics: (1) design of silicon photonic integrated circuits; (2) compound photonic devices, integration, and packaging; (3) wafer fabrication, analyses, and testing; (4) applications of photonics.

02 Forward-Looking Research by the National Science and Technology Council (NSTC):

On November 6, 2023, the Executive Yuan approved the 'Chip Innovation Taiwan Program,' under which the government plans to invest NT$300 billion from 2024 to 2033. The program aims to leverage Taiwan's globally leading semiconductor industry, combined with the development of critical technologies such as generative AI, to foster innovative applications and proactively position Taiwan for future technological industries. The program also seeks to drive innovation across various sectors. The NSTC, Ministry of Economic Affairs, Ministry of Education, Ministry of Health and Welfare, Ministry of Digital Affairs, Ministry of Agriculture, National Development Council, and other relevant ministries jointly announced the 'Chip Innovation Taiwan Program' launch in a cross-ministerial collaboration. The program recognizes that chips and generative AI are the dual engines driving humanity toward a new industrial revolution. The 'Chip Innovation Taiwan Program' aims to combine Taiwan's semiconductor strengths, generative AI, and expertise across all industries, positioning Taiwan as a global hub for future industrial innovation.

The NSTC and the Ministry of Economic Affairs (MOEA) are collaborating to accelerate the development of heterogeneous integration and advanced technologies and to encourage the IC design industry to invest in leading technologies, such as 7nm advanced chips, silicon photonics, AI, HPC (Hi Power Computing), automotive electronics, and communications. At the same time, they are promoting the development of chips for high-value application domains, driving overall industry investment. This year, they will focus on developing critical technologies for IC design tools, enhancing advanced chip design capabilities, and planning to establish an automated IC design cloud platform this year. This platform will allow industry, academia, and research teams to share silicon intellectual property (SiP) and IC design tools. National Taiwan University of Science and Technology (NTUST) is the only team awarded under the NSTC's 'Chip Innovation Taiwan Program' for silicon photonics. We are advancing first-class R&D in collaboration with industry, government, and academia in high-speed data centers, LiDAR sensors, biosensors, and telecommunications.

03 Industry-Academia Alliances and Industry Collaboration Enterprises:

On April 9, 2024, the National Taiwan University of Science and Technology's HiSiPIC and the Photonics Industry & Technology Development Association (PIDA) established the 'International Heterogeneous Integration Silicon Photonics Alliance (HiSPA).' The alliance aims to leverage the research and service capabilities of NTUST's HiSiPIC, which integrates teams from various university laboratories, along with PIDA's extensive experience in promoting talent cultivation, industry-academia-re-search exchanges, and cross-domain cooperation in the photonics industry, to establish a platform and service window for industry-academia collaboration in silicon photonics heterogeneous integration.

With the rise of AI applications, the importance of silicon photonics technology is widely recognized, though its applications are still in the nascent stages. To accelerate the application of this technology across various industrial fields, it is essential to

effectively integrate resources from industry, government, academia, and research institutions to promote its development and application jointly. This alliance aims to consolidate academic resources and facilitate collaboration with the industry for technical exchange and industry-academia cooperation. The NTUST's HiSiPIC, supported by the Ministry of Education's Second Phase Deep Plowing Characteristic Center Program, has integrated resources and teams from across universities in Taiwan. This alliance will ultimately provide technical and talent support, ensure the optimal use of resources, enhance the research and development capabilities and standards of related technologies, and actively offer R&D support and talent cultivation needed by the industry.

Following the establishment of the HiSPA, the alliance will collaborate with PIDA to connect upstream, midstream, and downstream member companies, such as Industrial Technology Research Institute, ITRI's Electronic and Optoelectronic System Research Laboratories, Taiwan Semiconductor Research Institute, Foxconn Semiconductor Research Institute, GlobalWafers, Chroma ATE, WIN Semiconductors, and Japan's Suruga Seiki. Together, they will establish a technology chain within the alliance and expand cross-disciplinary cooperation to realize the R&D and application of new products. Additionally, the alliance will extend its service capabilities to enhance the development of critical technologies and the application value within the industry.

If you are up for applying, here is the information that might be useful:

1 Timeline for application:

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
FEB. ENTRY	START			END			RESULT					
SEP. ENTRY							START		END			RESULT

More details about the application

2 Tuition and Fees:

▌College of Industry-Academia Innovation

👤 MS students

Tuition fees	Credit fees
NTD. 36,870	NTD. 20,040

NTD. 56,910

👤 Ph.D. Program

Tuition fees	Credit fees
NTD. 43,280	NTD. 15,030

NTD. 58,310

More details about the tuition and fees

NOTE: Graduate students are required to pay tuition fees (every semester until graduation) and credit fees (in the first four semesters, even if students don't take any course)

➢ **Scholarships**

▮Campus Life

ACCOMMODATION

International degree students have priority in applying for dormitory spaces.

SPORTS FACILITIES

Tennis courts, table tennis, billiard, a gym and indoor swimming pool are included.

FREE MANDARIN CHINESE COURSES

Chinese language courses focus on daily conversation is offered.

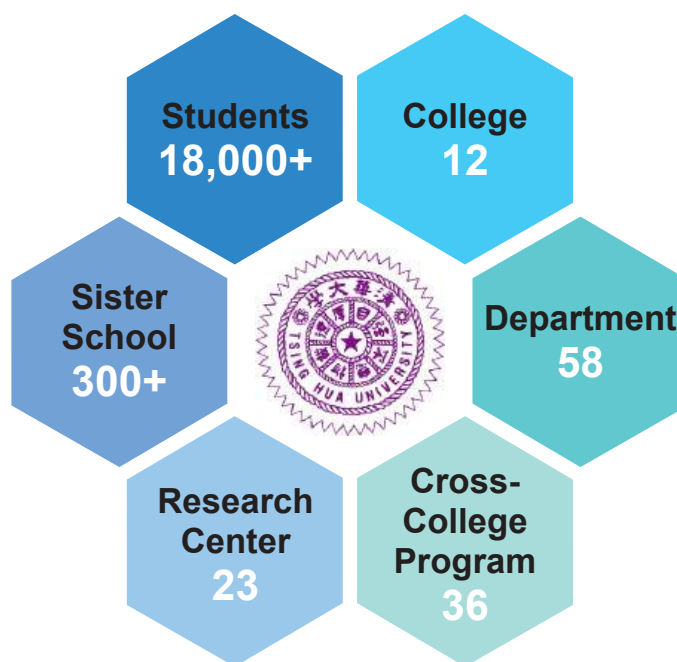## Scholarship Information

▮NTUST Scholarships

TYPE		DURATION	AMOUNT
Full Scholarship	Master Program	2 years	NTD. 12,000 per month
	Ph.D. Program	3 years	NTD. 18,000 per month
Partial Scholarship	Master's Program	2 years	NTD. 9,000 per month
	Ph.D. Program	3 years	NTD. 12,500 per month
Tuition Waiver	Master's Program	2 years	
	Ph.D. Program	3 years	

■ National Tsing Hua University (NTHU)

➤ Why NTHU?

National Tsing Hua University (NTHU) is a leading comprehensive research university with 12 colleges offering a full range of degree programmes in science, technology, engineering, humanities, social sciences, and management. NTHU is located nearby Hsinchu Science Park (the Silicon Valley of Taiwan) and also surrounded by world-class national laboratories and industries, such as TSRI and TSMC. NTHU provides a stimulating and nurturing environment so that our faculty can offer quality teaching and conduct innovative research. These can be reflected from our publication in the world's preeminent journals, awarded global patents and technology transfer cases. NTHU has nurtured many outstanding alumni, including three Nobel Prize winners and one mathematics Woolf Prize winner.

Students 18,000+
College 12
Sister School 300+
Department 58
Research Center 23
Cross-College Program 36

College of Semiconductor Research (CoSR) at NTHU was established in August, 2021. Our mission is to cultivate leaders for the semiconductor industry and academia. Focusing on the interdisciplinary integration, CoSR is grouped into four divisions: Semiconductor Device, Semiconductor Design, Semiconductor Process, and Semiconductor Materials. Our students are educated to possess deep domain knowledge in various semiconductor fields, inter-disciplinary collaboration skills, and innovation capability. CoSR has strong sponsorship from semiconductor

companies, which offer research grants and students' scholarships. CoSR also invites renowned experts in the field to serve as industrial professors to bring in the most advanced technology and their valuable experience to bridge the gap between university and industry.
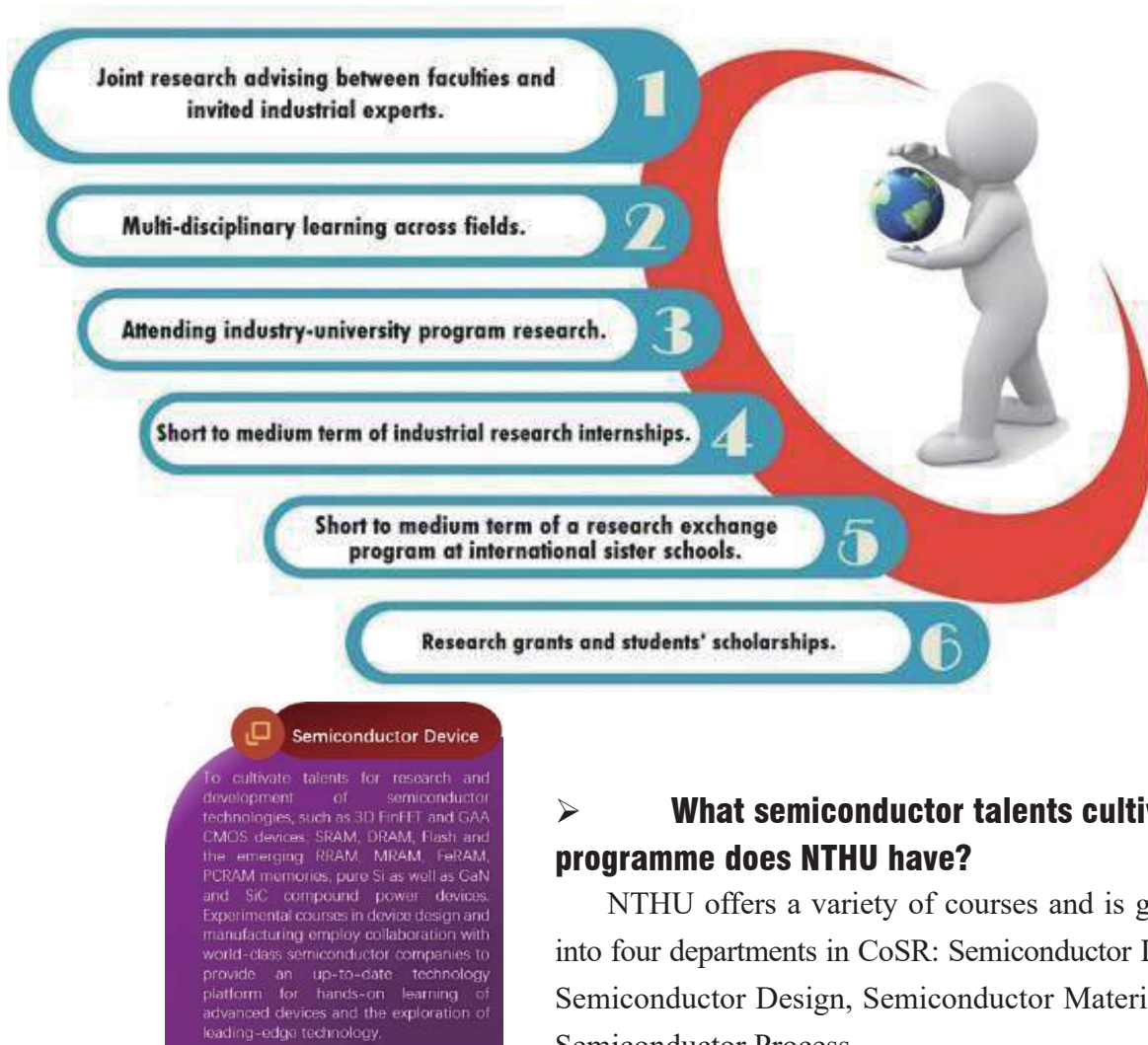
NTHU builds a campus of industry-university cooperation and sustainable development.
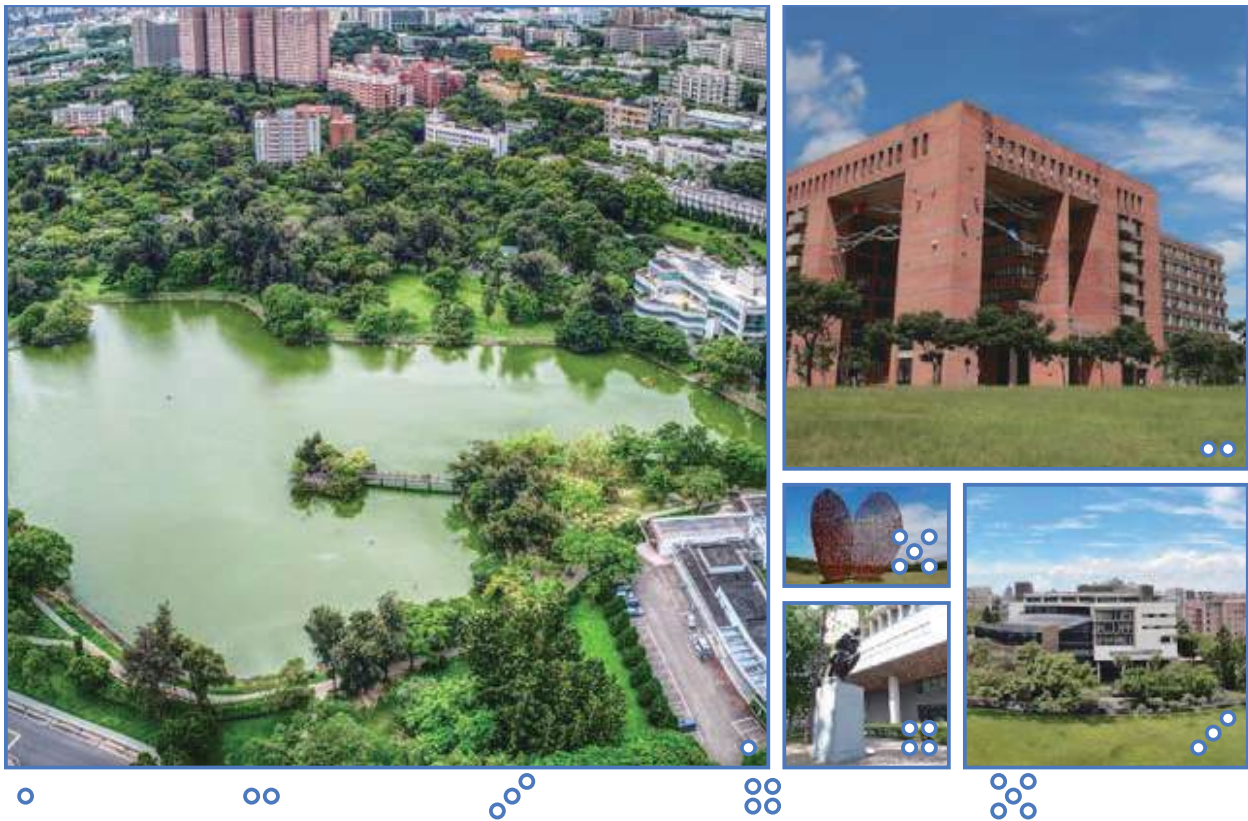
Our features in education for talents are as follows:

1. To provide a more professional and comprehensive study system, students are encouraged to seek advice from an academic professor and an industrial expert while doing research.

2. Students can cultivate their professionality through professional courses provided in each department of semiconductor (Device, Design, Material and Process). Studying through these four departments, they are also trained to be a generalist of semiconductor technology.

3. CoSR especially assists students in participating industry-university programme research, so that they can get in touch with advanced research and development of semiconductor industry.

4. CoSR also provides "Leadership" and practical courses as well as internship opportunities with the aim of cultivating an innovist in the semiconductor industry.

5. Students are also encouraged to join the short to medium term of a research exchange programme at international sister schools of NTHU.

6. CoSR supports outstanding students by specially providing scholarships and grants every academic year.

Joint research advising between faculties and invited industrial experts. **1**

Multi-disciplinary learning across fields. **2**

Attending industry-university program research. **3**

Short to medium term of industrial research internships. **4**

Short to medium term of a research exchange program at international sister schools. **5**

Research grants and students' scholarships. **6**

Semiconductor Device

To cultivate talents for research and development of semiconductor technologies, such as 3D FinFET and GAA CMOS devices, SRAM, DRAM, Flash and the emerging RRAM, MRAM, FeRAM, PCRAM memories, pure Si as well as GaN and SiC compound power devices. Experimental courses in device design and manufacturing employ collaboration with world-class semiconductor companies to provide an up-to-date technology platform for hands-on learning of advanced devices and the exploration of leading-edge technology.

➢ **What semiconductor talents cultivation programme does NTHU have?**

NTHU offers a variety of courses and is grouped into four departments in CoSR: Semiconductor Device, Semiconductor Design, Semiconductor Materials and Semiconductor Process.

I. **Features of Curriculum**

● **Interdisciplinary Integration**: The semiconductor technology is grouped into

four departments. CoSR closely reviewed the syllabus of all semiconductor-related courses from other colleges such as Electrical Engineering and Computer Science, Computer Science, Material Science and Engineering, Physics, Chemistry, Chemical Engineering, and Power Mechanical Engineering, and added new components to integrate them into a strongly organized curriculum.

- **Modularized Courses**: CoSR has further modularized courses into the four departments of semiconductors. With the cooperation of business partners, we jointly provide academic basic courses, practical enterprise courses, and multifaceted integration courses in each module.

Semiconductor Design

To promote advanced researches in electronic circuit architecture and system that spans the spectrum of analog/mixed-signal, RF and microwave, bio-medical, sensor, memory, digital system, and EDA. Faculties have demonstrated leadership in domains including computing in memory, deep learning accelerator and system, hardware security, and quantum algorithm. Novel applications are developed in close collaboration with leading industry experts. Exemplar systems includes highly-efficient DNN accelerator, bio-mimic fly drone, etc.

●**Microcredit Courses**: CoSR also provide a host of diversified microcredit courses (between 0.5 and 3 credits) conducted by industrial experts. CoSR students will not only gain advanced technological knowledge but also strengthen their connection with the current industry so that they will be able to carry out more in-depth practice and industry-university program research.

- **Corporate Internship Program**: Students are recommended to participate in corporate internships or short-term exchange programs in academic research institutions. Students can either cooperate with domestic and/or international semiconductor companies recommended by their advisors, or participate in the short-term research exchange program at international sister schools subsidized by the college.

Semiconductor Material

NTHU is one of the strongest institutes on materials research in the world. This department strongly links material experts on campus and from the semiconductor industry to provide students a solid background through courses and researches including fundamental material cores, Si-based materials, compound semiconductors, dielectrics, metal contacts, polymers, microstructure and failure analysis, as well as computational materials. Through CoSR's training, students will be cultivated to be multi-disciplinary materials leaders.

●**Master Lectures**: CoSR will invite renowned experts in the field of science and technology, to serve as industrial professors to bring in the world's most advanced knowledge and valuable experience in semiconductor technology.

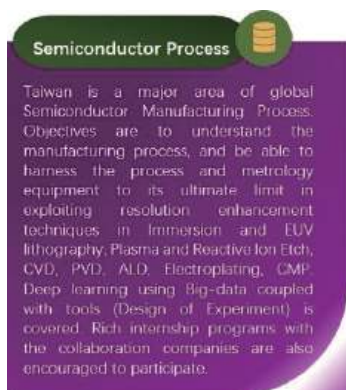●**Leadership**: CoSR aims to cultivate leadership for students to possess deep domain knowledge in a specific semiconductor field, inter-disciplinary collaboration skills, and innovative capability to create breakthroughs.

II. **Introduction of Four Departments**

- **Semiconductor Device Department:**

    The Semiconductor Device Department provides the study of fundamental

device physics, the research in advanced device technologies, and the learning of practical novel device design and characterization. This Department intends to cultivate semiconductor device talents for research and development in the academia and the industry in forward looking semiconductor technologies, such as 3D FinFET and GAA CMOS devices; SRAM, DRAM, Flash and the emerging RRAM, MRAM, FeRAM, PCRAM memories; pure Si as well as GaN and SiC compound power devices; MEMS device and system; Sensor and Optical devices. The device TCAD simulation, characterization, and reliability study are embraced for more comprehensive study and characteristic evaluation. In addition, experimental courses in device design and manufacturing employ collaboration with world-class semiconductor companies to provide an up-to-date technology platform for hands-on learning of advanced devices and the exploration of leading-edge technology.

- **Semiconductor Design Department:**

    Design Technology Institute promotes advanced researches in electronic circuit architecture and system that span the spectrum of analog/mixed-signal, RF and microwave, bio-medical, sensor, memory, digital system, and EDA. Faculties in the institute have demonstrated leadership in various domains including computing in memory, deep learning accelerator and system, hardware security, and quantum algorithm. Novel applications are also developed in close collaboration with leading industry experts. Exemplar systems includes highly-efficient DNN accelerator, bio-mimic fly drone, world-leading ReRAM-based computation engine, and dexterous human-like robotic ARM. Aspiring students are welcomed to join the institute for the highly active and dynamic research environment.

- **Semiconductor Material Department:**

    To overcome the limitation of Moore's law, the development of novel semiconductor materials is essential. New functions of semiconductor devices rely heavily on the ultimate utilization of various materials' characteristics. The National Tsing Hua University has been recognized as one of the strongest institutes on materials research in the world. Our CoSR strongly links material experts on campus and from the semiconductor industry to provide students a solid background through courses and researches on semiconductor materials, including fundamental material

cores, Si-based materials, compound semiconductors, dielectrics, metal contacts, polymers, microstructure and failure analysis, as well as computational materials. Through CoSR's training, students will be cultivated to be multi-disciplinary materials leaders.

- **Semiconductor Process Development Department:**

    Semiconductor Manufacturing Process is a major area in which Taiwan excels over the rest of the world. A thorough understanding of the manufacturing process and the ability to harness the process and metrology equipment to its ultimate limit are extremely important. This CoSR plans to equip the students in process with the above capabilities in exploiting resolution enhancement techniques in immersion and EUV lithography, plasma and reactive ion etch, CVD, PVD, ALD, electroplating, CMP, ion implantation, diffusion, and oxidation, and deep learning using big-data coupled with tools such as design of experiment. Ability to solve problems and to invent new process or equipment are imbedded. Rich internship programs with the collaboration companies are highly encouraged to participate for the students of the Process Development Department.

➢ Scholarship information

NTHU Scholarships	CoSR Scholarship and Grant • Master NT$ 8,000 per month • Ph.D. NT$ 15,000 at the minimum per month * The above-mentioned scholarship doesn't include funding from an advisor professor, and may be adjusted depending on financial situation. * Tuition fee and credit fee waivers may be provided depending on academic performance. * Check Details: https://cosr.site.nthu.edu.tw/p/412-1536-22126.php?Lang=zh-tw
	NTHU International Student Scholarship • Doctoral students: NT$ 20,000~40,000 per month. • Master students: NT$ 5,000 per month • Bachelor students: NT$ 5,000 per month • Tuition and Credit fee waived * Check Details: https://oga.site.nthu.edu.tw/p/412-1524-18035.php?Lang=en

Government Scholarships	I. MOE Taiwan Scholarship
	    ● The Ministry of Education (MOE) Taiwan Scholarship Programme provides tuition and miscellaneous expenses of up to NT$ 40,000 each semester and a monthly living al-lowance of NT$ 15,000 or NT$ 20,000.
	II. Ministry of Foreign Affairs
	    ● NT$ 30,000 per month
	
	* Check Details: https://oga.site.nthu.edu.tw/p/412-1524-18035.php?Lang=en

	Elite Scholarship Program
	  ● Elite Scholarship for University Lectures from South and South East Asia
	  ● NT$ 25,000 per month
	
	* Check Details: https://oga.site.nthu.edu.tw/p/412-1524-18035.php?Lang=en

	Taiwan- Europe Semiconductor Scholarship Programme ● Up to NT$ 40,000 /monthly * Check Details: https://oga.site.nthu.edu.tw/p/412-1524-18035.php?Lang=en

● **How To Apply (For International Degree Students)**
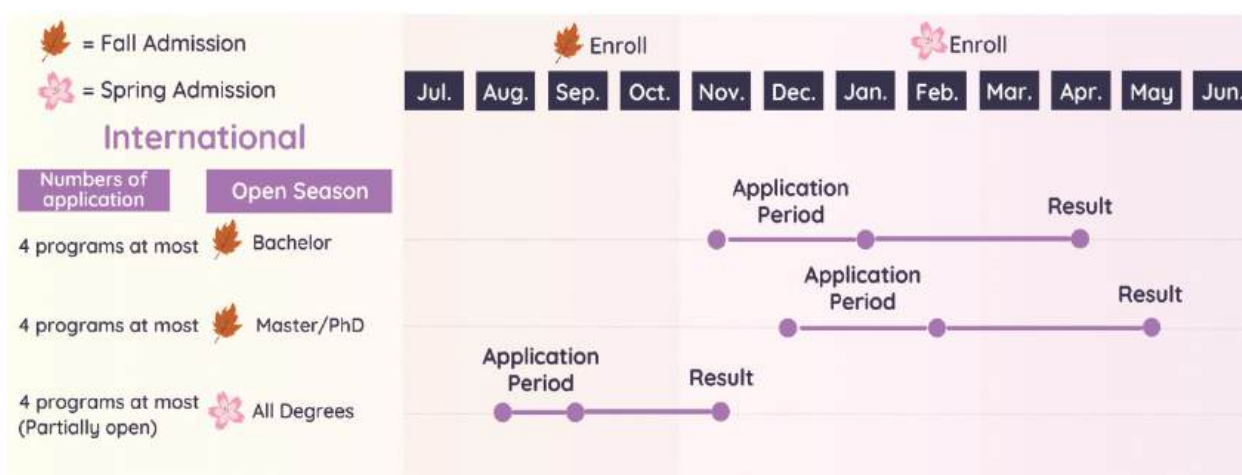
■ National Yang Ming Chiao Tung University (NYCU)

➢ Why NYCU?

National Yang Ming Chiao Tung University (NYCU) was created in 2021 through the merger of two universities: National Yang-Ming University and National Chiao Tung University. Yang Ming, which focused on biomedical research, and Chiao Tung, which focused on electronic communication research, were both top-tier universities in Taiwan. At present, there are 19 colleges, 75 university/college level research centers, and 1 hospital.

NYCU is one of six national universities in research selected by the Ministry of Education. The university is also one of four universities selected by the Ministry of Education to participate in the Global Taiwan Program.
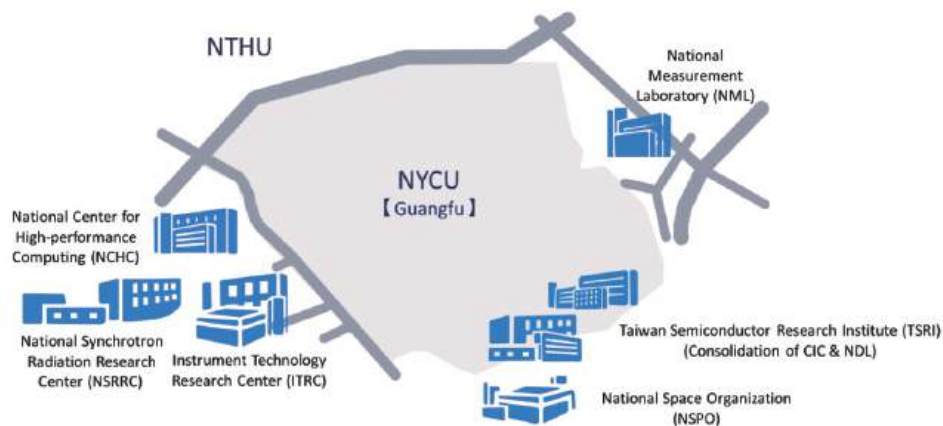
The College of Electrical and Computer Engineering of NYCU is the first college in Taiwan focusing on the fields of electrical engineering and computer science. Currently, the college has three departments and totals more than 150 full-time academic staff. The main research directions of the college are highlighted by the 14 major research groups in different fields. The college has established three main research centers concentrating on Nanoelectronics and Infotronic Systems, Information and Communications Technology, and Photonic and Optoelectronic Technology. Its stellar faculty includes Fellows of Academia Sinica, IEEE fellows, and distinguished engineering professors. The college also collaborates closely with the industry and initiates numerous joint research projects.

The alumni from the College of ECE have played a significant role within the global industries of information, integrated circuits, networks, and communications, from the Science Park in Hsinchu, Taiwan to Silicon Valley in California, USA. The chairmen of high-tech

companies such as Trident Microsystem, Ven Global, Transmedia, and Clarent are all graduates from our school. Their qualities of leadership, vision and creativity are guiding our new generations in continuing their legacy as leaders in a competitive field. This in turn fuels our ultimate goal of providing the best programme to our students.

Being the pioneer among Taiwan's institutes in fabricating the very first transistor dating back to 1965, NYCU ECE College envisions a future revolving around Si-vilization, emphasizing the role of semiconductor silicon in modern technology. The importance of semiconductor in today's world cannot be overstated, as it forms the foundation for various electronic devices and technologies that have become integral to our lives. Recently, NYCU has decided to set up a new semiconductor department and is recruiting faculty around the world. It shows a strong commitment to advancing semiconductor technology and preparing students for the challenges and opportunities of the future. By bringing together experts from around the world, NYCU ECE College will contribute to shaping the future of semiconductor technology and its applications in various domains.

➢ What semiconductor talents cultivation programme does NYCU have?

In NYCU, we have 3 major colleges for semiconductor education: College of Electrical and Computer Engineering (ECE), International College of Semiconductor Technology (ICST) and Industry Academia Innovation School (IAIS). Other colleges such as Engineering and Science also contain related departments and institutes for semiconductor research and development.

Those units integrate the outstanding faculty of research in the field of semiconductors and electronics from NYCU, and establish many research capabilities, including device physics, materials and components, IC and systems design, and EDA (electronic design automation). NYCU initiated Taiwan's first talents incubation and supported the birth of Taiwan Science Parks, we will continue to play this key role in international talents cultivation.
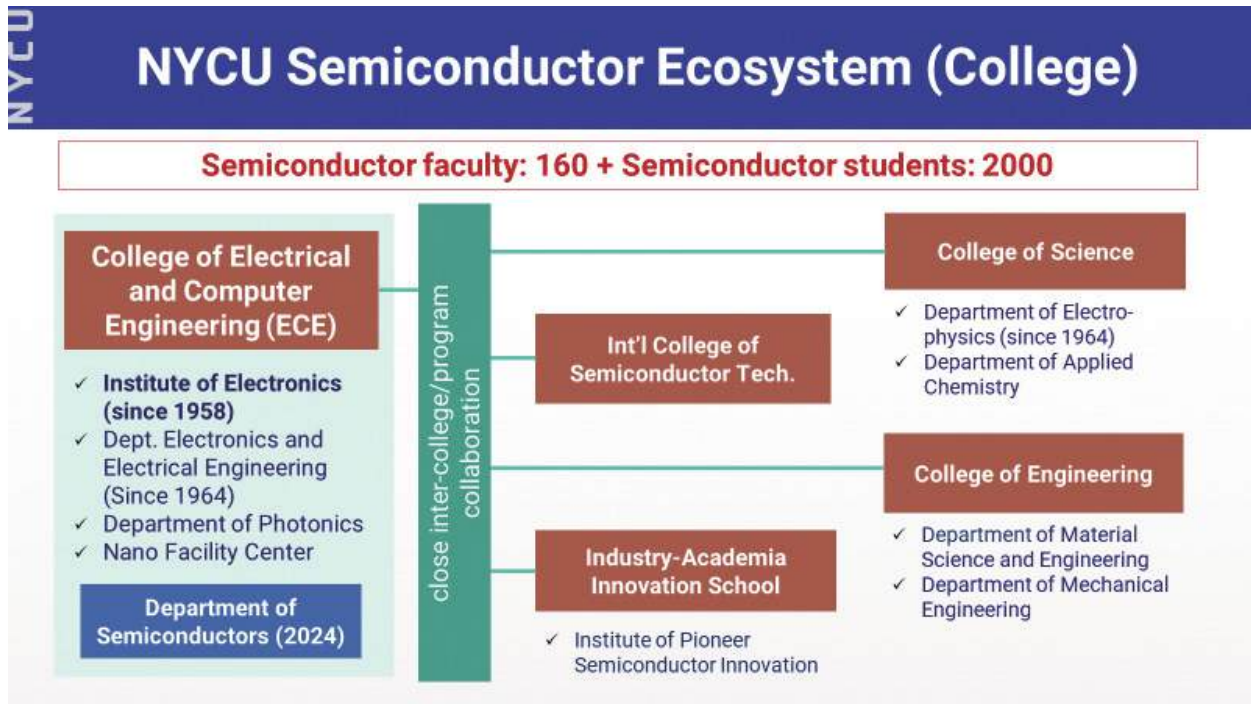
◆ Semiconductor faculty and students
   ✓ **200** full-time faculty members
   ✓ Around **1500** master students and **500** PhD students

◆ Semiconductor courses
   ✓ **Semiconductor Device & Process**: Intro. to Modern Physics, Semiconductor Physics, Semiconductor Engineering, Solid-state Physics, Intro. to Quantum Mechanism, Intro. to Material Science, etc. (**60 courses**)
   ✓ **IC Design & EDA**: Intro. to VLSI Design, Computer Organization, Digital Circuits & Systems, Intro. to Analog IC, Intro. to DSP, Intro. to EDA, Intro. to Algorithms, etc. (**50 courses**)
   ✓ **Hands-on training through laboratory**: Semiconductor Lab., Device & Circuit Characterization Lab., VLSI Lab., IC Design Lab., Analog IC Lab., RFIC Lab.

◆ Special Enterprise Training Program: **TSMC Semiconductor Program, MTK IC Design Program**

Honors of ECE@NYCU

Organizational Innovation
- 1994, the first Electrical Engineering & Computer Science (**EECS**) college in Taiwan
- 2005, the first Electrical & Computer Engineering (**ECE**) college in Taiwan

Best Alumni
- Far Eastern Economic Review's 2005 survey: the most alumni who have become general managers or board directors (**65%**) in the industry
- CHEERS magazine's 2002 survey: ECE@NYCU produces the **most valuable and talented** graduates
- CHEERS magazine's 2003 and 2006 surveys: highly recognized by the top 1000 companies, the university's students are the **most favored** by the technology manufacturing and service industries
- 2020 survey by 104 Job Bank: ECE@NYCU graduates are the **most preferred** by the semiconductor industry

Abundant Funding
- Highest number of approved projects and funding amount nationwide by Ministry of Education's Excellence Program
- An average of over 350 research projects each year, with a total amount exceeding **500 million** NTD
- Major long-term industry-academia collaborations with **TSMC, MediaTek, UMC**, AU Optronics, Lite-On, Innolux, and ITRI, totally over **600 million** NTD

Great Invention
- Production of Taiwan's first **computer, television transmitter, laser, transistor, integrated circuit, semiconductor laboratory**, and the world's first **surface-emitting blue-violet laser diode**
- Highest number of **National Academy of Engineering** members, **Academia Sinica** fellows, and **IEEE** fellows in the engineering field in Taiwan

International Exchange Student
- **343** partner universities from **48** countries around the world, including Nanyang Technological University, National University of Singapore, Singapore Management University and Singapore University of Technology and Design.
- **Student exchange** agreements with **203** partner universities, including Nanyang Technological University, National University of Singapore, Singapore Management University and Singapore University of Technology and Design.
- **1674** international exchange students have been hosted since 2016.
- Cultural Immersion Activities
- Free Chinese Language Courses

Application Information

International Degree-seeking Students

	Fall Semester	**Spring Semester**
Application Period	December 20 - March 15	August 10 - September 30
Announcement	Mid-May	Mid-November
Course Begins	Early September	Mid-February
Application	Please refer to the website for online application details.	application details

Inbound Exchange Students

	Fall Semester	**Spring Semester**
Nomination Deadline	March 30	September 30
Application Deadline	April 15	October 16
Course Begins	Early September	Mid-February
Application	Please refer to the website for online application details.	application details

➤ **Scholarship Information**

NYCU Scholarship:
- NYCU International Student Scholarship
  Award content: monthly stipend and tuition scholarship
  (1) Monthly stipend and tuition scholarships may be awarded separately or simultaneously.
  (2) Stipend are given monthly. The stipend received by each awardee may include scholarships funded by the Office of International Affairs and the matching-fund from their college, department, or advisor. The standards for the amount of stipend are stipulated by the Committee. (3) Tuition scholarships are divided into two categories: (a) full waiving of tuition and credit fees, and (b) tuitions and credit fees charged according to the rates of local students.
- NYCU Elite Ph.D. Scholarship
  The award is for NT33,000 a month on top of a full waiver of tuition and credit fees.

Taiwan government Scholarship:
- MOE Taiwan Scholarship
  i. Undergraduate student: NT$ 15,000/month
  ii. Master's student: NT$ 20,000/month
  iii. PhD student: NT$ 20,000/month

NYCU x TSMC Elite Scholarship Program for Southeast Asia Students in Semiconductor Field
  (1) For promising undergraduate seniors who plan to pursue Master's degree in semiconductor of International College of Semiconductor Technology in NYCU.
  (2) Scholarship
      i. NT 15,000 per month (up to 2 years) provided by TSMC.
      ii. Tuition reduction by NYCU.
      iii. A guarantee 2-month paid summer internship at TSMC.
      iv. Prioritized career opportunities at TSMC upon graduation.
  (3) Eligibility
      Undergraduate students from the selected universities in Thailand, Vietnam, Indonesia, Singapore & Malaysia.
  (4) Major
      Focus on Semiconductor Manufacturing (Process, Integration, Packaging) & IC Design.

* For more details, please check the website: https://oia.nycu.edu.tw/oia/en/index

➢ Joint Contribution by Distinguished Academicians:

Simon M. Sze

A pioneering figure in semiconductor science, Simon M. Sze co-invented the floating-gate nonvolatile memory with Dawon Kahng — the foundation of today's EEPROM and Flash technologies. His landmark textbook "Physics of Semiconductor Devices" has become an essential reference in universities and research labs worldwide, shaping generations of engineers and scientists. Beyond his groundbreaking work at Bell Labs, Sze also played a vital role in guiding Taiwan's semiconductor research and industry, contributing insights that helped shape its technological direction and talent development.

Mau-Chung Frank Chang

Mau-Chung Frank Chang is a world leader in radio-frequency and high-speed semiconductor technologies. At Rockwell Science Center, he led the development and commercialization of the heterojunction bipolar transistor (HBT) and GaAs power amplifiers — devices that became core components in billions of mobile phones and communication systems. His innovations bridged cutting-edge research with large-scale industry applications, earning him global recognition and numerous honors for his impact on modern wireless technology.

Chien-Ping Lee

Chien-Ping Lee, Academician of Academia Sinica and senior professor at National Yang Ming Chiao Tung University, has been instrumental in advancing semiconductor and optoelectronic device research in Taiwan. With expertise spanning nanostructures, photonic integrated circuits, and advanced fabrication technologies, he has helped build Taiwan's core research infrastructure and nurture new generations of semiconductor talent. His leadership in national laboratories and research centers has made him a key architect of Taiwan's academic and technological progress in nano and semiconductor sciences.

➢ YFKA International Talent Cultivation Program for Semiconductor Chip Design

Building on the international programs of the Colleges of Electrical and Computer Engineering and Computer Science, together with the International College of Semiconductor Technology, National Yang Ming Chiao Tung University (NYCU) established the cross-college Yushan–Fuji–Kinabalu–Alps (YFKA) International Semiconductor Chip Design Talent Project. The initiative integrates resources from the Industry-Academia Innovation School and Tainan AI College's IC design groups to create a global base for attracting, cultivating, and retaining top IC design talent.

Symbolizing the connection among Taiwan's Yushan, Japan's Fuji, Malaysia's Kinabalu, and Europe's Alps, the project envisions semiconductor design as a shared "Silicon Shield" across friendly nations. Through international academic collaboration and an all-English IC design curriculum, NYCU aims to foster a bilingual, innovation-driven environment that welcomes international students while enhancing the global competitiveness and cross-disciplinary strength of local students.

➢ Taiwan's Chip-Based Industrial Innovation Program

The College of Electrical and Computer Engineering (ECE) at NYCU plays a leading role in Taiwan's Chip-Based Industrial Innovation Program (2024–2033), driving national progress in AI, semiconductors, and communications. Through cross-disciplinary system integration, NYCU ECE advances AI chip architectures, EDA for heterogeneous integration, next-generation wireless communications, and energy-efficient sensing systems. Supported by the Ministry of Education (Tier 1), the college has created an advanced educational environment, infrastructure, and laboratories for FinFET and nanotechnologies, bridging the gap between academia and industry. By combining generative AI with chip innovation, NYCU ECE develops global talent, speeds up industrial transformation, and enhances Taiwan's leadership in AI-driven semiconductor innovation — Connected Intelligence in Chips and Systems!

■ Lunghwa University of Science and Technology (LHU)

➢ Why LHU?

Lunghwa University of Science and Technology (LHU) is a leading university of applied science and technology in Taiwan, dedicated to cultivating outstanding professionals and providing innovative technical solutions to industry. LHU currently comprises three colleges, fourteen departments, one doctoral program, eight master's programs, and four five-year junior college programs. In close collaboration with government and industry, LHU actively promotes educational innovation by building platforms that integrate smart manufacturing and cross-disciplinary technologies, fostering talent that meets the evolving needs of modern industry. LHU stands out for its strong partnerships with leading semiconductor and electronics companies. To further advance industry-oriented education and research, **LHU established the Lunghwa Semiconductor Manufacturing Center (LSMC)** to cultivate professionals in key midstream and downstream sectors of the semiconductor industry. The LSMC integrates four specialized centers aligned with a critical segment of the semiconductor value chain: the semiconductor device manufacturing process center, the power semiconductor module packaging and testing pilot line, the semiconductor device testing center, and the semiconductor materials analysis and research center. Through these comprehensive facilities, students gain hands-on experience comparable to real semiconductor production environments. By engaging directly with industrial-grade processes and equipment, students develop the practical skills and innovative mindset necessary to meet the rapidly evolving demands of the global semiconductor industry.

Therefore, LHU has achieved remarkable overall performance among Taiwan's universities and has earned wide recognition and high acclaim from industry, government, and academia, as highlighted below:

★ LHU has once again been recognized in *Global Views Monthly's* "2025 Most Favored University Graduates by Enterprises" rankings, earning a place in the Top 30 nationwide. LHU also achieved the No. 1 ranking among private universities of science and technology in two key categories: "Most Preferred Interns by Enterprises" and "Most Favored Graduates by the Information Technology Industry."

★ At the 2025 University Performance Evaluation and Award Ceremony, LHU was once again recognized for its outstanding achievements. Since the inception of this nationwide survey, LHU has been selected for 8 consecutive years, and this year it continues to rank first among universities of science and technology in Taiwan.

★ In 2024, LHU received over NT$148 million in grants from the Ministry of Education,

ranking first among private universities of science and technology in Northern Taiwan.

★ In 2025, LHU was selected by the Ministry of Education as one of 25 universities in Taiwan to join the National AI Program Alliance, recognizing LHU's commitment to advancing artificial intelligence education and innovation.
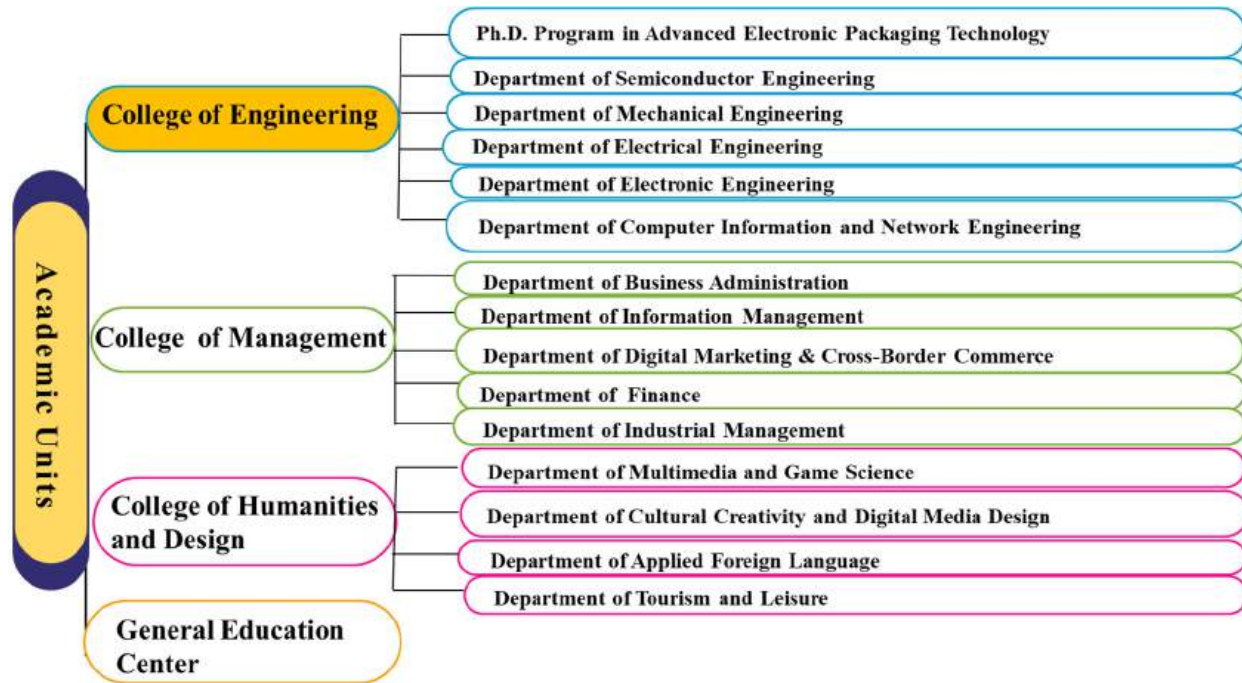
Location

Lunghwa University of Science and Technology (LHU) enjoys a prime location at the vibrant intersection of New Taipei City and Taoyuan City, right at the heart of Northern Taiwan's advanced industrial corridor. Surrounded by major industrial zones, including Linkou, Guishan, Tucheng, Shulin, Longtan, and Zhongli. LHU is located at the center of Taiwan's 5+2 key industry clusters, including semiconductors, smart machinery, green energy, information and communication technology, biomedicine, defense, and the circular economy. With world-leading companies such as TSMC, ASE, Foxconn, Pegatron, Micron, AUO, and Garmin located within a 6- to 20-kilometer radius, LHU provides exceptional opportunities for industry-academia collaboration, internships, and career development. The campus is also highly accessible, situated only 0.8 kilometers from MRT Huilong Station, 15 kilometers from Taipei Main Station, and 30 kilometers from Taoyuan International Airport, making it a true hub connecting education, technology, and industrial innovation.

Faculty

In academic year 2025, LHU has more than 261 full-time faculty members with over 80% Ph.D. degree, and over 94% are assistant professor and above. LHU has 3 colleges, which offer 1 doctoral program, 14 undergraduate programs, 8 master's programs, and 4 five-year junior college programs.

Academic Units

College of Engineering
- Ph.D. Program in Advanced Electronic Packaging Technology
- Department of Semiconductor Engineering
- Department of Mechanical Engineering
- Department of Electrical Engineering
- Department of Electronic Engineering
- Department of Computer Information and Network Engineering

College of Management
- Department of Business Administration
- Department of Information Management
- Department of Digital Marketing & Cross-Border Commerce
- Department of Finance
- Department of Industrial Management

College of Humanities and Design
- Department of Multimedia and Game Science
- Department of Cultural Creativity and Digital Media Design
- Department of Applied Foreign Language
- Department of Tourism and Leisure

General Education Center

★ **College of Engineering**

The College of Engineering focuses on cutting-edge research in 5G communications, AIoT (Artificial Intelligence of Things), high-speed data transmission, smart manufacturing, and power semiconductor device packaging and testing. Through strong integration of technology and industry collaboration, the college prepares students to lead innovation in Taiwan's advanced manufacturing and semiconductor sectors.

★ **College of Management**

The College of Management emphasizes research and education in e-enterprise management, digital transformation, and emerging business technologies, nurturing professionals with both managerial insight and technological competence to meet the needs of the global digital economy.

★ **College of Humanities and Design**

The College of Humanities and Design highlights research in virtual, augmented, and mixed

reality (VR/AR/MR), animation and visual effects, audiovisual media, and cultural and creative design. It also explores leisure and tourism management, digital tourism, and digital culture and education, cultivating creative talents who blend art, technology, and human-centered innovation.

Student

In the 2024 academic year, LHU had over 11,000 students enrolled, the largest enrollment for a private university of science and technology in northern Taiwan. More than 2,500 international students came from 14 countries, ranking first among all universities of science and technology in Taiwan.

Academic year	2019	2020	2021	2022	2023	2024
Number of students	11,330	11,606	12,004	11,720	11,369	11337
Number of overseas students	792	954	1,246	1,560	2,061	2592
Number of Full-time Teachers	244	261	271	279	269	261
Above Assistant professor percentage	91.80%	91.95%	92.99%	93.19%	93.68%	94.25%

Special Practical Featured of LHU

Lunghwa University of Science and Technology (LHU) is dedicated to cultivating industry-ready professionals and bridging the gap between academia and industry. In alignment with global industrial trends, LHU has established six major core practical training bases designed to strengthen hands-on learning and interdisciplinary innovation. With a strong commitment to applied education and STEM advancement, LHU strives to become Asia's leading university for developing practical and future-ready talent in science, technology, engineering, and management.

Semiconductor Device Manufacturing Laboratory
(College of Engineering)

- On November 14, 2022, the University established the Semiconductor Industry and Talent Cultivation Consortium with 14 leading semiconductor companies and key industries, including Sunrise Semiconductor, TSMC, ASE, Sigurd, Eris, YeaShin, WIN Semiconductors Corp, Amkor Technology, Actron Technology Corporation,, Nanya Technology, IST Technology, in order to foster the development of semiconductor professionals.

- In 2023 to 2025, Lunghwa University of Science and Technology (LHU) is implementing more than NT$51 million in funding for various industry and academia collaboration programs. Among these initiatives, the LHU Multi-Disciplinary Semiconductor Industry Talent Development Program, a pilot project under the New Industry Champions scheme, reflecting LHU's strong commitment to advancing practical, industry-oriented semiconductor education and research.

Diffusion and Oxidation Process

Photoresist Spin Coating Process

Lithography Process

Process Quality Inspection

Power Semiconductor Module Packaging and Testing Laboratory
(College of Engineering)

- The University invested about TWD 25 million and received donations of whole-wire packaging process and testing equipment (about TWD 30 million) from Eris, YeaShin, Sigurd Cooperation Companies to cultivate students with basic knowledge and skills in micrographics, etching, diffusion, thin-film, packaging, and testing in the semiconductor industry.

3D Digital Circuit Board Design & Intelligence Manufacturing Factory
(College of Engineering)

- The most **complete** and **advanced** PCB&SMT field for technical colleges
- With international giant **YANGO Corporation** to jointly develop the world's smallest **01005 SMT** passive components
- **Laser** direct engraving PCB manufacturing process without photomask
- Cooperated with the Overseas Chinese Committee to establish the 「**Thailand High-Tech Talent Training Base**」
- Combined 12 schools, 8 enterprises and 4 French associations to establish the PCB Advanced Manufacturing Technology Alliance, producing of about **1.17 million pieces**.
- Execute a total of approximately **TWD 26.13 million** in related industry-academia cooperation projects from 2018-2023 (Case: TWD 5.95 million for the Taiwan Science and Technology Authority PCB Advanced Manufacturing Technology Alliance Project)

■ Exchange Programmes or Other Programmes

	Exchange Programme Partnership with Singaporean Universities					Other Programmes in Taiwanese Universities
	National University of Singapore (NUS)	Nanyang Technological Univ ersity (NTU)	Singapore Management University (SMU)	Singapore University of Techn ology and Design (SUTD)	Other SG Colleges	
National Cheng Kung University (NCKU)	■	■	■	■		■ Summer Programme
National Sun Yat-Sen University (NSYSU)		■	■			■ Semiconductor Programme offered by TSMC
National Taipei University of Technology (NTUT)						■ New Southbound Policy Manderin and Semiconductor Short term study Programme
National Taiwan University (NTU)	■	■	■	■	■ NUS-Yale College	■ Summer Programme on Semiconductor and Photonics
National Taiwan University of Science and Technology (NTUST)	■					
National Tsing Hua University (NTHU)	■	■	■			
National Yang Ming Chiao Tung University (NYCU)	■	■	■	■		■ TSMC Semiconductor Program, MTK IC Design Program
Lunghwa University of Science and Technology						
Minghsin University of Science and Technology (MUST)						